SELF STUDY REPORT

December 2014

Submitted to

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BENGALURU

By

Mar Athanasios College For Advanced Studies
Tiruvalla, Kerala, India. Pin-689 101
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MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES
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MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA

MACFAST
the trendsetter in education
Kerala, Pin-689 101, India
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No. 1336/2014/A1

05/12/2014

To

The Director
National Accreditation and Assessment Council
Nagarbhavi
Bangaluru-560072

Sir,

Sub: Uploading of SSR for NAAC Accreditation of this College-reg.

Ref:

i. Track id. No. KLCOGN20699
ii. LOI submitted on 29/03/2014
iii. IEQA submitted on 11/07/2014

As per the references cited, I am uploading the **Self Study Report** of the college in our websites www.macfast.org and www.macfast.in for your kind consideration and favourable action.

Thanking you.

Yours faithfully,

5-12-14

Mar Athanasios College for Advanced Studies Pathanamthitta Kerala Thiruvalla-689 101

Rev. Fr. Pradeep Vazhatharamalayil

Principal

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DECLARATION BY THE HEAD OF THE INSTITUTION

I do hereby declare that the contents of this Self Study Report are bonafide records of the activities of the college.

This report is prepared by the institution after internal discussions and no part thereof has been outsourced.

I am fully aware that the Peer Team of NAAC will validate the information provided in this SSR during their visit.

Tiruvalla

05/12/2014

Mar Athanasios College for Advanced Studies Pathanamthitta Kerala Thiruvalla-689 101

Rev. Fr. Pradeep Vazhatharamalayil

Principal

PREFACE

MACFAST is the brainchild of the great visionaries of the Malankara Catholic Church, who had foreseen the need for an educational institution to impart value based professional education in innovative and multi-disciplinary streams that undertake research and foster managerial talents for filling the critical gap in socio-economic development. During the dawn of the 21st century, the state of Kerala experienced an acute dearth of professional institutions to satisfy the demands of the booming IT sector coupled with the requirements of a liberalized economy. Further the much hailed Kerala model of development comparable to international standards primarily on NRI remittances necessitated the formation of institutions of higher learning to meet the demands of overseas employment market.

As the limited financial resources of the Government of Kerala could not justify the establishment of new professional institutions in the public sector, students seeking professional education had to depend on institutions of the private sector in the neighbouring states. The exceptionally high cost of professional education in these institutions imposed heavy burden and hardships on the parents and many of them had to abandon the aspirations of better education to their children. MACFAST was established as a self-financing institution by the Malankara Catholic Arch Diocese of Tiruvalla, in 2001, mainly to address this social issue. The rich experience of the church in bringing up the medical college and other professional institutions successfully in the state was the driving force behind this task.

From the very inception MACFAST emphasized on the principle of quality education which is reflected in the performance of the college in University examinations over the years and the strong presence of its alumni all over the world as practicing professionals and entrepreneurs. Further, maximum care is being taken to cater to the needs of students from the underprivileged sections of the Central Travancore region of Kerala. The college has the speciality of offering exclusively postgraduate programmes and research activities in multi-disciplinary areas.In order tohave a formal recognition of its quality consciousness,the process NAAC accreditation is being initiated by the college and the Self Study Report is submitted for the kind perusal of NAAC.

This Self Study Report has been prepared in three stages. At the first stage seven sub- committees were constituted for preparing the criteria-wise reports. The draft reports prepared by each sub-committee were reviewed by another sub-committee constituted on criteria-wisein the second stage. Finally, the reports reviewed by each sub-committee were evaluated by a selected team of experienced senior faculty members of the college. Each sub-committee was constituted by ensuring the representation of the faculty members of all the departments. The Evaluative Report of each department was prepared under the leadership of the concerned Heads. It was further reviewed by the selected team and thus finalised the Self Study Report.

The Report is presented in three parts:

Part I – Institutional Data
Part II – Criteria-wise Inputs
Part III- Evaluative Report of the Departments

This Self Study Report is the outcome of a systematic effort with the whole-hearted co-operation and commitment of the entire MACFAST family. Being the co-ordinator of the Steering Committee, I would like to acknowledge with thanks the contributions of all the stakeholders in finalizing the report.

I would like to express my sincere gratitude to H.G. Dr. Thomas Mar Koorilos, Arch Bishop of the Malankara Catholic Diocese of Tiruvalla and Patron of the college, Rev.Dr.Abraham Mulamoottil, founder and the first Principal, and Rev. Fr. Pradeep Vazhatharamalayil, Principal and Rev.Fr.Sajan Plakkoottathil, Manager of the college for initiating the process of accreditation and thegenerous support extended forfinalizing the report.

With immense pleasure I would like to place on record my sincere gratitude to Prof. Dr.K.M. George, Prof. Varghese Abraham, Prof. (Fr). Josey Philip and Prof. V.P.Vijayamohan, senior faculty members of the Dept. of Management Studies for their strenuous efforts in critically evaluating the contents of this report and providing valuable suggestions for improvement, without which this report would not have been a reality.

The encouragement and support of Mr. Christy Bastin, Administrator, Prof. Dr. C. Balagopalan, Director of Research, Prof. Dr. M. S Samuel, Director, Department of Computer Applications, Mr. Ligo Koshy, Head, Dept.of Management Studies, Mr.Tiji Thomas, Head, Dept. of Computer Applications, and Mr.Biju Dharmapalan, Head, School of Bio-Sciences of the college are acknowledged with thanks.

I will be failing in my duty if I am not acknowledging the services of Mrs.Treesa Varghese, School of Biosciences, Mr. Thomas Mathew, Dept.of Computer Applications and Ms.Sruthi G, Research Fellow, School of Biosciences for theiruntiring efforts in the completion of the report.

Thanks are also due to Mr.Ashokraj R, Head, MACFAST Technologies, Dr.Sanu Jacob, Mrs.Pinchu Elizabeth Thomas, Mrs.Betsy.M.Baby, Mr.Stephen James and Ms. Sherin Varghese, School of Bio-Sciences , Mrs. Phijo J. Cherickal, Mrs. Sreelakshmi C. Warrier and Mr. Terry Jacob Mathew (Dept.of Computer Applications) Sr. Licy K. Thomas(Librarian), Mr. Liju Varghese Mundatunkuzhy and Mr. Mathew Mathew (IT Department) and Prof. Joseph Varkey, Department of Management Studies for their contributions at different stages of the preparation of the report.

The active cooperation and timely assistance of the administrative staff members of the college helped me to a large extent in procuring the inputs required for preparing this report and I thankfully acknowledge their services.

I would like to acknowledge with thanks the contributions of all the members of the core-committee, sub-committees, steering committee and the entire faculty members and non-teaching staff of the college who have helped me in one way or other in the preparation of this report.

Prof.Dr.K.R. Sukumaran Nair,

Co-ordinator, Steering Committee

ABBREVATIONS

AIMA : All India Management Association

AICTE : All India Council for Technical Education

ANERT : Agency for Non-conventional Energy and Rural Technology

AYUSH : Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy

BARC : Bhabha Atomic Research Centre

CBSE : Central Board of Secondary Education

CCMB *:* Centre for Cellular & Molecular Biology

CCTV : Closed Circuit Television

CEO : Chief Executive Officer

CEPC : Cashew Export Promotion Council

CIFT : Central Institute of Fisheries Technology

CII : Confederation of Indian Industry

CIPET : Central Institute of Plastics Engineering and Technology

CIPHET : Central Institute of Post-Harvest Engineering and Technology

CMAT : Common Management Admission Test

C-SARAB : Centre for Sustainable Aquatic Resources & Algal Biotechnology

CSI : Computer Society of India Common Management Admission Test

CSIR : Council of Scientific & Industrial Research

CTMA : Central Travancore Management Association

DA : Dearness Allowance

DBT : Department of Biotechnology

DELNET : Developing Library Network

DGP : Director General of Police

DSIR : Department of Scientific and Industrial Research

DST : Department of Science and Technology

EDC : Entrepreneurship Development Club

EDP : Entrepreneurship Development Programme

ELISA : Enzyme-Linked Immuno-sorbent Assay

ERRC : Environmental Resources Research Center

FDP : Faculty development Programme

FRI : Forest Research Institute

GD : Group Discussion

HR : Human Resources

HRD : Human Resource Development

HTML : Hyper Text Makeup Language

IAS : Indian Administrative Service

ICAR : Indian Council of Agricultural Research

ICMR : Indian Council of Medical Research

ICSE : Indian Certificate of Secondary Education

ICT : Information and Communication Technology

IFS : Indian Foreign Service

IIM : Indian Institute of Management

IIP : Indian Institute of Petroleum

IISAC : International Institute for Scientific and Academic Collaborations

IISR : Indian Institute of Spices Research

IIT : Indian Institutes of Technology

IITA : International Institute of Tropical Agriculture

INBY : In My Backyard

IPS : Indian Police Service

IQAC : Internal Quality Assurance Cell

ISR : Institutional Social Responsibility

ISTE : Indian Society for Technical Education

IT : Information Technology

KMA : Kerala Management Association

KSTECE : Kerala State Council for Science, Technology & Environment.

LIGO : Laser Interferometer Gravitational Wave Observatory

MACFAST : Mar Athanasios College for Advanced Studies Tiruvalla

MAKS : MACFAST Knowledge Scheme

MDP : Management Development Programme

MII : MACFAST Industry Interface

MLIC : MACFAST Library and Information Centre

MORP : MACFAST Out Reach Programme

NAAC : National Assessment and Accreditation Council

NABARD : National Bank for Agriculture and Rural Development

NCC : National Cadet Corps

NIIST : National Institute for Interdisciplinary Science and Technology

NIPGR : National Institute of Plant Genome Research

NIT : National Institutes of Technology

NRI : Non-Resident Indian

NSS : National Service Scheme

OPAC : Online Public Access Catalog

PCR : Polymerase Chain Reaction

PHP : Hypertext Processor

PI : Principal Investigator

PURA : Providing Urban Amenities in Rural Areas

RGCB : Rajiv Gandhi Centre for Biotechnology

RRC : Red Ribbon Club

SCTIMST : Sree Chitra Tirunal Institute for Medical Sciences & Technology

SERIFED : Kerala State Seri Culture Co – operative Federation Ltd.

SHGs : Self Help Groups

SIAS : Safi Institute of Advanced Study

SMEs : Small and Medium Enterprises

SOUL : Software for University Libraries

SSLC : Secondary School Leaving Certificate

TA : Travelling Allowance

TBI : Technology Business Incubator

TCS : Tata Consultancy Services Limited

TNAC : Trigeminal Neuralgia Association of Canada

UGC : University Grants Commission

Wi-Fi : Wireless Fidelity

WLIF : Wild Life Institute of India

XLRI : Xavier Labor Relations Institute

LIST OF TABLES

SL. No	Title	Page No.
1.1	Participation of Faculty Members in Various Activities of the University	29
2.1	Eligibility Criteria for Admission to Various Programmes	40
2.2	Minimum and Maximum Percentage of Marks for Admission at Entry Level for Each Programme Offered by the College	43
2.3	Categories of Students Admitted to Various Courses During the Current Academic Year (2014-2015)	46
2.4	Details of the Number of Applications Received, Number of Students Admitted and Demand Ratio	47
2.5	Department-wise Details of the Faculty Members	59
2.6	Nominations to Staff Development Programmes	62
2.7	Percentage of Faculty members participated in Seminar, Conference & Workshop	64
2.8	Analysis of the Programme-wise Results the University Examinations of Different Batches of Students	67
2.9	Particulars of Students Secured Top Ranks in the University Examinations of Various Programmes offered by the College	68
3.1	Faculty Involvement in Research Work	78
3.2	Details of the Programmes Organized by the Departments during the Last Five Years	82
3.3	Prioritized Research Areas and the Expertise Available	84
3.4	Sources of Resources from Funding Agencies and Heads of Expenditure (2009 – 2010)	87
3.5	Sources of Resources from Funding Agencies and Heads of Expenditure (2010-2011)	88
3.6	Sources of Resources from Funding Agencies and Heads of Expenditure (2011 -2012)	89
3.7	Sources of Resources from Funding Agencies and Heads of Expenditure (2013 -2014)	90
3.8	Funding agencies (2013-14)	91
3.9	Details of Equipments Available for Research	93

3.10	Details of Special Grants and Financial Supports	95
3.11	Details of the Research Projects, Name of Funding Agencies and the Amount Sanctioned	96
3.12	Details of the Equipments Purchased from the Grants Received from Different Funding Agencies.	99
3.13	Details of Books/ Journals/Periodicals /e – Resources Added During a Period of Four Years	101
3.14	Data Sheet of Publications	129
3.15	Details of the Programmes Organized by MAKS	133
3.16	Details of the Outreach Programmes Organized by the College	135
3.17	Eminent people participated in various events	142
4.1	Details of Amounts Spent for Various Development/Expansion Activities	152
4.2	Details of the Amount Spent on Procuring New Books, Journals and E-resources during the Last Four Years	161
4.3	Details of Books Published by MACFAT Publications	163
4.4	Details of Computers and Configurations in the Computer Lab	168
4.5	Details of Server and Firewall	169
4.6	Details of the Annual Budget Provisions for Purchase Upgradation, Deployment and Maintenance of Computers and Accessories	171
4.7	Budget Allocation and Utilization for the Maintenance and Upkeep of the Campus Facilities	173
5.1	Details of Scholarships Given to the Students During the Last Four Years	177
5.2	Details of the Institutions Visited by the Students	182
5.2	Details of Students Selected through Campus Interviews	189
5.3	Percentage of Students Progressing to Higher Education/ Employment	1
5.4	Programmes/events in the college	195
6.1	Details of Various Councils/Committees	204
6.2	Percentage of teaching and non teaching staff who availed the welfare scheme	221
6.2	Audited Statement of Income and Expenditure	225
6.3	Audited Statement of Assets and Liabilities	225
7.1	Particulars of Specified Connected Load to the Solar Plant	236

TABLE OF FIGURES

Sl. No	Title	Page No
Fig. 1	MACFAST Campus sitemap	152
Fig. 2	Library layout	160
Fig. 3	Organization Structure	211

CONTENTS

Page No

Preface……v
Abbreviations……viii
List of Tables……xiii
List of Figures……xvi

PART I - INSTITUTIONAL DATA (DESCRIPTIVE)..... 1
A. EXECUTIVE SUMMARY.....2
B. PROFILE OF THE COLLEGE.....11
PART II - CRITERIA-WISE INPUTS 23
CRITERION I: CURRICULAR ASPECTS.....24
1.1 Curriculum Planning and Implementation 24
1.2 Academic Flexibility..... 30
1.3 Curriculum Enrichment..... 33
1.4 Feedback System 36
CRITERION II: TEACHING - LEARNING ANDEVALUATION.....38
2.1 Student Enrolment and Profile..... 38
2.2 Catering to Diverse Needs of Students..... 49
2.3 Teaching Learning Process 52
2.4 Teacher Quality 58
2.5 Evaluation Process and Reforms..... 66
2.6 Student Performance and Learning Outcomes 72
CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION.....76
3.1 Promotion of Research..... 76
3.2. Resource Mobilization for Research 87
3.3 Infrastructure for Research..... 100
3.4 Research Publications and Awards 103
3.5 Consultancy..... 132
3.6 Institutional Social Responsibility (Isr) and Extension Activities. 134
3.7 Collaborations 142

CRITERION IV: INFRASTRUCTURE AND LEARNINGRESOURCES 150

4.1 Physical Facilities 150

4.2 Library as a Learning Resource 159

4.3 IT Infrastructure: 169

4.4 Maintenance of Campus Facilities 174

CRITERION V: STUDENT SUPPORT AND PROGRESSION 178

5.1 Student Mentoring and Support 178

5.2 Student Progression 194

5.3 Student Participation and Activities 195

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT 202

6.1 Institutional Vision and Leadership 202

6.2 Strategy Development and Deployment 211

6.3 Faculty Empowerment Strategies 221

6.4 Financial Management and Resource Mobilization 225

6.5 Internal Quality Assurance System (Iqas) 230

CRITERION VII: INNOVATIONS AND BEST PRACTICES 235

7.1 Environment Consciousness 235

7.2 Innovations 239

7.3 Best Practices 245

PART III - EVALUATIVE REPORT OF THE DEPARTMENTS 253

ANNEXURE 346

PART I - INSTITUTIONAL DATA (DESCRIPTIVE)

A. EXECUTIVE SUMMARY

Mar Athanasios College for Advanced Studies Tiruvalla (MACFAST) is a post graduate research institute, affiliated to the Mahatma Gandhi University, Kottayam, and approved by the All India Council for Technical Education, New Delhi. It was established in 2001 with the objective of offering specially designed academic programmes in Information Technology, Biosciences and Management. The college is located in Tiruvalla, an active commercial township in the central Travancore region of Kerala. The two adjacent campuses together bringan idyllic character, inevitable for intellectual pursuance. The multi-storeyed structures standamidst the green back up with an area of 3,00,000 sq.ft. A panoramic view of the campus creates an ambiance suitable for teaching, learning, and research. The overall environment is conducive for intellectual, spiritual and social welfare of the students.

The founder of the college is Rev. Dr. Abraham Mulamoottil with a unique philosophy of Marginal Hermeneutics (interpreting from the margins) and owned and managed by the Corporate Educational Agency of the Catholic Archdiocese of Tiruvalla. It is a Non-Governmental Agency registered (No. P 14/96) under the Societies Registration Act 1955; with His Grace Dr. Thomas Mar Koorilos, Arch Bishop of the Diocese of Tiruvalla as the President and Patron.The agency has been contributing for the past many years in the field of education with a large number of institutions including a medical college and other similar missions across the nation.

The college has been moulding the students over the years to meet the challenging demands of the corporate and the world of science. Giving special focus on this objective it has given emphasis on research pursuits and technology initiatives. Apart from the usual objectives of the traditional system of higher education in Kerala,MACFAST provides quality education suitable to satisfy the aspirants with employability, competitiveness and resourcefulness in the emerging knowledge society. A definite step forwarded in this regard is the emphasis on using and supporting open source software and encouraging learning from *E*-resources, in addition to textual studies. The mission of the college is set out in line with this schema and ‘‘*MACFAST -The Trendsetter in Education’’* has become a brand tagline like that of a corporate.

I. CURRICULAR ASPECTS

The college offers multi-disciplinary post graduate programmes such as Management, Technology and Biosciences. The curriculum is framed by the university affiliated and implemented by the college through the methodological application of the teaching-learning process. LCD projectors, audio-equipment and IT enabled teaching aids are used for the effective implementation and delivery of the curriculum. The curriculum committee constituted for each department monitors the curriculum delivery system. They also encourage the faculty members to prepare their own study materials and upload them in the study archives of the college website. The college publishes academic calendar for each semester, prepares lesson plan, conducts orientation programmes, bridge courses, industry interface activities etc. as part of planning and implementation of the curriculum. Apart from the lecture methods, different types of teaching-learning techniques such as learn by seeing and learn by experiments are adopted for the delivery of the curriculum. Case studies, projects, assignments, seminars and model building are also used as additional learning tools.

The college has onlylimited academic flexibility. Hence, the institute cannot offer twinning / dual degree programmes. However, the college has accepted all the elective and optional subjects of the concerned programmes offered by the university. It also provides additional training programmes for developing aptitude, communication skills, and managerial skills etc. that are relevant to regional and global employment market and also organizes enrichment programmes for the holistic development of the students.

The college follows a steadfast system for obtaining feedback from the stakeholders. The results of the feedback are considered as one of the important parameters for implementing corrective measures.

II. TEACHING, LEARNING AND EVALUATION

MACFAST considers teaching, learning and evaluation as the strong pillars of the academic exercise. The college has adopted a learner-centric approach. Admissions to all programmes are done strictly in accordance with the norms and stipulations of Mahatma Gandhi University Kottayam, and are given in detail in the college prospectus, brochures of the respective departments and college website. The institution prepares detailed academic calendar every year before the commencement of each semester. It includes the details of various academic and non-academic programmes.

Course teachers prepare the lesson plans prior to the beginning of each semester, which will contain a detailed plan of the lecture classes to be taken, tutorial hours, assignments, internal examinations etc. Periodic monitoring of teaching is done by analyzing the work diary maintained by each faculty member. After each internal examination, the results are analyzed and discussed with students and

parents. Immediately after the publication of University examination results, departments conduct faculty wise and college wise result analysis of individual subjects. The observations made in the evaluations are used for appropriate changes in the planning process regarding learning objectives and methodologies.

The Internal Quality Assurance Cell (IQAC) of the college is specifically designed for realistic internal quality assessment and is intended to monitor the application of quality benchmarks/parameters for various academic and administrative activities of the institution.

The college conducts periodic programmes to create awareness on gender equality, inclusive growth, environmental sustainability, etc. to empower students and staff members, so that they can actively participate and contribute to its success.

Extensive use of Information and Communication Technology (ICT) in teaching and learning is practiced in the college. The Technology Business Incubator (TBI) fosters the generation of new business ideas. Students from socially and economically weaker sections, physically challenged, slow learners, etc are properly taken care of in the college. All efforts are made to recruit and retain qualified and competent faculty members. They are also encouraged to organize and attend Faculty Development Programmes, workshops, and conferences so as to broaden their knowledge horizon and to adopt innovative teaching methods.

III. RESEARCH, CONSULTANCY AND EXTENSION

The policy of the college is to promote research, consultancy and extension activities. The school of Biosciences of this college is an approved research centre of Mahatma Gandhi University, Kottayam. A college level Research Advisory Board is constituted to monitor the research activities of the college and a Doctoral Committee to evaluate the progress of the research scholars doing research leading to Ph.D in the research centre of the School of Biosciences. The college has initiated collaborative research with various research institutions through sharing of the laboratory facilities and technical expertise.The research centre has prioritized research areas in Biosciences and follows an integrated approach in utilizing the faculty members of different research disciplines for the completion of the research projects. Besides these, the college also arranges various national and international conferences with the participation of eminent scientists with a view to inculcate interest in research activities.

The college has full-fledged laboratories for Biosciences along with computer and library facilities for research activities. The institutional strategy for improving the research includes acquiring modern research equipments, modernization of laboratory and introducing technological upgradation based on new and emerging research areas. The college has undertaken a number of research projects under the financial support of State and Central Government agencies and has also

developed research facilities by utilizing the grants received from different funding agencies. These research projects contributed for the development of biosensor for the detection of nosocomial contamination of microorganisms, reinforced bio plastics from cellulose of plant origin, identification of medicinal micro fungus and medicinal algae etc. In order to create awareness/transfer of relative findings of the research, the institution organized two out-reach programmes entitled 'Biosciences for the people'. The college publishes a multi-disciplinary journal tilted 'Journal of Science Technology and Management' through which the students and faculty members can publish their research articles. The faculty members have a good number of publications at their credit. An application for patent was filed with the title "Integrated Technology for the Production of Reinforced Bio plastics with Celluloses of Plant Origin".

The college is following the policy of promoting extension activities and consultancy services. Extension activities are undertaken by establishing the institution-neighborhood-community networks through the campus community radio, MACFAST Knowledge Scheme, outreach programmes, NSS, Red Ribbon Club etc. The college has conducted social surveys also as part of its extension activities. Consultancy services are provided to the industries and other beneficiaries under the platform of the MACFAST Industry Interface. The major areas for consultancy services include food processing technologies, tissue culture technologies, vegetable gardening, bio-gas technology, bio-fertilizers, bio-pesticides, bio-fungicides etc.

IV. INFRASTRUCTURE AND LEARNING RESOURCES

The policy of the institution is to provide the state of the art infrastructure to facilitate effective teaching and learning. Buildings are architecturally designed to make the class rooms naturally airy and comfortable for academic activities. The facilities provided for curricular and co-curricular activities include technology enabled classrooms, well equipped seminar halls, full-fledged laboratories for Biosciences, well maintained herbal garden with rich repository of medicinal plants, well equipped examination hall etc. Facilities provided for extracurricular activities include separate spaces for entertainments, indoor and outdoor games, gymnasium, NSS activities, practicing yoga and a well-furnished air-conditioned auditorium. The college has separate hostels for men and women with comfortable living conditions, study hall, gymnasiumand recreational facilities.

The library of the college is housed with reading and reference sections, newspaper and periodical sections and separate stack area .A digital library is also functioning with e-resources as part of the general library which enables access to a wide range of well-organized information in digital form and makes it available for searching, retrieval and processing in user friendly ways. The library is fully computerized and has a well networked system with library management software for searching, lending, reserving, appending etc.

The college is a Wi-Fi campus with 12 Mbps leased line internet connection with class C private address network, connected to the desktops and other hand held devices. The internet facility is provided to 300 nodes throughout the campus and wireless connectivity is made available through 40 access points. The state- of- the- art computer labs installed in the campus facilitates extensive use of ICT resources including developmental use of computer aided technology and learning materials. An effective mechanism is functioning in the college for the upkeep and maintenance of infrastructure and equipments of the college.

V. STUDENT SUPPORT AND PROGRESSION

The college has an orderly move towards equipping the students to meet the academic, industry and social requirements through clear cut mechanisms like mentoring, supporting and heartening them to participate in various range of curricular and extra- curricular activities. The institute ensures its commitments and accountability even from the beginning of the admission procedures .The college publishes updated prospectus and handbook in print and digital form and placement brochure of each department every year to provide information about the college.

The college offers various types of scholarship to meritorious students. Support services and facilities are also provided to the students belonging to socially and economically backward groups, slow learners and to those from outside the state of Kerala by organizing remedial classes, coaching for competitive examinations, training for communication skills etc. The inter-collegiate fests and conferences organized by students, such as TANTRA, TECHNITROUS, and BIOSPECTRUM 4encourages them to inculcate the spirit of self-reliance, value system, team work and organizational commitment.

The college monitors the progression of students to higher education and employments. The Placement and Training Officer monitors the placement related activities and the college has a track record of placements in various organizations in and outside India. The presence of the strong base of the alumni spread across the globe also is contributing in getting better placements for the students. The mode of functioning of the committees such as Anti-Ragging Committee, Hostel Committee, Ethics committee, Grievance Redressal Cell and Women's Redressal Cell also facilitates a healthy academic environment in the campus.

VI. GOVERNANCE, LEADERSHIP AND MANAGEMENT

The college strives to elevate its students to meet the challenging demands of the corporate and the world of science. For realizing its vision, the college has framed functional committees for various activities. The policies and plans are framed by the Governing Board at its Annual meeting.The implementation of these policies and plans are vested with the Principalsubject to the prior approval of the Academic Council. At the operational level, the college has a three- tier management system which comprises of Principal's Advisory Council, Council of Heads of the Departments and Faculty

Council. Principal as the chairman of the majority of the meetings leads through participatory method of management. He communicates and interacts with the Governing Board members and also meets the Heads of the Departments, faculty members, non-teaching staff and students. These meetings review the progress of all the activities and ensure continuous monitoring, evaluation and corrective actions.

To strengthen the culture of excellence, faculty members and students are motivated to undertake research and publish their findings. As a part of continuous learning, faculty members are encouraged to attend refresher courses, seminars, conferences and faculty development programmes. For grooming leadership at various levels, each department has a Director/Dean as the chief and he is assisted by the Head of the Department. The Faculty-in-charge of each class monitors the activities of the respective classes. The Director/Dean of the department monitors the implementation of various plans and entrusts the HODs to manage the day-to-day activities of the department by encouraging the culture of participative management.

The perspective plan for overall development include a research centre, academic excellence, self-sustainability and better industrial and social collaborations. Quality improvement strategies are devised for better teaching and learning, research and development, community engagement, human resource management and industry interaction. All the staff members are involved in the developmental activities of the college by acting as member of one or more committees such as Purchase Committee, Maintenance Committee, Discipline Committee, Library Advisory Committee, Examination Committee, Anti Ragging committee, Grievance Committee etc. To facilitate cohesiveness in involvement, each of these committees has its meetings at periodical intervals.

The UGC guidelines are followed for the implementation of the performance appraisal system. A standard feedback system is used to obtain theresponsefrom the students about the performance of the faculty members, non-teaching staff and about functioning of the college in general. Based on the reports of the performance appraisal, those faculty members who provide meritorious services are acknowledged by sanctioning additional increments and academic incentives. For attracting and retaining eminent faculty, the management is keen in positively providing them necessary facilities and support system.

The college is functioning as a self-financing affiliated institution and there is a clear-cut mechanism to monitor effective and efficient use of available financial resources through proper financial planning. The overall management of finance is vested with the Finance Committee constituted by the management. The annual budget for every financial year is prepared by the Budget Committee .The disbursements are according to the budget provisions. The accounts of the college are subject to regular audit by internal as well as external auditors. The institution has an

integrated framework for its academic and administrative quality maintenance and steps have been initiated by the authorities for the speedy implementation of the suggestions the IQAC.

VII. INNOVATIONS AND BEST PRACTICES

The college has given top priority to introduce innovative measures for inculcating awareness about environment consciousness. As part of the mechanism to maintain an ecofriendly campus, the college has introduced a bio gas plant. The total amount of waste materials that can be treated by this plant is 250 kilogram per day. The college also gives importance to utilize renewable energy resources by setting up a solar power plant by investing Rs. 72 lakhs by availing subsidies from NABARD and ANERT. The campus has also provided a full-fledged rain water harvesting facility with a storage capacity of 2, 25,000 liters. The college has a community radio (Radio MACFAST 90.4) which is the first campus community radio in Kerala and 46th in the country. MACFAST Industry Interface (MII), an interactive and collaborative arrangement between academic institutions and business corporations for the achievement of certain mutually inclusive goals and objectives is another innovative step in this regard. MACFAST Bioplastics is a pioneering project successfully completed by the college. This Bioplastics can be used to make buckets, mugs, dashboards, chairs, tables, cutlery, bathroom doors, etc. The MACFAST Knowledge Scheme (MAKS) is a programme for helping financially backward meritorious students of the neighboring schools on developing their skills and qualities.

The College has contributed towards better academic and administrative functioning by introducing certain best practices that acts in tune with the institutional objectives. As part of theinstitutional initiative for environmental protectionefforts have been made to inculcate environmental awareness and practices among students andone hour per week is earmarked as *Green Hour* in the master time table. The "*Earn While You Learn*" scheme is introduced to motivatethe students for generating income for supplementing their studies without disturbing their academic activities.

VIII. SWOC ANALYSIS

Strengths:	**Weakness:**
• Strong and credible management support • Governing Board and Academic Council with eminent personalities • Excellent infrastructure facilities • Multi-disciplinary post graduate programmes • Qualified and Competent faculty • Well-equipped laboratories • State-of-the-art technology • Campus community radio (Radio MACFAST)	• Absence of Govt. financial support • Lack of flexibility in curriculum designing • Limited proximity to industrial centres • Disturbance in placements due to lagged result announcements of the University.

• Research Centre for Biosciences • Publication of multi- disciplinary research Journal • Herbal garden with more than 300 rare species • Well-equipped bakery unit for imparting training to students and public • MACFAST Knowledge Scheme for nurturing young talents from schools • Non – Conventional energy source (30 MW solar unit) • War against drug addiction, alcoholism and smoking • Green and Clean City Projects • Generation of energy from solid waste • Digital library and e- journals • Research collaboration with Pushpagiri Medical College • Well-furnished hostels for boys and girls • Active linkage with developmental agencies and NGO's • Well-designed outreach programmes • Strong alumni network support • Collaboration and support of CTMA and KMA • EDP club and business incubation centers • Community based charity programmes • Regular invited talks by experts • Effective institution-industry interaction	
Opportunities: • Economic growth and boom in demand for professional manpower • Growing middle class with increased thrust on professional education • Emergence of start-up villages, Infoparks and Incubation centres • Globalized business environment • Technological revolution in IT • Employment potentials in service sectors • NRI concentrated region and potential for channelizing their remittances towards	**Challenges:** • Unhealthy competition due to proliferation of similar institutions • Rapid changes in industrial and business environments • Lack of timely up gradation in curriculum

integrated development	

Future Plans of MACFAST

The future plans of the college are provided under three heads based on the time of implementation as short term, medium term and long term plans.

Short term plans

- **Centre for Advanced Research and Training**: In order to identify the critical areas of development and to facilitate the generation of the required manpower within and outside the state, the proposed centre is intended to provide all support and guidance.
- **MACFAST Centre for Learning beyond Curriculum:** Apart from the knowledge and skills gained from formal learning, the proposed centre intends to broaden the overall personality development of the stakeholders.
- **Knowledge Hub:** Cost effective knowledge dissemination is the need of today's competitive environment and MACFAST tries to address this problem through the promotion of a knowledge hub in Central Travancore Region by extending its library services with state- of- the- art digital facilities within two years.
- **Centre for MACFAST Publications:** As an effort to familiarise and popularise the research output and skill development programme, the college intends to establish a publication centre which covers multidisciplinary areas of study.
- **Centre for Competitive Examinations:** At present the college is conducting various competitive online/other examinations on behalf of Government and private organizations. Considering the acute shortage of such centres, the college visualises to utilise the existing and future facilities so as to have a full- fledged online/other examination centre.

Medium term plans

- **Campus Expansion:** In view of the need for further development, the college has plans to acquire additional space and creation of new infrastructure.
- **Incubation Centres and Start-up Ventures:** In collaboration with various Governmental and Non-Governmental institutions, MACFAST plans to develop a centre for technology incubation and start-up venture so as to promote entrepreneurial development.
- **Twinning Programmes:** MACFAST has already initiated steps for twinning with national/international universities so as to have meaningful collaboration and exchange programmes.
- **Social Research and Community Services Centre:** The concern and commitment of MACFAST to the society can be realised only through an intervention in the social

development programmes and the proposed centre is expected to contribute towards the upliftment of the marginalized sections of the society.

Long term plans

1. **An Autonomous Institution:** MACFAST envisions itself to gain autonomy in academics, administration and research so as to develop as an autonomous college and transform it to a Deemed university in the years to come.

B. PROFILE OF THE COLLEGE

1. Name and address of the college:

Name: MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA

Address: THOLASSERRY, TIRUVALLA, PATHANAMTHITTA DIST.

City: Tiruvalla Pin:689101 State: Kerala

Website: www.macfast.org

2. For communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Principal	Rev. Fr. Pradeep Vazhatharamalayil	O:0469-2730300 R: 0469-2730300	9447561258	0469-2730317	principal@ macfast.org
Vice Principal	-Nil-	-Nil-	-Nil-	-Nil-	-Nil-
Steering Committee Co-ordinator	Prof. Dr. K.R Sukumaran Nair	O: 0469-2730323 R: 0473-5245246	9446100457		krsnair@ macfast.org

3. Status of the of Institution :

Affiliated College	✓
Constituent College	
Any other (specify)	

4. Type of Institution:

a. By Gender

i. For Men	
ii. For Women	
iii. Co-education	✓

b. By shift

i. Regular	✓
ii. Day	
iii. Evening	

5. Is it a recognized minority institution?

Yes	✓
No	

If yes specify the minority status (Religious/linguistic/ any other) and provide documentary evidence.

Minority Educational Institution as per Order No: **F. No. 323,325 & 328 of 2010/46621** dated **7th day of October 2010** of the Govt. of India, National Commission for Minority Educational Institutions

6. Source of funding:

Government	
Grant-in-aid	
Self-financing	✓
Any other	

7. a. Date of establishment of the college**:**01/11/2001 (dd/mm/yyyy)

b. University to which the college is affiliated /or which governs the college (If it is a constituent college)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

c. Details of UGC recognition:

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)

i. 2 (f)	Nil	
ii. 12 (B)	Nil	

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act)

d. Details of recognition/approval by statutory/regulatory bodies other than UGC ✓

(AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Under section/clause	Recognition/Approval details Institution/Department/ Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remark
i.	MBA & MCA Programmes- Approved by AICTE as per order no F. No. South West/12011150066/2014/ EOA	04-06-2014	2014-2015	Will be renewed after the expiry of the validity period

(Enclose the recognition/approval letter)

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

Yes ☐ No ☑

If yes, has the College applied for availing the autonomous status?

Yes ☐ No ☑

9. Is the college recognized

a. by UGC as a College with Potential for Excellence (CPE)?

Yes ☐ No ☑

If yes, date of recognition: ……NA…… (dd/mm/yyyy)

b. for its performance by any other governmental agency?

Yes ☐ No ☑

If yes, Name of the agency NA and
Date of recognition: NA (dd/mm/yyyy)

10. Location of the campus and area in sq.mts:

Location	Semi Urban
Campus area in sq. mts.	30270.5
Built up area in sq. mts.	20150

(* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

11. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.

o Auditorium/seminar complex with infrastructural facilities	✓
o Sports facilities	✓
o Play ground	✓
o Swimming pool	X
o Gymnasium	✓
o Hostel	✓
▪ Boys' hostel	✓
i. Number of hostels	1
ii. Number of inmates	88

iii. Facilities (mention available facilities) *
Single & Double rooms, Guest rooms, Dormitories, Common Study Hall, Prayer Rooms, Gymnasium, Lobby, Lift, Shuttle court, Indoor games, Yoga & Meditation room

▪ Girls' hostel	✓
i. Number of hostels	2
ii. Number of inmates	195

iii. Facilities (mention available facilities) *
Single & Double rooms, Guest rooms, Dormitories, Common Study Hall, Prayer Rooms, Gymnasium, Lobby, Shuttle court, Indoor games, Yoga &

Meditation room

○ Working women's hostel	Nil
i. Number of inmates	NA
ii. Facilities (mention available facilities) :	NA
○ Residential facilities for teaching and non-teaching staff (give numbers available -- cadre wise)	✓
○ Cafeteria --	✓
▪ Health centre – First aid, Inpatient, Outpatient, Emergency care facility, Ambulance……. - (Under agreement with Pushpagiri Medical College)	✓

▪ Health centre staff – (Under agreement with Pushpagiri Medical College)

▪ Qualified doctor:	Full time		Part-time	✓
▪ Qualified Nurse:	Full time		Part-time	✓

○ Facilities like ○ banking	✓
○ post office	x
○ book shops	Under agreement
○ Transport facilities to cater to the needs of students and staff	✓
○ Animal house	x
○ Biological waste disposal	✓
○ Generator or other facility for management/regulation of electricity and voltage	✓
○ Solar Power	✓
○ Solid waste management facility	✓
○ Waste water management	✓

- Water harvesting ✓

12. Details of programmes offered by the college (Give data for current academic year)

Sl. No.	Programme Level	Name of the Programme/ Course	Duration	Entry Qualification	Medium of instruction	Sanctioned /approved Student strength	No. Of Students Admitted
1.	UG	Nil	Nil	Nil	Nil	Nil	Nil
2.	PG	MCA (Regular)	3 year	Under Graduation	English	60	44
		MCA (Lateral)	2 year	Under Graduation	English	60	51
		MBA	2 year	Under Graduation	English	120	114
		M. Sc Biochemistry	2 year	Under Graduation	English	20	13
		M. Sc Food Science and Technology	2 year	Under Graduation	English	36	32
		M. Sc Bioinformatics	2 year	Under Graduation	English	20	8
		M. Sc Biotechnology	2 year	Under Graduation	English	16	7
		M. Sc Plant Biotechnology	2 year	Under Graduation	English	20	2
		M. Sc Phytomedical Science & Technology	2 year	Under Graduation	English	20	0

3.	Integrated Programmes P G	Nil	Nil	Nil	Nil	Nil	Nil
4.	Ph.D.	PhD	3 year	PG	English	20	0
5.	M. Phil.	Nil	Nil	Nil	Nil	Nil	Nil
6.	Certificate courses	Nil	Nil	Nil	Nil	Nil	Nil
7.	UG Diploma	Nil	Nil	Nil	Nil	Nil	Nil
8.	PG Diploma	Nil	Nil	Nil	Nil	Nil	Nil
9.	Any Other (specify and provide details)	Nil	Nil	Nil	Nil	Nil	Nil

13. Does the college offer self-financed Programmes?

Yes ✓ No

If yes, how many? 9

14. New programmes introduced in the college during the last five years if any?

Yes	✓	No		Number 2	

- M. Sc Biotechnology 2. MCA Lateral Entry

15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Particulars	UG	PG	Research
Science	Nil	6	1
Arts	Nil	Nil	Nil

Commerce	Nil	Nil	Nil
Any Other not covered above	Nil	MBA - 1 MCA(R) - 1 MCA(L) - 1	Nil

16. Number of Programmes offered under (Programme means a degree course like BA,BSc,MA,M.Com…)

a. Annual system	Nil
b. Semester system	9
c. Trimester system	Nil

a. Choice Based Credit System	6
b. Inter/Multidisciplinary Approach	6
c. Any other (specify and provide details)	Nil

17. Number of Programmes with

18. Does the college offer UG and/or PG programmes in Teacher Education? NA

If yes,

a) Year of Introduction of the programme(s)……NA…….(dd/mm/yyyy) and number of batches that completed the programme

b) NCTE recognition details (if applicable)
Notification No.: NA
Date: NA

Validity: NA

c) Is the institution opting for assessment and accreditation of Teacher Education Programme separately?

Yes [ ] No [✓]

19. Does the college offer UG or PG programme in Physical Education?

Yes [ ] No [✓]

If yes,

a) Year of Introduction of the programme(s) NA (dd/mm/yyyy) and number of batches that completed the programme: NA

b) NCTE recognition details (if applicable) Notification No.:
NA
Date: NA (dd/mm/yyyy)
Validity: NA

c) Is the institution opting for assessment and accreditation of Physical Education Programme separately?

Yes [ ] No [✓]

20. Number of teaching and non-teaching positions in the Institution

Positions	Teaching faculty						Non-teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the UGC / University /State Government Recruited	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Yet to recruit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sanctioned by the Management/society or other authorized bodies Recruited	3	1	7	1	18	15	11	14	5	0
Yet to recruit	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*M-Male *F -Female

21. Qualifications of the teaching staff:

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ph.D.	3	1	2	1	1	1	9
M. Phil.	0	0	1	0	5	2	8
PG	0	0	4	0	12	12	28
Temporary teachers							
Ph.D.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
M. Phil.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
PG	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Part-time teachers							
Ph.D.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
M. Phil.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
PG	Nil	Nil	Nil	Nil	Nil	Nil	Nil

22. Number of Visiting Faculty /Guest Faculty engaged with the College. 6

23. Furnish the number of the students admitted to the college during the last four academic years.

Categories	Year 1 (2010-2011)		Year 2 (2011-2012)		Year 3 (2012-2013)		Year 4 (2013-2014)	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	2	4	1	4	2	2	2	11
ST	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
OBC	9	22	11	24	12	35	10	20
General	76	94	63	100	71	81	35	64
Others	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

24. Details on students enrollment in the college during the current academic year:

Type of students	UG	PG	M. Phil.	Ph.D.	Total
Students from the same state where the college is located	Nil	269	Nil	1	270
Students from other states of India	Nil	2	Nil	Nil	2
NRI students	Nil	Nil	Nil	Nil	Nil
Foreign students	Nil	Nil	Nil	Nil	Nil
Total	Nil	271	Nil	1	272

25. Dropout rate in UG and PG (average of the last two batches)

UG [NA] PG [1.88%]

26. Unit Cost of Education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) including the salary component [Rs.1.18 Lakhs]

(b) excluding the salary component [Rs.70,000/-]

27. Does the college offer any programme/s in distance education mode (DEP)?

Yes [ ] No [✓]

If yes,

a) is it a registered centre for offering distance education programmes of another University

Yes [ ] No [ ]

b) Name of the University which has granted such registration.

[ ]

c) Number of programmes offered [ ]

d) Programmes carry the recognition of the Distance EducationCouncil.

Yes [ ] No [ ]

28. Provide Teacher-student ratio for each of the programme/course offered

Department of Computer Applications	1:10
Department of Management Studies	1:15
School of Bio Sciences	1:8

29. Is the college applying for Accreditation :

Cycle 1 ☑ Cycle 2 ☐ Cycle 3 ☐ Cycle 4 ☐

Re-Assessment: ☐

(Cycle 1 refers to first accreditation and Cycle 2, Cycle 3 and Cycle 4 refers to re accreditation)

30. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: …… (dd/mm/yyyy)Accreditation Outcome/Result……..
Cycle 2: …… (dd/mm/yyyy) Accreditation Outcome/Result……..
Cycle 3:…… (dd/mm/yyyy) Accreditation Outcome/Result……..

* Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.

31. Number of working days during the last academic year. **235**

32. Number of teaching days during the last academic year **220**

(Teaching days means days on which lectures were engaged excluding the examination days)

33. Date of establishment of Internal Quality Assurance Cell (IQAC) IQAC 04/08/2014 (dd/mm/yyyy)

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC.

AQAR (i) …… (dd/mm/yyyy)
AQAR (ii)…… (dd/mm/yyyy)
AQAR(iii)……(dd/mm/yyyy)
AQAR(iv)……(dd/mm/yyyy)

35. Any other relevant data (not covered above) the college would like to include. (Donot include explanatory/descriptive information) : **Nil**

PART II - CRITERIA-WISE INPUTS

CRITERION I: CURRICULAR ASPECTS

1.1 Curriculum Planning and Implementation

1.1.1 State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.

Education is inevitable in shaping and preparing young aspirants to face the challenges in today's competitive world, a world with greater opportunities for success invites young men and women with excellent academics to nurture them. Hence the education system needs to be vibrant and adaptive to the shifting requirements and priorities of the society. This paramount importance of education is reflected in the vision of the college.

Vision

"To attain a level of excellence at par with top international institutions so as to become a trend setter in education."

Mission

"To transform young people and mould them into value-driven, culturally enriched and professionally competent change agents who would significantly contribute to improving their immediate community, the state, the country and the world at large."

Objectives

- To meet the global and local needs in education.
- To providemoral as well asspiritual development of the stakeholders.
- To create true professionals who aim at personal development, institutional development as well as national development.
- To develop human resource required for growth in the knowledge economy of India.

Communication to stakeholders

The vision, mission and objectives of the college are communicated to the stakeholders, through the following ways:

- Official website of the college (www.macfast.organd www.macfast.in)
- Prospectus
- Placement brochures
- Presentation during orientation programmes conducted in the beginning of each semester
- Presentation at the time of seminars, workshops and conferences conducted by different departments of the college
- Billboards displayed in the college premises including Principals' office and entrance
- Academic calendar
- Corporate CD played at the time of all important events in the college like induction of students for various courses, national and international seminars and workshops etc.
- Advertisements of the college.

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

The following are the various plans of actions followed for effective implementation of the curriculum.

- **Orientation Programmes:** At the beginning of each post graduation programmes, orientation is conducted for the new entrants. In addition to that, special orientation programmes are conducted to give particular focus on various subjects in the respective semester.
- **Bridge Course:** As the students from different disciplines at the graduation level are eligible to get admission to the various professional courses offered in the college, bridge courses are organized to give them basic awareness about the subjects.
- **Academic Calendar:** Detailed academic calendar is published for each academic year which includes the date of commencement of semesters, conferences,

seminars, schedule of MII programmes, date of internal and external examinations and other major academic events.

- **Time Table:** The Time table for each programme is prepared by the Heads of the concerned department. The Master Time Table for the whole college is maintained in the Principal's office and is monitored for its compliance.
- **MACFAST Industry Interface Programmes:** Periodic Industry Interface Programmes are conducted for all batches for providing direct exposure to the industries.
- **Internal Examinations:** Two Internal examinations are conducted in each semester.
- **Model Examinations:** A model examination is conducted at the end of each semester to familiarize the students with the pattern and nature of university examinations.
- **Remedial Coaching:** The answer scripts are evaluated by the concerned teachers and consolidated progress/performance reports are prepared and maintained by the class-in charge. Special classes are arranged for the weak students identified in each semester for different subjects on need based manner.
- **Lesson Plan:** Detailed teaching plan for each subject is prepared by the subject in-charge and it is periodically reviewed by the HOD/Director of each department
- **Teaching and Learning Techniques:** Class rooms with ICT (including Audio-Visual Aids) are used for lecture classes. In the case of electives and specialization subjects, the required orientation is given which ensures the awareness needed for the specializations which the students have chosen and its potential employability. Apart from the lecture method, different types of teaching-learning techniques such as learning by doing, learning by seeing and learning by experiments are adopted for the delivery of the curriculum. Case studies, projects, assignments, seminars and model building are also used as additional learning techniques.
- **Publication of articles:** Students are encouraged to prepare articles with the guidance of the faculty members and publish them in various national/international journals.
- **Counseling and Mentoring-** Apart from periodic counseling with parents, if required, counseling is done on need basis to discuss their ward's performance in the curriculum aspects.
- **Question Bank -** Question Banks have been prepared by the concerned departments for students and faculty members for their references.

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

From the University

- The university provides the scheme and syllabi for each course, scheme for each course, recommended text books, reference books and model question papers

From the Institution

- Conducts periodic Faculty Development Programmes (FDPs) on new/innovative teaching methods
- Hourly attendance of students is recorded on all working days.
- Consolidated attendance register is maintained at the office of the Head of the Department.
- Attendance report is generated and analyzed on monthly basis.
- Provides ICT enabled class rooms with 24 X 7 Wi-Fi connectivity.
- Provides the facility of a well-equipped library stocked with adequate number of reference books, journals, Magazines, E-journals and such other E-sources of learning materials.
- Faculty and students are encouraged to attend conferences, symposiums, seminars and work-shops conducted at regional, national and international levels.
- Provides laboratory with modern sophisticated equipments and facilities.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

- Weekly department meeting
- Monthly meetings of all the faculty members which enable the junior and senior faculty members to interact with each other.
- Special programmes (FDPs - both internal and external) for the development of work plan, presentations and related teaching skills for the faculty members
- Curriculum committee headed by the Principal and Director / the Heads of the respective Departments periodically reviews and gives suggestions to faculty on effective teaching practices
- Faculty members prepare their own study materials, models and charts and upload them in the study archives of the college website.
- Provides web space for the academic material like notes, presentation materials
- Provides laptops to faculty to encourage use of ICT in class room teaching
- E-Learning materials like video lectures, tutorials, animations are made available to the faculty
- Lecture series by experts for students and faculty members.
- Facility to broadcast relevant themes through Radio MACFAST.

1.1.5 How does the institution network and interact with beneficiaries, such as industry, research bodies and the university in effective operationalization of the curriculum?

- Regular MII programmes for all courses to bridge the industry -academia gap
- Invited lectures of eminent personalities
- Work-shops and conferences on latest advancements in science, technology and management
- Entrepreneurial interface initiated by EDP Club.
- On the job training via the MACFAST foods, MACFAST technologies and InNExCOM Solutions Pvt. Ltd.
- Institutional linkage with experts, research organizations and industry to get their inputs to supplement the university curriculum.
- Faculty who are the approved research guides of various Universities share research feed-back to fellow faculty members.
- Regular visit of students to reputed institutions like NIPGR New Delhi, FRI Dehradun, WLIF Dehradun, SCTIMST Trivandrum, IIT Madras, CCMB Hyderabad, IIT Allahabad, Faith InfoTech Trivandrum and various IT companies including TCS, Infosys etc.
- Professional relations with the representatives of industries, CTMA etc through the career guidance and placement cell of the college.

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the University? (Number of staff members/departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided, specific suggestions etc.

- Faculty members who are in the of Board of Studies of the affiliating University participate in various meetings including the syllabi revision and review, pre-evaluation meetings and pass board meetings and other academic meetings conducted by the University from time to time.
- Faculties of various departments are also serving as additional examiners and chief examiners for examinations conducted by the University.
- Regularly interact with University authorities and get involved in the curriculum development
- The institution has a mechanism to collect the feedback from the parents and the

students about the curriculum content of different programmes.

- Regular meetings are organized with industry and management experts to understand their views and suggestions regarding the curriculum content.
- The Principal reports the feedback of the students directly or through online grievance portal available in the university website.

Table 1.1
Participation of Faculty Members in Various Activities of the University

Departments	Additional Examiner No.	Chief Examiner No.	Syllabi Review/Revision No.
School of Biosciences	5	3	2
Management Studies	15	-	8
Computer Applications	5	4	1

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If 'yes', give details on the process ('Needs Assessment', design, development and planning) and the courses for which the curriculum has been developed.

Yes, the following specialized courses affiliated to the Mahatma Gandhi University are originally started in this college.

- M. Sc – Plant Biotechnology
- M. Sc – Food Science and Technology
- M. Sc – Phytomedical Science and Technology
- M. Sc – Bioinformatics

The college has developed the curriculum for the above courses as per the direction of the University affiliated. The draft of curriculum thus developed was duly approved by the concerned academic body of the University and accepted as the syllabus of the respective courses.

1.1.8 How does institution analyze/ensure that the stated objectives of curriculum are achieved in the course of implementation?

The institution ensures the attainment of the objectives of curriculum by:

- Analyzing the results of the university examinations (theory& practical) and online examinations.
- Analyzing the results of internal examinations

- Collecting feedback from training & placement officers, employers, students, alumni and other stakeholders
- Analyzing participation and performance in paper presentations, projects, quiz competitions etc., by the students and faculty members.
- Collecting data of students' progression to higher studies.
- Analyzing placement statistics

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/ skill development courses etc., offered by the institution.

The institution offers the following programmes with the objective of improving the efficiency level of the students in the concerned areas leading to the overall career advancement.

- MACFAST Industry Interface Program (MII) for each batch
- Aptitude training programmes
- Photoshop training
- English Language for Competitive Examinations
- Advanced Computer language training (.NET, PHP-MySql etc.)
- MBA+ certification course
- YES+ - personality development course
- EDP on Food processing sponsored by Govt. of India
- Certificate course in Bioinformatics
- SAP training by industry training partners

1.2.2 Does the institution offer programmes that facilitate twinning /dual degree? If 'Yes', give details.

At present, the college could not offer programmes that facilitate twinning /dual degree as the University affiliated is not approving such programmes.

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability

- **Range of Core /Elective options offered by the University and those opted by the college**

The college has limited flexibility as the curriculum is designed by the university. All the electives and optional subjects offered by the university are opted by the college.

- **Choice Based Credit System and range of subject options**
  Post Graduate Credit and Semester System is adopted by the college for the specialized M.Sc. programmes as per the guidelines of the University. The elective subjects are opted as per the University rules. The University has not introduced CBCSS for the MBA and MCA programmes offered in the college.
- **Courses offered in modular form**
  The MBA and M.Sc. courses are offered in 4 semesters and MCA course is offered in 6 semesters.
- **Credit transfer and accumulation facility**
  Credit transfer and accumulation is not approved by the affiliated University.
- **Lateral and vertical mobility within and across programmes and courses**
  Started admission to MCA (Lateral entry) Programme from the academic year 2014-15 onwards. The number of seats offered for the programme is 50.
  Vertical mobilitywithin and across programmes and courses are not applicable at this point of time as the affiliated University has not provided the provisions for such programmes and courses.
- **Enrichment courses**
  Training and placement oriented enrichment courses along with soft skill development programmes are conducted on need basis.

1.2.4 Does the institution offer self-financed programmes? If 'yes', list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Yes. All the programmes offered by the college are affiliated to the M. G. University and are self-financed programmes.

- **Admission**: Centralized allotment by the University for admissions is applicable for M. Sc programmes. Such allotments are not applicable for MBA and MCA programmes.
- **Name of the self financed programmes :**
  - Master of Computer Applications
    - MCA(Regular) Course
    - MCA (Lateral entry) Course
  - Master of Business Administration

- M.Sc. Bioinformatics
- M.Sc. Food Science and Technology
- M.Sc. Plant Biotechnology
- M.Sc. Biochemistry
- M.Sc. Phyto Medical Science and Technology
- M.Sc. Biotechnology

- **Curriculum:** The curriculum is designed by the M. G. University and implemented by the college through the methodological application of the teaching –learning process. LCD projectors, audio – equipments and IT enabled teaching aids are used for the effective planning, implementation and delivery of the curriculum. There is no difference in the curriculum of regular colleges and self – financing colleges affiliated to the University.
- **Fee Structure**: The fee structure for all these programmes are framed by the Governing Board as per the stipulations of the affiliated University and state Government.
- **Teachers Qualifications**: The qualifications of the teachers are as per the norms of AICTE/UGC.
- **Salary**: Salary structure of the teachers is as per the AICTE / UGC norms.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If 'yes' provide details of such programme and the beneficiaries.

Yes. The college provides additional skill orientated programs that are relevant to regional and global employment markets like:

- Hyper Text Pre processor (PHP) and MySQL
- Personality development (YES+)
- Training programme for MAT, GRE and TOEFL
- Managerial skill development program (through EDP club)
- Aptitude development programme

The beneficiaries of the programme are the students, faculty members, industrialists and employers.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice" If 'yes', how does the institution take advantage of such provision for the benefit of students?

No, The University affiliated does not provide such flexibility.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the institution to supplement the University's Curriculum to ensure that the academic programmes and Institution's goals and objectives are integrated?

- Efforts have been initiated by the college to supplement the curriculum framed by the University to integrate academic programmes and the institution's goals.
- Students conduct and participate in conferences, seminars and workshops and enable them to gain knowledge on interdisciplinary subjects
- The EDP club comprises of students from various departments
- Skill development programmes are organized by the college.
- Co-curricular activities like paper presentations, project works, quiz competitions etc are organized for students
- Invited lectures are organized for students by experts with resource persons of high academic profile.
- Industrial visits and internship programmes
- Activities like EDP club, Personality & Soft skills development
- Regular news update sessions for all students.

1.3.2 What are the efforts made by the institution to modify, enrich and organize the curriculum to explicitly reflect the experiences of the students and cater to needs of the dynamic employment market?

- The Institution collects feedback from students, alumni, employers, industries and based on the inputs, suggestions to University authorities are given through the members of the University level academic bodies.
- Faculty members often involve in the workshops organized for curriculum development and convey the feedback to the University.
- Certification courses like SAP
- Training in latest technologies such as ASP .NET, Java and Android
- Training in soft skills development
- Aptitude Training Programmes
- Encourages students to participate in off-campus interviews conducted by various companies/organizations
- Organizes mathematical quiz, poster competitions, gaming and robotics competitions
- Tutorials and expert lecture sessions for students
- Group-wise presentation of Business Plans
- Avenues for the students to interact with eminent industrialists.

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

- Ample space has been provided by the college to integrate cross cutting issues to enrich the curriculum. Student initiatives for addressing cross cutting issues are promoted by the college.
- Participation of students in co-curricular activities, conducting seminars, workshops etc. are without gender differences.
- No gender-wise discrimination is made in constituting various committees.
- Among the faculty members the majority are ladies.
- In the teaching learning process, Wi-Fi Connectivity, LCD and laptops are widely used.
- The institute has its own server space with Google. MACFAST email ids are provided to all faculty members, students and non-teaching staff.
- Every week one hour is earmarked as '*Green Hour'*, and it is dedicated for green initiatives.
- Awareness about environment is created by organizing poster exhibitions, road shows, photo graph competitions, tree plantations, visits etc.
- Students are informed about diseases due to climate changes and necessary arrangements are available for medical assistance.
- Awareness is given on human rights through videos, presentations and lectures etc.
- Efforts are made to inculcate moral values in students by frequent lectures of eminent personalities, visit to orphanages, campaign against drugs etc.
- The NSS unit of the college has organized various programmes addressing the issues of social, ethical and human rights like blood donation, supply of study materials to poor students of neighboring schools, cleaning programmes etc.
- The mechanism of hearing grievances and redress is well functional in the college.
- Women cell has been constructed in the college to address the problems of harassment of women at work place. The Cell is effectively functioning in the college to look into the problems of students and staff.

1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

- ***moral and ethical values***
- ***employable and life skills***
- ***better career options***
- ***community orientation***

- The photography club called 'Third-Eye' which conducts various competitions on social issues.
- 'Hrudayaspandam': A programme that offers support for heart surgery for needy people through the community radio, the Radio MACFAST.
- 'Rays of Love': A programme that offers various social activities such as blood donation, helping the needy students etc…
- College conducts annual retreat for students and staff regularly to provide moral and ethical values.
- National Service Scheme (NSS) organizes social activities and annual camps
- Conducts courses on technical skill development to develop the skills among the students and make them employable.
- The 'Earn While You Learn' programmes have been implemented.
- Organizes cultural, co-curricular, additional programmes, tours, visits, conferences to develop interpersonal skill, decision making and life skills
- Student forums celebrate Teacher's day, Science Day, regional and national festivals such as Onam, Easter, Christmas and celebrates the dates of National/ International importance.
- Organizes entrepreneurship development programmes

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

- Collects feedback about the curriculum and skill development programmes from the stakeholders that includes parents, students, management, universities, and alumni and the same is presented at the appropriate platforms.
- Feedbacks enable the Institute to plan and add the contents beyond curriculum
- Case studies and small projects are assigned to students during each semester to enrich the curriculum contents.
- Based on the feed backs collected from the corporate CEOs who have visited the college, special programmes like communication skills, MACFAST aptitude test server etc. were introduced for enhancing the employability of the students.
- Feedbacks from the recruiters are reviewed carefully and appropriate remedial plans are implemented periodically.

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

- Regular feedbacks are taken formally and informally by class-in-charge, Head of the departments and Principal to ensure the student's satisfaction on various enrichment programmes
- The conclusions drawn from the feedback is discussed with the stakeholders for

further improvements, if any.

- Faculty members attend the enrichment programmes periodically to assess the quality of the programmes.
- The attendance of the students in enrichment programmes is meticulously monitored.
- The results of all tests conducted in the enrichment programmes are analyzed and reviewed.
- The programmes are evaluated by experts periodically to ensure its relevance.
- Results of University examinations are also taken into consideration immediately after the declaration of the results.

1.4 Feedback System

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

- Faculties, who are the members of the Board of Studies of the MG University, are attending the meetings and the improvements required in curriculum aspects are communicated to the respective authorities.
- Faculty members take up additional responsibility as assigned by the university as Chairman, Chief examiner and Additional examiner.
- Faculty members take part in the syllabi revisions, review meetings and propose suggestions for improvements.

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If 'yes', how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new programmes?

- Yes. The institution has a well-established system for collecting feedback from its stake holders.
- During each semester Principal gathers formal-written feedback through a structured questionnaire. The data collected are analyzed and used for implementing changes in the concerned areas.
- The feedback is also collected during PTA meetings conducted by the departments for each batch.
- There is provision for students to give feedback directly to the university via online grievance system.
- The feedback of students and staff is also communicated formally to the university by the Principal.

1.4.3How many new programmes/courses were introduced by the institution during

the last four years? What was the rationale for introducing new courses/programmes?

The college has introduced only one programme during the last four years. The new programme, M.Sc. Biotechnology, was introduced in 2012.

Rationale for introduction:

1. Availability of well-established infrastructure to conduct the programme.
2. Availability of qualified and experienced faculty members.
3. An approved research center of the MG University is functioning in the campus.
4. The campus has a strong knowledge base, such as library, computer facilities with internet facilities.
5. The University affiliated was awarded by UGC for running a unique course named 'Phyto-Medical Science and Technology'. This course was introduced in this college in 2005 for the first time in India.
6. The college was a Programme Study Centre of IGNOU for conducting the Post Graduate Diploma Course in Food Processing Technology for two years from 2010 to 2012.

Any other relevant information regarding curricular aspects which the college would like to include:

Proposals for new courses

Proposal for introducing the following two new Programmes were submitted to the University in 2013

(i) MBA with a specialization in Biotechnology

(ii) MBA with a specialization in Food Science.

CRITERION II: TEACHING - LEARNING ANDEVALUATION

2.1 Student Enrolment and Profile

2.1.1 How does the college ensure publicity and transparency in the admission process?

Publicity

The college keeps an integrated approach in publicizing various courses offered through print and visual media, hoardings, institutional website (www.macfast.org), radio broadcasting, and participation in educational fairs, institutional memberships etc. The notification of admission includes detailed information about the different courses offered, number of seats, eligibility, and duration of the courses and the procedures for applying to the course. Apart from these, the institution is familiarized through various media and news appearing at regional and national level at the time of special programmes like conferences, seminars, workshops, fests and visits of dignitaries are conducted. The institution also gets publicity through various articles published by faculty members in newspapers, magazines and research journals.

Transparency

The admission process of the college is entrusted to an admission committee constituted every year, consisting of a General Convener and members of the faculty chosen from respective departments. The committee is functioning under the general supervision of the Principal. Based on the applications received the schedule for the admission is notified. After the admission process the rank list is published on the notice board. Every effort has been taken by the college to ensure equity and social justice through transparency in the entire admission process.

The college offers the following programmes:

1. MBA
2. MCA(3 year)
3. MCA (Lateral Entry -2year)
4. M.Sc. - Bioinformatics
5. M.Sc.- Plant Biotechnology
6. M.Sc.- Food Science & Technology

7. M.Sc.- Biochemistry
8. M.Sc.- Bio Technology
9. M.Sc.- Phytomedical Science & Technology

2.1.2Explain in detail the criteria adopted and the process of admission

a) Master of Business Administration (MBA):

Admission procedure to MBA consists of three stages. The first stage is the Entrance Test (MAT/ CMAT/ CAT,XAT, ASMIK MAT) and the students opted for the college is called for the second and third stages consisting of Group Discussion and Personal Interview conducted at the college. A rank-list will be prepared on the basis of the sum of the following three components.

i) Entrance Test Score - 80%ii) Group Discussion 10% Interview 10%

b) Master ofComputer Application (MCA):

For admission to MCA programme, the candidate should submit the application form to the college. Admission to Regular and Lateral entry MCA Degree is on the basis of merit as per the marks scored on the qualifying examination and through common entrance examination conducted by the Commissioner of Entrance Examination, Government of Kerala. An Interview is conducted by a panel consisting of the Director, Head of the Department and senior faculties.

c) Master of Science (M.Sc.)

The college offers various M.Sc. programmes viz.

1. M.Sc. - Bioinformatics
2. M.Sc. - Plant Biotechnology
3. M.Sc. - Food Science & Technology
4. M.Sc.- Biochemistry
5. M.Sc.- Biotechnology
6. M.Sc.- Phytomedical Science & Technology

M.Sc. Admissions are made at both University level and college level. Allotment for 50% of the seats will be done by the University through a centralized allotment process. These seats include both general category and reservation categories as per the rules and regulations of University and Government. In University filled seats the admissions

notifications as well as the rules andregulation of the admission are published on University website. The University follows academic calendar of events giving last date for receipt of application, publication of rank lists and last date fixed for admission based on availability of seats. The University allotment is based on the marks of the qualifying examination.

To secure admissions in the seats filled by the college, any candidate can apply online in the prescribed application form, downloaded from the college website. A merit list based on the qualifying examination marks obtained by the candidate as well as the performance score of the interview conducted by the college is prepared and displayed on the notice board and college website.

Table 2.1
Eligibility Criteria for Admission to Various Programmes

Programmes	Eligibility
MBA	A pass in any Bachelor's Degree Examination of Mahatma Gandhi University or an equivalent degree of any other universities duly recognized by M.G.University with not less than 50% marks in the aggregate for all parts of examination or a Master's Degree examination with 50% marks in aggregate. For SC/ST students a pass in any Bachelor's Degree examination
MCA(3 year)	A pass with not less than 50% marks in any recognized regular Bachelor's Degree course of minimum three years duration in any discipline with Mathematics at 10+2 level. or A pass with not less than 50% marks in any recognized

	Regular Bachelor Degree course of minimum three years duration in any discipline with Mathematics/Statistics(this does not include Business Mathematics or Business Statistics) as one of the Subjects. or A pass with not less than 50% marks in BCA degree of minimum three years duration from a recognized University.
MCA- Lateral Entry (2 year)	A candidate seeking admission to the direct 2nd year of MCA course must have: A pass with not less than 50% marks in recognized regular Bachelor of science Degree course of minimum three years duration in the discipline of Computer Science or Information Technology with Mathematics/ Statistics as a Subsidiary subject at the Degree level or A pass with not less than 50% marks in BCA degree of minimum three years duration from a recognized University.
M.Sc - Bioinformatics	B.Sc. in Biochemistry, Biophysics, Biotechnology, Plant Biotechnology, Bio-Informatics, Botany, Zoology / Plant Biology / Chemistry / Computer Science, Computer

	Application, Electronics, Environmental Science, Mathematics, Microbiology, Physics, Statistics with not less than 55% marks in the subject concerned.
M.Sc - Plant Biotechnology	Botany as main or subsidiary subject, Biochemistry, Biotechnology, Microbiology, Agriculture Science and Environmental Science with not less than 55% marks.
M.Sc - Food Science & Technology	A degree in Science or Engineering having Food Science, Food Technology, Chemistry, Biochemistry, Physics, Botany, Zoology, Microbiology, Home science or nutrition as one of the subjects in their curriculum with a minimum of 50% aggregate marks of any University recognized by M. G. University
M. Sc - Biochemistry	B.Sc degree in Botany, Zoology, Biochemistry, Biophysics, Microbiology, Biotechnology, Biological Techniques & Specimen Preparation, Chemistry and Physics with 55% marks in Part III of respective subjects. Graduates in MLT course with not less than 55% marks are also eligible.
M. Sc - Biotechnology	A candidate seeking admission to M.Sc. Biotechnology must have at least 55% marks in Biological Sciences viz., Zoology, Botany, Biochemistry, Biophysics, Biotechnology, Biological Techniques & Specimen Preparation and Microbiology or Chemistry at the graduate level. Graduates in MLT course with not less than 55% marks are also eligible
M.Sc - Phytomedical	B. Sc. degree in Biological Sciences (Botany, Zoology, Biochemistry, Microbiology, Biotechnology, and

Science & Technology:	Bioscience) or Chemistry or Environmental Science or Agriculture or Veterinary Science, with a minimum of 55% aggregate marks, recognized by the M. G. University, Kottayam. BAMS or MBBS or BHMS or BSMS or B. Pham degree, with a minimum of 50% aggregate marks, recognized by the M. G. University, Kottayam

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each programme offered by the college and provide a comparison with other colleges of the affiliating university within the city / district.

The minimum and maximum percentage of marks at the entry level for each program offered by the college is presented in the following table

Table 2.2
Minimum and Maximum Percentage of Marks for Admission at Entry Level for Each Programme Offered by the College

Programme	Year	Minimum marks	Maximum marks
MBA	2009-2010	50%	84%
	2010-2011	50%	86%
	2011- 2012	50%	83%
	2012-2013	C Grade	B Grade
	2013-2014	C Grade	B Grade
	2014-2015	C Grade	B Grade
MCA	2009-2010	50%	90%
	2010-2011	50%	80%

		2011- 2012	50%	88%
		2012-2013	49%	89%
		2013-2014	52%	85%
MCA	REGULAR	2014-2015	50%	90%
	LATERAL	2014-2015	50%	85%
M Sc	Food Science & Technology	2011- 2012	50%	85%
		2012-2013	C Grade	B Grade
		2013-2014	C Grade	B Grade
		2014-2015	C Grade	B Grade
	Bioinformatics	2011- 2012	50%	68%
		2012-2013	C Grade	B Grade
		2013-2014	C Grade	B Grade
		2014-2015	C Grade	A Grade
	Plant Biotechnology	2011- 2012	50%	70%
		2012-2013	C Grade	B Grade
		2013-2014	C Grade	B Grade
		2014-2015	C Grade	B Grade
	Biochemistry	2011- 2012	50%	70%
		2012-2013	C Grade	B Grade
		2013-2014	C Grade	B Grade
		2014-2015	C Grade	B Grade
	Phyto Medical Science & Technology	2011- 2012	-	-
		2012-2013	50%	70%
		2013-2014	-	-
		2014-2015	-	-
	Biotechnology	2013-2014	C Grade	A Grade
		2014-2015	C Grade	A Grade

Efforts were made to collect the information from various colleges for comparison. However,such information from the neighboring collegeswere not made available.

2.1.4Is there a mechanism in the institution to review the admission process and student profiles annually? If 'yes', what is the outcome of such an effort and how has it contributed to the improvement of the process?

Yes. The college meticulouslyreviews the institutional compliance of the state and national regulatory guidelines for admissions to different programs. The admission committee looks into gender balance, from the same state /other state /gifted children/rural /urban SC/ST,OBC, women, differently-abled, economically weaker sections, minority community. This helps to identify the demographics of the students admitted to various courses and in devising strategies for reaching out to more students

2.1.5Reflecting on the strategies adopted to increase / improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate / reflect the National commitment to diversity and inclusion.

**** SC/ST***

**** OBC***

**** Women***

**** Differently–abled***

**** Economically weaker sections***

**** Minority Community***

**** Any Other***

The college strictly follows the policies adopted by the Central Government, the State Government and the Mahatma Gandhi University in this regard and due consideration is given to ensure that all sections of the society is represented in tune with the policies of the Government.

- **SC/ST:**

The allotment of seats to SC/ST students are made strictly based on Government policies. They are given fee exemption and endowment benefits as per the rules of the University and the Government. At every stage the reservation policy is adhered to in full.

- **OBC:**
  Students belonging to Other Backward Classes are allotted seats based on the State policy. They are also eligible for fee exemption and other benefits. Reservation to this category is also ensured in different stages of admission.
- **Women:**
  Although women are not eligible for reservation in admission, they are not discriminated at any stage and they are assured of equal opportunity. Separate hostel facilities are provided for them. Counseling to the parents of girl students on the necessity of women education is given by the college, and a women cell is constituted in the campus to take care of their needs.
- **Differently-abled:**
  Students belonging to differently - abled categories are treated in accordance with the UGC guidelines and every effort is made to cater to their welfare. A ramp attached to the main block enables them to reach all floors of the college building with ease. Drinking water facility and modern toilets are available at convenient locations in each floor.
- **Economically weaker sections:**
  In the case of students from economically weaker sections of the society reservation is given at the discretion of the Management. They are entitled to certain benefits like fee concession, free boarding as per the management policies
- **Minority community:**
  Apart from being a college run by a minority community, the institution always tries to ensure maximum help to the students from the same community as well as those belonging to other minority communities.

Tuition Fee Waiver Scheme

- **Special scholarships for rank holders**: Top 3 rank holders admitted from the Universities in Kerala are eligible for a fee concession at the rate of 50%.
- **Students secured more than 90% marks in University Examinations** :
  10% concession on Tuition Fees
- **Students secured marks from 80% to 90% in University Examinations** :
  5% concession on Tuition Fees

Table 2.3 Categories of Students Admitted to Various Courses During the Current Academic Year (2014-2015)

Programme		Students Admitted	General Category	SC/ST	Others	Total
MBA		120	111	2	1	114
MCA	Regular	60	39	2	8	49
	Lateral	60	23	0	20	43
M.Sc - Bioinformatics		20	7	1	Nil	8
M.Sc - Biochemistry		24	14	Nil	Nil	14
M.Sc - Plant Biotechnology		20	1	1	Nil	2
M.Sc - Biotechnology		14	6	1	Nil	7
M.Sc - Food Science& Technology		36	28	1	2	31
M.Sc - Phytomedical Science and Technology		20	Nil	Nil	Nil	Nil

2.1.6Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e., reasons for increase / decrease and actions initiated for improvement.

The programme – wise details of the demand ratio is given in Table 2.4.

Table 2.4
Details of the Number of Applications Received, Number of Students Admitted and Demand Ratio

Programme		Year	No. of Applications	No. of Students Admitted	Demand Ratio
MBA		2011- 2012	168	114	1.47:1
		2012-2013	165	104	1.59:1
		2013-2014	96	62	1.57:1
		2014-2015	150	115	1.3:1
MCA		2011- 2012	112	60	1.86:1
		2012-2013	125	57	2.19:1
		2013-2014	80	38	2.10:1
MCA	REGULAR	2014-2015	49	49	1:1
	LATERAL	2014-2015	43	43	1:1
M Sc	Food Science & Technology	2011- 2012	20	20	1:1
		2012-2013	29	29	1:1
		2013-2014	24	24	1:1
		2014-2015	29	29	1:1
	Bioinformatics	2011- 2012	2	2	1:1
		2012-2013	5	5	1:1
		2013-2014	7	7	1:1
		2014-2015	7	7	1:1
	Plant Biotechnology	2011- 2012	9	9	1:1
		2012-2013	1	1	1:1
		2013-2014	1	1	1:1
		2014-2015	2	2	1:1
	Biochemistry	2011- 2012	3	3	1:1
		2012-2013	5	5	1:1
		2013-2014	5	5	1:1

		2014-2015	14	14	1:1
	Phyto Medical Science & Technology	2011- 2012	Nil	Nil	Nil
		2012-2013	4	4	1:1
		2013-2014	Nil	Nil	Nil
		2014-2015	Nil	Nil	Nil
	Biotechnology	2013-2014	7	7	1:1
		2014-2015	7	7	1:1

The increase /decrease in the number applications received, number of students admitted etc, depends to a large extent on the pass percentages of the qualifying examination. As MBA and MCA programmes are offered by so many colleges affiliated to the University, the proximity of the students, conveyance facilities available, track record of the results etc. are also the factors for variations in the number of admissions. Compared to other colleges, MACFAST has a track record of very good results over the years and efforts have been made by college to improve this record and to offer support programmes like placement training, soft skill development programmes etc. along with good infrastructure facilities to attract meritorious students to different programmes offered by the college.

2.2 Catering to Diverse Needs of Students

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

The college completely abides by the government policies, rules and regulations regarding the needs of differently-abled students. The seats are reserved and offered according to the government policies at the time of admission to various courses. The institution offers special mentoring sessions by experts for students to understand their physical & mental health. The problems recognized for any student will be handled with due care.

The institution has given provision for reserving seats for admission to the differently-abled students as per the University norms. It also has ramps extending to all the floors of the main building (in addition to the stairways), to ensure that physically challenged students reach the respective destinations without using the stairs. The college has an effective mentoring system and the mentors of differently-abled students pay special attention to their needs.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the programme? If 'yes' give details of the process.

Yes. The college takes care of every aspect of the students' needs. Before the commencement of the courses, all the departments offer bridge courses and orientation programs for the new students. The institution tries to identify specific needs of students in the beginning itself and gives special care to improve their knowledge and skills. A faculty member is given the charge of each class and remedial coaching classes are given for weaker students after the regular class hours. A class leader is also selected for every class from the students for easy communication between the students, faculty and management.

2.2.3What are the strategies drawn and deployed by the institution to bridge the knowledge gap of the enrolled students to enable them to cope with the programme of their choice?

Before the commencement of the course, each department conduct bridge courses of two weeks duration to bring the students coming from different streams and socio-cultural background to a uniform platform so that they can easily adapt to the curriculum. These courses are handled by expert trainers to mould every aspect of the students. Apart from these, the college conducts ten days orientation programmesforstudents in the beginning of every semester to motivate and instill values in them.

Allthe departments of the college conduct add-on courses on a regular basis to improve the technical as well as soft skills of the student. This includes communication classes, aptitude training, etc. Each department identifies the gap in the syllabus and the needs of the industry/research. To bridge these gaps institution arranges add on and remedial lectures. Every year the college conducts national/international symposium/seminar/conferences in subjects of current importance. These programs were usually sponsored by National agencies such as DBT, DST, DIT etc., International agencies and by State Government agency KSCSTEC and by the institution. The college sponsors students to attend various programmes in academic spectrum in similar institutions within and outside the state. Each student in the department has to take up a project in the last semester of their course in a well reputed research lab or in an industry of national/international repute. The project will help them to apply and tune their skills according to the requirements of industry/research institutions. It also supplements their placement prospects to a considerable extent.

2.2.4How does the college sensitize its staff and students on issues such a s gender, inclusion, environment, etc.?

The college conducts periodic programmes to create awareness on gender equality, inclusive development, environmental sustainability, etc. to sensitize the students and staff and they actively participate and contribute to its success.

Further the college upholds the tradition of holistic education with emphasis on the ethical and moral principles. Equal opportunity to boys and girls are given for all the activities and processes which include curricular, co-curricular, extracurricular, sports, committees and placements etc.

The students of each class are under the guidance of a class-in-charge who will monitor the overall activities of the class and group activities like Wednesday gatherings, green hours, mentoring and communicates with the class on gender issues, inclusion etc. The college conducts FDPs, meetings of the MACFAST Development Council (MDC) through which the holistic vision of the college is communicated to the faculty. There are a number of programmes in the college for boys and girls to work together in teams. These includes opportunities to participate in the Campus Community Radio, "Rays of Love", which is a student group who stand for supporting the socially backward people in the community, National Service Scheme, War against Drugs etc. The college is having a women's cell to sort out any possible gender related issues.

2.2.5 How does the institution identify and respond to special educational / learning needs of advanced learners?

MACFAST takes measures to identity the best performers in the class in terms of both academics and soft skills. In the case of academics, the statistics from the internal assessment tests conducted regularly are considered and in the case of soft skills, the top performers in various extracurricular activities are identified. For those advanced learners, opportunities are given to work in live project along with their studies at MACFAST Technologies. This motivates them to 'Earn While They Learn'. Further opportunities are provided for them to charter out and present programmes in the campus community Radio. The students are encouraged to publish their research articles in the "Journal of Science, Technology and Management." published by the college on a quarterly basis. As part of the student branches of Computer Society of India (CSI) and Indian Society of Technical Education (ISTE), programmes like elocution competition, coding competition etc. are organized in the campus. Further a Technology Incubation Center is functioning in the campus to foster the budding ideas of the students. The students are encouraged to

participate in various national and international seminars, the preparations of business plan etc. Scholarships/Awards are given to the outstanding achievers and best performers.

2.2.6 How does the institute collect, analyze and use the data and information on the academic performance (through the programme duration) of the students at risk of drop-out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections, etc.)?

Academic performance of the students from the disadvantaged sections of society, physically challenged, slow learners and economically weaker sections are identified through admission register, attendance records, report of faculty members, student behaviour and attitudes, performance in class tests, assignments, presentations etc. Each department conducts University result analysis of the concerned programs and collects the information about academic performance of students. Internal evaluation tests of the collegeis another source of information about students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker etc are all sorted out on the basis of the above sources of information and special care and coaching are designed for them.Student mentors interact regularly with students assigned to them and report on their academic performance. The departments conduct meetings of the parents immediately after the result analysis and special attention is given to weak students. Faculty members take extra sessions for slow learners after the regular class hours and, question banks and assignments are made available to them. Special emphasis is given to improve the communication skills of the students. Classes usually commence at 8:30 am with a news analysis session followed by discussions on current issues. Language and communication training is also given for students by a group of dedicated faculty and is evaluated by experts. A friendly environment is created inside the class room to improve their communication skills. The college has implemented“Earn While You Learn” programmes for economically weaker students. SC/ST/OBC/minority students are given the benefits of reservations in admission and scholarships are given as per Government and University norms. In the case of financially backward students, relaxations in tuition fees as well as hostel fees are given on need basis.

2.3 Teaching Learning process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blue print, etc.)

At the beginning of each academic session the college prepares the academic calendar in accordance with the University guidelines and distributes the same to the students. The academic calendar includes dates of internal and external exams and also other relevant information about each course during that year. It may also contain schedule of industrial visits and other co-curricular activities of the college such as annual sports day, arts day etc.
Since the college is affiliated to Mahatma Gandhi University the syllabus is primarily framed by the University. On the basis of the syllabus stipulated by the University and the college academic calendar, each department frames the teaching plan,allocate the classes per paper/topic for each faculty at the beginning of the semester. For each class of the department, there is a faculty-in-charge who supervises the academic progress of the students. Faculty maintains a lesson plan to ensure the coverage of the syllabus within a reasonable time.Department meetings are held frequently to review the progress of study in terms of coverage of syllabus and the level of understanding of the subject by the students. The college library provides effective support for ready reference of the study materials.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

To ensure continuous improvement an IQAC (Internal Quality Assurance Cell) has been constituted recently by the college headed by the Principal as per the guidelines of NAAC. The IQAC has put forward meaningful suggestions for quality improvement in teaching and learning of the college. Promotion of 'Earn While You Learn' programme, effective institution-industry linkages, and channelizing the resources of the Alumni for better placement are some of the major suggestion put forward by the IQAC. The college has accepted the above recommendations in letter and spirit.

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, collaborative learning and independent learning among the students?

The different departments of the college conductsconferences, symposiums, projects, cultural and management festivals etc. The institutional support and encouragement is extended to facilitate:

- Faculty development programmes.
- Seminars, workshops, student industry interactions etc.organized in association with the professional bodies like Computer Society of India, KMA and CTMA.
- Deputing teachers to special training programmes and short courses at institutions like IIM and NIT.

- Discussion forums on current topics of relevence.

The college offers support services to the teachers for promoting student centric learning. The well-stocked library with a wider collection of latest books and journals are available to the faculty members so as to enhance their competency and toprovide comprehensive and updated information to the students. Students are also encouraged to use the library independently to widen their knowledge. The college provides Wi-Fi connectivity for round the clock use of thestaff and students.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

- Provides different enrichment courses in each discipline to incorporate appropriate recent advances specific to each subject.
- A student branch of Computer Society of India (CSI) and Indian Society of Technical Education (ISTE) is operating in the campus which organizes debate competition, coding competition, elocution competition etc. to nurture creativity and scientific temper among students. The college has a Technology Incubation Center and EDP club which provides opportunities to students to promote innovative thinking and to transform them as young entrepreneurs.
- Out of the box thinking and lateral thinking exercises are encouraged thereby giving scope for innovativeness and to make them lifelong learners.
- The college provides personality development sessions and life skillprogrammes. This multi-pronged approach makes the outgoing graduates of the institution to maintain competitive edge in their future endeavors and a balanced outlook towards life.
- Students are encouraged and motivated by the faculty to undertake minor projects financed by external funding agencies or through the support of the college and to present the same in national / international seminars. They are also encouraged to publish articles in various types of journals. Apart from regular academic activities, students are also motivated to participate in the activities of the NSS unit of the college to inculcate a sense of civic responsibility and community orientation.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? Eg: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and

National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

The technologies and facilities available and used by the faculty for effective teaching are given below.

- Plug-and-play LCD projectors in classrooms
- Wi-Fi Internet access
- Laptops for faculties
- Educational Videos
- Audio-visual inputs
- CDs and DVDs
- White board / Black Board
- Study archive

Apart from the use of modern electronic gadgets mentioned above as teaching aids, effective library support through e-journals are made available to staff and students.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

Inorder to have effective exposure to advancement in the subject area, experts from the respective fields are frequently invited to the college. The participation of faculty and students are compulsorily insisted during these sessions. Besides organizing seminars, workshops and conferences in the college, the faculty and the students are also deputed to attend such programmes organized by the academic/research institutions outside the state, so as to familiarize with the best practices of the these institutions.. Wi-Fi facilities to the teachers and students are provided to have the opportunity to widen their knowledge.

The college has a centralized digital library so that students can login any time. The college is part of DELNET and a subscriber of various e-journals such as ProQuest, IEEE ASP, J-Gate etc.

2.3.7 Details (process and the number of students benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advise) provided to students?

Academic and personal counseling of the students are done by teachers of the respective departments. The faculty mentor acts as a true friend, philosopher and guide for the students during their period of study. The Principal, Manager and other senior teachers also provide mental support and guidance to them. More over each class is represented by two students

who take part in Student Council which discusses all the academic issues and also they get an opportunity to express their grievances before the Principal and members of the Council. The services of expert doctors and counselors from Pushpagiri Medical College, Tiruvalla are easily accessible free of cost to the needy students.

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faulty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

The innovative teaching methods adopted by the faculty includes:

- Use of PowerPoint presentations through LCD projectors in the classrooms
- Use of internet resources to prepare assignments on topics of relevance
- Use of online resources and journals in preparing seminars.
- Group activities based learning in the classrooms
- Presentations by students in the classrooms
- Qualified expert guest faculties/speakers are invited to enhance the knowledge of staff and students.
- Film shows are organized in relation to curricular and global issues-effects of narcotics drugs and global warming.

Faculty Development Programmes helps to sharpen the teaching skills where experts from various fields and trainers are frequently invited to interact with them. The college keeps an open approach for faculty to design and experiment with innovative teaching methodologies.

2.3.9 How are library resources used to augment the teaching-learning process?

The college is having a well-equipped central library. Periodically, the library is updated with latest books and journals. The catalogues from different publishers are available in the library. Book exhibitions with the participation of various publishers are frequently organized by the library. The faculty members monitor the use of library services by the students. Each student is provided with a library card which enables them to access a set of academic text books issued from the library.

The faculty members can hire books, journals and other learning resources frequently from the library for preparing teaching notes, lesson plans, study materials etc. The college library is having a book bank schemethrough which the students can retain the books borrowed from the library as per their syllabus for the entire semester.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If 'yes', elaborate on the challenges encountered and the institutional approaches to overcome these.

Yes. As per the calendar of events given by the University, the departments prepare academic calendar for the college. All the faculty members are allotted with definite number of teaching hours per week. Accordingly concerned course teachers prepare lesson plans for the semester.

The loss of working days, on account of special holidays declared by the Government and those lost for reasons beyond the control of the institution are adequately made good through extra working days and remedial sessions. This is done during Saturdays and special evening sessions.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

The institution ensures the effective learning experiences of the students through the following.

- Evaluating the student's performance in class tests and preparatory examinations.
- By regular interactions of the students with the mentors.
- Internals, tutorials, parent teacher association activities and interactions.
- Collecting feedback from organizations where the students are placed during the project training and also from the employers recruiting them.
- By taking feedback from the parents.

The assignments of the students and the results of the internal examinations are analyzed and assessed to monitor the quality of teaching and learning. The answer scripts of the unit tests conducted subject-wise are scrutinized and samples are checked by the Head of the Department for direction to the teachers for improvement if any. Evaluation of each teacher is conducted through administrating a questionnaire. The data are analyzed for identifying the areasrequiring improvement and the same is communicated to the faculty concerned and academic support is provided to strengthen them on a continuous basis. Self performance appraisal gives SWOT analysis of teacher's performance. The initiatives of the college for curriculum development process involves curriculum need assessment through feedback from the stake-holders viz. students, academic peers, alumni, parents and community.

Different stakeholders give feed backs on courses, programs, competencies gained by alumni, teaching and evaluation through set of formats designed by the college. After analyzing the feedback and identifying the areas requiring correction, it is placed before the curriculum committee of the college, and necessary enrichment plans are designed. The deficiencies are communicated to the Board of Studies and appropriate authorities of the affiliating university for redesign.

Every teacher identifies the gap between expected learning and achieved learning. Based on the gap identified remedial measures are initiated. Systematic innovative practices like internal evaluation, counseling, mentoring and students feedback ensure effective learning experiences among the students.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the College in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum Recruitment

The policy of the management is to strengthen the human resources by appointing qualified and competent teachers and to frame appropriate strategies to retain them.

Manpower Planning and Recruitment process:

The need for the faculty recruitment is continuously assessed by the Dean/Directorand a systematic process of recruitment fills the gap. The recruitment process has the following steps. Recruitment of teaching, non-teaching and technical staff is done as per theby-law of the college compatible to the norms of the University and UGC/AICTE.

The selection committee for appointing the faculty consists of the following members.

- The Principal
- The Director/ Dean
- Head of the Department
- Professors/ subject experts nominated by the principal

Steps adopted by the selection committee

- Identify the need of faculty in various departments.
- Publish advertisement in news papers / website/other sources.

- Scrutinize the application of qualified candidates.
- Send call letters to qualified candidates.
- Constitute selection committee.
- Conduct interview of candidates.
- Prepare selection and waiting list of selected candidates.
- Appointing authority – principal is the appointing authority.
- Send selection letter to selected candidates.
- Issue appointment letters to the selected candidates.

Preference for the appointments is given to candidates with Ph.D / NET,research publications, and approved record of teaching and research.

Retention:

The faculties are frequently deputed to FDP and FIP programmes. This has developed goodwill among the faculty that the institution cares for their individual professional growth. The value-culture of the institution is reiterated with the teaching community and freedom along with security is reinforced upon them on regular basis. Teachers are encouraged to take up publication or to contribute academically as consultancy both within and outside the institution. They are assigned for outreach programmesby rotation. Incentives in the form of medical insurance leave facility, financial support to FDPs, paper presentations, academic tours and self-improvements are embedded in the system. Recognizing the talents by involving them in NSS, sports and cultural activities are entertained. Annual Performance Appraisals take care of the retention of the performing teachers. Recognition is reflected in the annual increments and incentives.

In addition to the financial incentives, the college provides the following amenities for thewelfare of the students, staff and stake holders.

- The maternity leave facility is provided to all the female staff members.
- All the staff members are entitled to avail the facility of casual leave
- The medical leave facility has also been extended to all of the staff members whenever it is it is required.
- Duty leave for academic visits and activities related to college
- Registration fee for seminars and conferences, workshops etc.
- Accessibility to sports equipments and gym facility.
- Internet and library facilities to all staff members.
- Contributory Provident Fund
- Transportation facilities provided to Staff members on need basis.

Table 2.5
Department-wise Details of the Faculty Members

DEPARTMENT OF MANAGEMNET STUDIES							
Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
D.Sc./D.Litt.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ph.D	2	Nil	1	1	Nil	Nil	4
M.Phil	Nil	Nil	1	Nil	4	Nil	5
PG	Nil	Nil	2	Nil	6	2	10
DEPARTMENT OF COMPUTER APPLICATIONS							
Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
D.Sc./D.Litt.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ph. D	1	Nil	Nil	Nil	Nil	Nil	1
M.Phil	Nil	Nil	Nil	Nil	1	2	3
PG	Nil	Nil	2	Nil	4	2	8
SCHOOL OF BIOSCIENCES							
Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	

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D.Sc./D.Litt.	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ph. D	1	Nil	2	2	Nil	Nil	5
M.Phil	Nil	Nil	1	Nil	Nil	Nil	1
PG	Nil	Nil	Nil	Nil	1	6	7

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

The college is the pioneer in introducing M Sc Biosciences courses in Kerala and recruited qualified faculty for those courses according to UGC/AICTE/ University and Government norms. The college attracts the new qualified faculty and retains the existing ones by providing requisite facilities for their academic and personal well-being. Participation in workshops and seminars by the faculty is considered as on duty and are provided with TA /DA and other benefits to upgrade their knowledge. During the last three years, many of faculty members have participated in a number of national and international conferences and workshops. The college provides Wi-Fi facilities to the teachers and students free of cost.

2.4.3 Provide details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

Faculty development programs are of con`tinuous and ongoing nature. The programs are aimed at improving the knowledge, skills and on the job efficiency requirements of faculties in the organization. The programs fall under following categories.

Personal Qualities Developments:

Aiming at improving communication, time management, empathy, interpersonal relationship, planning, service with human touch, managerial skills etc.

Professional Competency Development:

To improve the competency level of the faculties with the help of Management Development council (MDC), inter departmental meetings to enhance and broaden the skills, new teaching methods like case studies to improve the teaching learning process.

Professional Teacher Skill Developments:

Curricular planning, process of learning and understanding, teaching learning experiences, lesson planning, evaluation, assessment and measurement, communication skills, classroom management, evaluation technique, transactional analysis, understanding change process and implementation, using the effective media for communication and such other similar topics.

Application of Professional Management concepts in Education:

Decision making, group coherence, manager, team leader, change implementer, motivator, mission director etc., are the programs conducted for the faculty development and attended by all teaching staff.

Faculty participation in Professional Development Programs:

Faculties are actively involving in publishing papers in national and international journals with high impact factor.

Nomination to staff development programmes

Table2.6 – exhibits the number of faculty members nominated for undergoing faculty development programmes during the reference period 2010 – 2014.

Table 2.6 Nominations to Staff Development Programmes

Academic Staff Development Programme	Number of faculty nominated			
	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014
Refresher Course	2	Nil	2	Nil
HRD Programmes	1	Nil	2	1
Orientation Programmes	1	5	8	5
Staff training conducted by the University	Nil	Nil	4	4
Staff training conducted by other Institutions	10	10	13	7
Summer/Winter Schools workshops etc.	2	4	4	2

b) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning

- **Teaching learning methods/approaches**

The college often organizes training programs for faculty members to adopt technology aided teaching and learning process. The class rooms are equipped with LCD projectors and teachers are encouraged to use power point presentations. The study materials are uploaded in the college website and students can avail it at any time from the study archives. Online examinations are conducted at periodical intervals to improve employability skills. The students are encouraged to refer e-resources available in the library and for online submission of their assignments.

- **Handling new curriculum**
  Whenever the curriculum is revised by the University, orientation programmes at the college level are organized by senior faculty members who are members of the curriculum revision committee, to familiarize with the new curriculum. The college also encourages all faculty members to participate in the workshops organized by the University in this regard.
- **Content/knowledge management**
  Faculty members are encouraged to attend national and international seminars, workshops and FDPs. They are also encouraged to involve in research to develop the knowledge in the respective areas and publish research articles. They are also motivated to present papers in seminars and conferences.
- **Selection, development and use of enrichment materials**
  The college organizes technical and non technical events, entrepreneurship awareness programmes, seminars, workshops, Faculty Development Programmes etc.
- **Assessment**
  In order to assess the faculty member's performance evaluation the following criterions are considered – University results of concerned subjects, student's feedback, self - appraisal reports and research papers published. Punctuality, commitment, contribution towards the development of the college etc. are the important parameters considered for faculty assessment.
- **Cross cutting issues**
  The college emphasizes creation of awareness among the staff members regarding cross cutting issues like environment awareness, climate, gender – equality, protection of human rights, blood donation, and awareness against AIDS. University has introduced 'Business Ethics & Corporate Governance' as a compulsory subject in the curriculum in this regard.
- **Audio Visual Aids/Multimedia**
  Most of the class rooms are equipped with LCD Projectors, microphones and speakers. These facilities enhance lecture delivery and effective communication.

- **OER's (Open Educational Resources)**
  The Library is fully computerized and using 'Koha', an open source Library Management software
- **Teaching learning material development, selection and use**
  Faculty members are encouraged to prepare notes from various reference books and make them available to students. The college library which has enough updated books and journals of various specializationsin addition to e-journals. The college also organizes seminars, conferences, industrial visits to enhance the academic ability of faculty.

c) Percentage of faculty

- Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies
- Participated in external Workshops / Seminars / Conferences recognized by national/ international professional bodies
- Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies

Table 2.7
Percentage of Faculty members participated in Seminar, Conference and Workshop

Type of Participation	Percentage
Invited as resource persons	50%
Participated in external workshops	90%
Presented papers in workshops	60%

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

Every academic year begins with an in house faculty development programme for three days spread across three sessions per day, wherein domain experts train and orient the faculties. Periodical interactive lecturers and seminars are arranged by the institute to benefit the

teaching fraternity to keep themselves abreast of trends and changes in various subjects. The college provides various facilities to the faculties to promote the research culture among them. They are encouraged to attend various faculty development programs organised by prestigious institutions like IIM's, XLRI, NIT's etc to enhance their skills. The college will reimburse the amount incurred for attending this kind of FDP's. For the faculties pursuing their higher studies the college provides study leave with pay. Further encouragement is given to the faculties to publish research articles in various national and international journals with high impact factor. The faculties are also motivated to publish academic books through MACFAST Publications. Faculty members are invited to handle classes in Police Training College, Trivandrum as trainers in Management Development Programmes, Corporate Trainings, Executive Development Programmes and Faculty Development Programmes.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

NIL

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes. The Institution has instituted evaluation of teachers by the students through the students' feedback mechanism for which the following evaluation criteria have been set.

- Planning and organisation of lectures
- Punctuality in engaging classes
- Efficiency in the curriculum delivery system
- Capacity of assessment of academic learning time
- Subject knowledge
- Knowledge up dating and up gradation
- Quality of study materials supplied.
- Level of perfection in evaluation
- Quality of the teaching methodology applied.
- Interpersonal relationships
- Involvement in extracurricular activities.

- Commitment towards the organization.

2.5 Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution \especially students and faculty are aware of the evaluation processes?

As a post graduate institute, the college has a well structured evaluation process and an effective mechanism to convey its results to the major stake holders. The university criterion regarding the internal assessment like internal examinations, assignments, attendance class participation and seminars and its weightage of internal marks will be informed to the students well in advance. The final score of each student will be published in the college notice board by the HOD. It is also informed to the students in their classes. The department meetings held usually discusses the status of the internal evaluation process. At the end of each semester, parents are given the results of performance of their wards in the PTA meetings.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

The University has introduced choice based credit and semester system from 2009-10 onwards. MACFAST has also adopted the system for the M. Sc Bioscience Programmes. The internal evaluation of the performance of the students are made as per the guide lines of the university (40 percent for MBA, 25 percent for MCA, 20 percent each for theory and practical for Biosciences).

An impartial system of regular evaluation of assignments, class participation and practical is done by committed faculty members who helped in monitoring the performance of the students.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

The college conducts all University examinations as per the directions and schedules of the University. For the conduct of practical examinations, an external examiner is deputed by the University from other colleges, in addition to an internal examiner from the college. Every department has an examination and evaluation cell which monitors the conduct of

examinations. The answer scripts of the internal examinations are evaluated by the concerned faculty members and results are declared at the earliest possible date. The students can see the valued answer scripts and enjoys the freedom to discuss about the answers with the concerned Faculty member. The Departments also conduct mock viva voce examinations based on their courses as well as projects.

2.5.4 Provide details on the formative and summative evaluation approaches adapted to measure student achievement. Cite a few examples which have positively impacted the system.

The college arranges internal examinations, mock viva voce, class test, mock test, industrial visits and guest lecturer classes. It also organizes national and international conferences with the support of Government and private agencies. As a result of these efforts the students from this college are able to get admission to Ph.D. Programmes in various international institutes such as Max Planck Institute Germany, Queensland Institute Australia. A number of students have passed national level competitive examinations such as UGC/CSIR JRF, GATE. Every year the college celebrates National Science day in collaboration with KSCSTE, Government of Kerala. The EDP club of the college promotes student entrepreneurship.

2.5.5 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the student's results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

To monitor the student progress, the college uses continuous internal evaluation system which consists of two class tests, model examination, presentations and submission of assignments for all thecourse offered. Using this mechanism the institution evaluates the progress of the students and their feedback. The college communicates the marks/grades obtained in the internal examinations regularly to the students and their parents. The end semester examinations (theory and practical) are conducted by the University and the results are published online. The analysis of the results of the final year examinations of different programmes are given below.

Table 2.8
Analysis of the Programme-wise Results the University Examinations of Different Batches of Students

Programme	Batch of the Students(Year)	Pass Percentage
MBA	2008-2010	61
	2009-2011	50
	2010-2012	80
	2011-2013	91
MCA	2007-2010	86
	2008-2011	80
	2009-2012	63
	2010-2013	66.6
M. Sc. Bioinformatics	2008-2010	100
	2009-2011	100
	2010-2012	100
	2011-2013	100
M. Sc. Food Science and Technology	2008-2010	100
	2009-2011	100
	2010-2012	100
	2011-2013	100
M. Sc. Biochemistry	2008-2010	100
	2009-2011	64

	2010-2012	66
	2011-2013	60
M. Sc. Plant biotechnology	2008-2010	100
	2009-2011	100
	2010-2012	100
	2011-2013	100

Table 2.9
Particulars of Students Secured Top Ranks in the University Examinations of Various Programmes offered by the College

Sl. No	Name of student	Programme	Year	Rank Secured
1	Alisha Mohammed	MBA	2010	1st Rank
2	Divya Susan Mathew	MBA	2010	2nd Rank
3	Anupama .S.R	MBA	2010	3rd Rank
4	Remya Krishnan	M.Sc. Bioinformatics	2010	1st Rank
5	Minu Mahesh	M.Sc. PlantBiotechnology	2010	1st Rank
6	Soumya Treesa Chacko	M. Sc. Food Science and Technology	2010	1st Rank
7	Reshma Sampath	M. Sc. Food Science and Technology	2010	2nd Rank
8	Ajith George	M. Sc. Food Science and	2010	3rd Rank

		Technology		
9	Neethu Ravikumar	M. Sc. Food Science and Technology	2011	1st Rank
10	Tare Vineetha Subash	M. Sc. Food Science and Technology	2011	2nd Rank
11	Kanaka Joshi	M. Sc. Food Science and Technology	2011	3rd Rank
12	Sanu Santhosh	M.Sc. Bioinformatics	2011	2nd Rank
13	Ajith K Ashokan	M.Sc. Plant Biotechnology	2011	1st Rank
13	Nimisha V Satheesh	M.S.c Food science and Technology	2012	1st Rank
14	Joan C Jose	M. Sc. Food Science and Technology	2012	2nd Rank
15	Summaiah	M. Sc. Food Science and Technology	2012	3rd Rank
16	Vanilla Varghese	M.Sc. Plant Biotechnology	2012	1st Rank
17	Dani Jose	M. Sc. Bioinformatics	2012	2nd Rank
18	Sanuja Samadh	M. Sc. Biochemistry	2012	3rd Rank
19	Ammu Mathen	M. Sc. Food Science and	2013	1st Rank

		Technology		
20	Sarika Sashi	M. Sc. Food Science and Technology	2013	2nd Rank
21	Meera Lis Joy	M. Sc. Food Science and Technology	2013	3rd Rank

- Academic performance of the students is assessed throughout the semester and their performance report is maintained by each class mentor and consolidated report by the department and is also notified on the notice board.
- Report of the performance of the students at the end of internal test along with their attendance is sent to the parents by post.

2.5.6 Details on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightages for behavioral aspects, independent learning, communication skills etc.

The valued answer scripts of internal exams along with the scheme of valuation are given to the students. Students get an opportunity to assess their performance in the examination with the concerned course teachers. The college displays the internal marks of each subject on the concerned department notice board. Independent learning including paper presentation by students, mini project, main project, popular articles etc. are given proper weightage.

2.5.7 Does the institution and individual teachers use assessment/evaluation as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

Yes. The institution and teachers use assessment/evaluation as an indicator for performance ofthe students. To monitor the student progress, the college has the continuous internal evaluation system. The college also uses the evaluation and assessment measures for determining whether the objectives of program are fulfilled or not. The college also monitors the progress of performance from the point of view of its vision and mission. The

observations made in these evaluations and assessments are helpful for making appropriate changes in the future plans regarding teaching- learning objectives.

For example, students with low marks in the first internal examination were identified by the concerned faculty members and reported in the one-to-one counseling meeting of the student, parent, and teacher. Any problem faced by the students in their domestic atmosphere which affect their studies are identified and proper support is given for improvement. The experience of the teachers is that there is usually a positive change when the second round of one-to-one meeting is called. The college identifies the problem of a section of students admitted to various Programmes from different streams of graduation level are given the benefit of bridge courses for various disciplines.

2.5.8 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

As a part of the mechanism for the redressal of grievances with reference to evaluation at the college level, the internal examination marks of all the subjects are published in the college notice board and students are allowed to report the discrepancies, if any, found in the valuation and awarding marks. The appropriate authorities review these grievances of the students and necessary action is taken. The progress report of the internal examinations are also prepared and made available to the students and their parents. Grievance if any reported by the students or parents will also be scrutinized by the Head of the department.

At the University Level also provision for redressal is incorporated.After publishing the results, if a student feels that he/she is not awarded the marks as per his/her eligibility, he/she can apply for revaluation or scrutiny of the answer papers. The University maintains a panel of expert teachers for revaluation. On the basis of this application, the answer books already valued are forwarded for revaluation. If the marks obtained on revaluation are less than the original mark, the original marks obtained will be retained.

2.6 Student performance and Learning Outcomes

2.6.1 Does the college have clearly stated learning outcomes? If 'yes' give details on how the students and staffs are made aware of these?

Yes. The learning outcome expected from the students is well defined and presented in the vision and mission statements of the college. The institution communicates these through meetings and discussions with members of the faculty and students. The messageis that, the students of MACFAST must be capable of filling the gap in managerial and technical needs

of the country. This aspect is stressed in all awareness programmes. The need for professional outlook and innovative mind set is emphasized from the very beginning itself.

2.6.2 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

Apart from classroom teaching, the students are given opportunity to acquire a variety of skills for the attainment of the learning outcomes. For this purpose, programmes to develop communication skills, entrepreneurial skills, presentation skills, personality development training etc are given at the appropriate intervals of their curriculum. In this connection all the stakeholder's needs are considered and are taken care of.

2.6.3 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality jobs, entrepreneurship, innovation and research aptitude) of the courses offered?

The college always tries to identify the requirements of the society and the programmes offered are selected based on the assessment and careful study of the identified gaps. Social awareness programs such as "Bioscience for the people", "War against Drugs", "Clean and Green City" are organized to create basic awareness among the society. The college also encourages the faculty to pursue doctoral research which will enrich their knowledge base and can be gainfully passed on to the society. The institute is a recognized PhD center for Bioscience under M.G. University. The college has now an approved research centre for bioscience and it has applied to the affiliated university for permission to commence research centers in departments of management studies and computer applications. The bioscience department has various projects worth One Crore rupees from institutes such as DST, DBT, and KSCSTE etc. Faculty members are allowed to join for career advancement courses in their respective areas of specialization and of general interest. A well developed EDP club for budding student entrepreneurs is active in the college. The college encourages the students to do their project work in well reputed national CSIR laboratories, so that they can acquire experimental knowledge for undertaking research programmes.

2.6.4 How does the institution collect and analyse data on student learning outcomes and use it for planning and overcoming barriers of learning?

The college collects data on learning outcomes from students, alumni, employers and all other stake holders. It analyses the same and discusses with faculty. The college interacts with industry and brings changes in the curriculum delivery system according to felt needs of the industry. Over the years the college has developed competency to adapt teaching and

learning exercise to suit to the changing requirements of the business and industry. The information gathered from all stakeholders and the business communities are effectively used in the planning process and hence the barriers of learning are not seriously affecting the institution. The Governing Board of the college has a number of professionals and experts from different areas and their suggestions are also taken in the account for planning and overcoming the barriers of learning.

2.6.5 How does the institution monitor and ensure the achievement of learning outcomes?

To ensure the achievement of learning outcomes, institute focuses on planning and effective implementation of the methods of teaching and learning. It also inculcates the research culture and value based education. The institution has provision for evaluating teachers in terms of their classroom performance, pedagogy, teacher-student relationships, creativity etc. Apart from monitoring the learning outcomes from the faculty side, the students' participation and achievement in co-curricular activities are also monitored.

2.6.6 What are the graduates attributes specified by the college/affiliating university? How does the college ensure the attainment of these by the students?

Academic excellance, skill and personality development, ethics and values, sense of reasoning, character moulding etc. are all selected graduate attributes of the college as well as the University.

"Plus certification"

In addition to students' academic performance, the college evaluates the following attributes of students during their Programme period. The college issues a Plus certificate (MBA Plus, MCA Plus and Bioscience Plus) on completion of their Programme. The parameters identified by the college in this regard have a maximum point of five. Each parameter is considered to have a maximum point of five. The evaluation of these parameters is done by the faculty members. A Cumulative Grade Point Average (CGPA) is awarded to each student .On completion of the Programme the Plus Certificate is awarded to them in a ceremonial function.

The following are the parameters

1. Communication – Oral
2. Communication – Written

3. Leadership
4. Analytical abilities
5. Interpersonal skills
6. Decision making skills
7. Self confidence
8. Creativity
9. Hard work
10. General awareness
11. Social commitment
12. Punctuality and Regularity

The college has a well developed Programmeobjectives, Programmeoutcomes and course objectives which are in concurrence with the objectives and policies of the University. It regularly monitors the attainment of Programme Outcome and modifies the academic process to meet the variations in outcome. Attendance is recorded for every class hours. The Wednesday gathering, participation in extra-curricular activities like NSS, social service etc are also considered as important attributes of observation.

Any other relevant information regarding curricular aspects which the college would like to include:

Nil.

CRITERION III –RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of research

3.1.1 Does the institution have recognized research centre/s of the affiliating university or any other agency/ organization?

Yes. The School of Biosciences of this college is an approved research center of the Mahatma Gandhi University, Kottayam. The college has also applied for the recognition of DSIR, Government of India.

3.1.2 Does the institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

Yes. The institution has a Research Advisory Board to monitor and address the issues relating to research. The major functions of the Board are to promote research activities of both the students and the faculty members. The project proposals are scrutinized by the Board before submitting them to the funding agencies. The composition of Research Advisory Board is:
Chairman: Principal
Coordinator: Director of Research
Members:

- Director, Department of Management Studies
- Director, Departmentof Computer Applications
- Head, Departmentof Management Studies
- Head, Departmentof Computer Applications
- Head, School of Biosciences

The major recommendations of the Board are:

1. Incentives may be given to the faculty members for undertaking minor/ major research projects.
2. Incentives may be given to the faculty members for presenting their research outcomes in National or International Conferences, and publications in peer-reviewed journals.

3. Faculty members are encouraged to attend at least two Faculty Development Programmes per annum.
4. Purchase of lab equipments and chemicals are done only after the approval of Research Advisory Board

The college has also constituted a Doctoral Committee to evaluate the progress of the research scholars who have registered at the research center of MACFAST. The composition of Doctoral Committee is:

Chairman: Rev. Fr. Pradeep Vazatharamalayil (Principal)

Co-ordinator: Dr. MayaSubramoni (Director and Professor, C-SARAB, MACFAST)

Members:

- Dr. C. Balagopalan (Director of Research)
- Dr. C. K. K. Nair (Dean Research, Pushpagiri Institute of Medical Science and Research Centre)
- Dr. K. R. Sukumaran Nair, Professor, MACFAST
- Dr. Sanu Jacob, Assoc. Professor, MACFAST
- Dr. P. K. Shaji, Scientist ERRC, Trivandrum

The meetings of the doctoral committee are held at periodic intervals and reviews the progress of research activities in Biosciences. The following are some of the recommendations made by the committee.

1. A summer training of one month duration may be organized for students and faculty members with a view to inculcate interest in doing research.
2. A training programme on environmental biotechnology may be organized in the college.
3. Projects pertaining to tissue culture of economically important plants and population restoration of endangered plants like *Coscinium fenestratum* (Tree Turmeric) of Western Ghats cell etc. may be undertaken.

The impacts of these recommendations are:

- The faculty members have participated in various National and International seminars
- Some of the faculty members have registered in different universities for research leading to Ph. D.
- The School of Bioscience has taken steps to submit research proposals to govt. agencies
- Application has been submitted to DSIR for recognition by DST

3.1.3. What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

The institution is providing adequate infrastructural facilities besides the purchase of crucial glass wares and chemicals. Laboratory assistants are helping in cleaning and processing of the raw materials, reagent preparation when it is required.

- **Autonomy to the Principal Investigator:**
  Both financial and academic autonomy is given to the Principal Investigator to undertake the research programmes and its implementation.
- **Timely availability or release of resource:**
  As and when the funds are released by the concerned funding agencies to the college, the Principal Investigator can draw the amount on request. The resources are released timely based on the request of the Principal Investigator.
- **Adequate infrastructure and human resource:**
  Adequate infrastructure is available in the college for undertaking various research activities. The college has provided the facilities of two research labs with sophisticated machines and other amenities for doing research.
  We have teaching faculties qualified with doctoral degree and with adequate industrial and research experiences and having international exposure in their respective fields.
- **Time-off, reduced teaching load, special leave etc. to teachers:**
  The institute has a policy in giving sufficient time – off (vacation), reducing teaching loads for the faculty members engaged in research, and availing timely duty leaves in attending faculty development programmes organized outside the college and industrial consultations.
- **Support in terms of technology and information needs:**
  The institution provides information to the staff and students on upcoming seminars related to research areas, faculty development programme and students congress which are displayed on the notice boards of respective department, library, student's cafeteria etc. along with regular updating in the college websites.
- **Facilitate timely auditing and submission of utilization certificate to the funding authorities:**
  Along with annual progress reports, the utilization certificate and statement of expenditure duly audited by a qualified auditor (Chartered Accountant) are submitted every year to the funding authorities.
- **Any other:**
  Presentation of the research progress report is submitted before the funding agencies as per their directions.

3.1.4. What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

Students are taken to various National research organizations within the country and exposure is given to them accordingly. Students are encouraged to interact with Nobel laureates when they visit India. Students are encouraged to attend various national and international symposia and workshops, scientific lectures organized by nearby colleges, universities etc.

3.1.5 Give details of faculty involvement in active research (guiding student research, leading research projects, engaged in individual/collaborative research activity etc.)

Table 3.1
Faculty Involvement in Research Work

Sl. No	Name	Department	Research activity	University/ collaborative Institution/agencies	Area of research
1	Rev. Fr. Pradeep Vazhatharamalayil	Principal	Doing research leading to Ph. D	Bharathiyar University	Management
2	Dr. C. Balagopalan	School of Biosciences	Guiding project works	DBT, DST, CIPET, Pushpagiri Research Centre, Thiruvalla	Bio plastics, medicinal mushrooms, etc.

3	Dr. Maya Subramoni	School of Biosciences	Project Implementation	DST, Pushpagiri Research Centre, Thiruvalla	Algal Biotechnology
4	Dr. P. K. Shaji	School of Biosciences	Recognized guide of M. G. University	ERRC, Trivandrum	Environmental Science
5	Dr. C. K. K. Nair	School of Biosciences	Recognized guide of M. G. University	Pushpagiri Research Centre, Thiruvalla	Biochemistry
6.	Mr. Biju Dharmapalan	School of Biosciences	Student Project /leading research project	KSCSTE/National Medicinal Plant Board	Medicinal Plants/ Tissue culture
7.	Mr. Hareesh R.	School of Biosciences	Biosensor	DST, RADI infinity Systems & solutions, Bangalore	Microbiology
8.	Ms. Pinchu Elizabeth Thomas	School of Bioscience	Student Project	KSCSTE	Oleoresins
9.	Ms. Treesa Varghese	School of Bioscience	Doing research leading to Ph. D	CUSAT	Fisheries Biochemistry

10.	Dr. Sanu Jacob	School of Biosciences	Applied for guideship of M.G. University andsubmitted project proposal to KSTEC for approval	KSCSTE	Mushroom Science
12.	Dr. Gincy M. Mathew	School of Biosciences	Applied for guideship of M.G. University and submitted project proposal to KSTEC for approval	KSCSTE	Mushroom Science
13.	Dr. M. S. Samuel	Computer Applications	Approved research guide of the M. G. University. Supervising research scholars leading to Ph. D.	M. G. University	Fuzzy Mathematics, Data mining and Mathematical modeling
14.	Mr. Stephen James	Computer Applications	Student Project	Mar Ivaniose College, Trivandrum/ SIAS, Malappuram	Computational Biology
15.	Ms. Sreelakshmi. C. Warrier	Computer Applications	Doing research leading to Ph. D	M. G. University	Mathematics

16.	Dr. K. M. George	Management Studies	Independent research	M. G. University	Finance
17.	Fr. Josey Philip	Management Studies	Doing research leading to Ph. D	M. G. University	Entrepreneurship
18.	Dr. K. R. Sukumaran Nair	ManagementStudies	Approved research guide of the Kerala University. Supervising research scholars leading to Ph. D	University of Kerala	Finance, Management
19.	Mr. Lijo Koshy	Management Studies	Doing research leading to Ph. D	Bharathiyar University	Marketing
20.	Dr. Asha Lakshmi. R. K.	Management Studies	Awarded Ph. D	Kanchi University	HR
21.	Mr. Vijaya Mohan Nair	Management Studies	Thesis submitted	Madurai Kamaraj University	Banking

22.	Mr. Sudeep. B. Chandramana	Management Studies	Doing research leading to Ph. D	Madurai Kamaraj University	Marketing
23.	Mr. Shibu Itty Mathew	Management Studies	Doing research leading to Ph. D	Bharathiyar University	Marketing
24.	Dr. Jeemon Joseph	Management Studies	Guiding M. Phil Scholars	M. G. University	Marketing (Tourism)

3.1.6. Give details of workshops/training programmes/sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staffs and students.

Efforts have been made by the college to conduct workshops, conferences, training programmes and seminars (National & International) at periodical intervals.

Table 3.2
Details of the Programmes Organized by the Departments during the Last Five Years

Sl. No	Nature of the Programme	Topic/Title	No. of days (Dates & Year)	No. of Resource Persons	No. of Participants
School of Biosciences					
1. 1	Workshop	Gene Structure and Functions to New Developments	2days (31Jan- Feb 2008)	6	150

2. 2	National Seminar	Changing Weather and Changes Required for Cultivation	1day (3 Oct 2008)	3	75
3. 3	Workshop	Evolution and Natural Selections	2 days (29 & 30 Jan 2009)	6	136
4.	International symposium	Second Green Revolution: Ethics and Issues.	3days (2- 4 July 2009)	25	124
5. 4	National seminar	Bt. Brinjal for and against the Technology	1day (14 Jan 2010)	4	143
6. 7	National seminar	Alternative Sources of Energy	1day (28 Feb 2011)	3	97
7. 8	National seminar	Genetically Modified Crops for Food Security	1 day (Feb 2012)	3	125
8. 10	International symposium	Advances in Herbal Science and Technology	3days (10-12 July 2013)	25	162
9. 11	International symposium	Computational Biology and Drug Design	3 days (July 2013)	20	148
10. 12	National Seminar	Fostering Scientific Temper for the Upliftment of Society	1 day (28 Feb 2014)	2	183
Department of Computer Applications					
11. 1	Workshop	Machine Learning Methods in Astronomy	5 days (19-23 Jan 2009)	3	30
12. 2	International Conference	Mathematical Computing and Management	3 days (17-19 June 2010)	25	200
13. 3	Workshop	A Day with an Astronomer	1 day (7 Sept 2012)	1	45
14. 4	Seminar	LIGO- A Giant Wave Detector for India	1 day (8 Sept 2012)	1	30
15. 5	Seminar	Successful Career in IT	1 day (3 Oct 2012)	1	50
16. 6	Seminar	Cloud Computing	1 day (14 March 2013)	1	50
17. 7	International	Mathematical Modeling	3 days	20	250

	Conference	in Computer, Mathematics, Medical & Management	(13-15 June 2013)		
18. 8	Seminar	Application of Mathematics and Computer Science	1 day (2 Aug 2013)	1	50
19. 9	Seminar	Ramanujan's Life and Work	1 day (14 Dec 2013)	1	50
20. 10	Workshops	Variability of Astronomical Sources	5 days (20- 24 Jan 2014)	5	80

3.1.7 Provide details of prioritized research areas and the expertise available with the institution?

The Research Centre in Biosciences of the college has identified certain potential research areas and has provided qualified and experienced faculty members to take up the same.

Table 3.3
Prioritized Research Areas and the Expertise Available

Sl. No.	Prioritized research areas	Experts available
1	Tissue Culture	Prof. Biju Dharmapalan (Head, School Of Biosciences)
2	Algal Technology	Dr. Maya Subramoni (Director & Professor C–SARAB)
3	Medicinal Mushrooms	Dr. C. Balagopalan (Director of Research,School of Biosciences)
4	Biosensor	Mr. Hareesh (Asst. Professor, School of Biosciences)
5	Bio plastics	Dr. C. Balagopalan (Director of Research, School of Biosciences)
6	Fisheries Biochemistry	Ms. Treesa Varghese (Asst. Professor, School of Biosciences)
7	Medicinal Plants	Dr. C. Balagopalan (Director of Research, School of Biosciences)
8.	Biotechnology	Dr. Gincy M. Mathew (Asst. Professor, School of Biosciences) Dr. Madhu Shankar

		(Asst. Professor, School of Biosciences)
9	Enzymology	Dr. C. K. K. Nair (Dean Research, Pushpagiri Institute of Medical Science and Research Centre)
10	Food Science and Technology	Dr. Sanu Jacob (Associate Professor and Coordinator MII, Bioscience)

3.1.8 Enumerate the efforts of institution in attracting researchers of eminence to visit the campus and interact with students?

Frequently reputed scientists are invited to deliver scientific lectures. Scientists from Indian Institute of Science, Bangalore, CCMB Hyderabad, RGCB Trivandrum, Kerala Agricultural University, Central Tuber Crop Research Institute, Indian Institute of Inter Disciplinary Science, Trivandrum, Rubber Research Institute of India, Pushpagiri medical college Thiruvalla, Sree Chithira Institute of Medical Science and Technology, University of Illinois, U.S.A. and AP Bionet Singapore etc. have visited the college at different periods and provided opportunity for students to interact with them. Every year the college is celebrating the National Science Day by organizing debates, competitions etc. in commemoration of Sir C. V. Raman's discovery of the Raman Effect. The focal theme of National Science Day-2014 was "Fostering Scientific Temper". In this connection the School of Biosciences has organized a seminar on Fostering Scientific Temper for the upliftment of Society, sponsored by the Kerala State Council for Science, Technology and Environment on 28 February 2014 in the college auditorium. Prof. Dr. S. Ignacimuthu, S.J. (former Vice Chancellor, University of Madras), Director, Entomology Research Institute, Loyola College, Chennai has given the key note address. An interactive session was also arranged in connection with the seminar.

3.1.9. What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe the research culture on the campus?

None of the faculty members have availed sabbatical leave.

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of institution and elsewhere to students and community (lab to land)?

Organized programmes entitled "***Biosciences for the People***" as an initiative in creating awareness and for the transfer of findings of the researches done in the college to the community.

The programme included:

- Fruit and Vegetable processing
- Training for mushroom cultivation
- Training on Baking Technology
- Detection of the presence of Coliform bacteria for the public by analyzing well water samples collected.
- Demonstration of equipments for treatment of solid state *insitu*

3.2. Resource mobilization for research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

Resources for the research activities are mobilized by submitting project proposals to the state and central government funding agencies.

Table 3.4
Sources of Resources from Funding Agencies and Heads of Expenditure (2009 – 2010)

(Rs. In Lakhs)

Item	Unspent balance carried forward from previous year	Grants received from DBT during the year (Rs.)	Other receipt/ interest earned, if any, on the DBT grants (Rs.)	Total column (2+3+4) (Rs.)	Expenditure (excluding commitments) incurred during the year (Rs.)	Balance (Rs.)	Remarks (Rs.)
1	2	3	4	5	6	7	8
Nonrecurring (Equipments)		8.11					
Recurring				8.11	8.09	0.82	
i. Human resources		3.10					
ii. Consumables		1.00		3.10	0.00	0.78	
iii. Travel		1.00		1.00	1.00	0.00	
iv. Contingency		1.00		1.00	0.78	0.22	
v. Overheads		1.00		1.00	0.99	0.01	
(if applicable)	NIL		NIL	1.00	1.00	0.00	Amount due 2.32
Total	0	15.21	0	15.21	1.52	1.02	

Table 3.5
Sources of Resources from Funding Agencies and Heads of Expenditure (2010-2011)

(Rs. in lakhs)

Item	**Unspent balance carried forward from previous year (Rs.)**	**Grants received from DBT during the year (Rs.)**	**Other receipt/ interest earned, if any, on the DBT grants (Rs.)**	**Total column (2+3+4) (Rs.)**	**Expenditure (excluding commitments) incurred during the year (Rs.)**	**Balance (Rs.)**	**Remarks (Rs.)**
1	2	3	4	5	6	7	8
Nonrecurring (Equipments)	0.019	0		0.02	0.00	0.82	
Recurring							
i. Human resources	0.78			3.87	3.10	0.76	
ii. Consumables	0.00	3.1		1.00	1.00	0.00	
iii. Travel	0.22	1		1.01	0.93	0.07	
iv. Contingency	0.01	0.78	NIL	1.00	0.94	0.07	
v. Overheads (if applicable)	0.00	1			1.00	0.00	
		1					
Total		6.88		6.90	6.97	1.72	

Table 3.6

Sources of Resources from Funding Agencies and Heads of Expenditure (2011 -2012)

(Rs. in lakhs)

Item	Unspent balance carried forward from previous year (Rs.)	Grants received from DBT during the year (Rs.)	Other receipt / interest earned, if any, on the DBT grants (Rs.)	Total column (2+3+4) (Rs.)	Expenditure (excluding commitments) incurred during the year (Rs.)	Balance (Rs.)	Remarks (Rs.)
1	2	3	4	5	6	7	8
Nonrecurring(Equipments)	0.019	0		0.02	0.00	0.82	
Recurring							
i. Human resources	0.78	0		0.76	5.01	Nil	
ii. Consumables	0.00	0		0.00	1.00	Nil	0.48
iii. Travel	0.22	0		0.07	0.93	Nil	
iv. Contingency	0.01	0	NIL	0.07	1.00	Nil	
v. Overheads	0.00	0		0.00	1.00	Nil	
(if applicable)	0.00	0		0.00			
Total	0.68	0		0.92	8.94	0.82	0.48

Table 3.7
Sources of Resources from Funding Agencies and Heads of Expenditure (2012-2013)

(Rs. in lakhs)

Item	Unspent balance carried forward from previous year (Rs.)	Grants received from DST during (Rs.)	DST grants (Rs.)	Total column (Rs.)	Expenditure during the year (Rs.)	Balance (Rs)	Remark s (Rs.)
1	2	3	4	5	6	7	8
Nonrecurring (Equipments) Recurring i. Human resources ii. Consumables iii. Travel iv. Contingency v. Overheads (if applicable) vi. Interest	0.61	1.40	0.04	3.51	1.58 0.50 0.30 0.50 0.58	Nil	0.31 3.45
Total	0.61	1.40	0.04	3.51	3.46		3.76

Table 3.8
Sources of Resources from Funding Agencies and Heads of Expenditure (2013 -2014)
(Rs. in lakhs)

Item	Unspent balance carried forward from previous year (Rs.)	Grants received from DST during the year (Rs.)	Other receipt/ inte rest earned, if any, on the DST grants (Rs.)	Total column (2+3+4) (Rs.)	Expenditure (excluding commitments) incurred during the year (Rs.)	Balance (Rs.)	Remarks (Rs.)
1	2	3	4	5	6	7	8
Nonrecurring (Equipments) Recurring vii. Human resources viii. Consumables ix. Travel x. Contingency xi. Overheads (if applicable) xii. Interest	0.61	2.50	0.04	3.51	1.58 0.50 0.30 0.50 0.58	Nil	0.31 3.44
Total	0.61	2.50	0.04	3.51	3.46		3.75

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

At present the college is not providing seed money to the faculty members for research. However, the faculty members interested in research usually gives their indent for the purchase and gets the sanction. The amount incurred is then reimbursed by the institution.

3.2.3 What are the financial provisions made available to support student research projects by students?

At present no financial provisions are made available to support student projects. The college provides only infrastructure facilities and expertise (guidance) to the students for undertaking research projects. However, some of the students have obtained external research grants from the Government of Kerala to pursue their projects.

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing inter-disciplinary research.

There is an integrated approach to utilize various faculty members of Biochemistry, Biotechnology, Microbiology, Food Sciences, Botany and Bioinformatics for undertaking research programmes. The institution also seeks the services from the faculty members of the different disciplines such as management and computer applications for research activities for strategic data analysis and interpretations.

3.2.5 How does the institution ensure optimal use of various equipments and research of the institution by its staffs and students?

The institution has a well-equipped library housed with reference books, business journals, internet facilities, lab equipments for biosciences and published reports of government and non – government agencies. Both the students and faculty members are encouraged to make use of the library on all working days till 09.45 pm. The college also provides the facilities for using the research lab during day and night for carrying out research activities.

All faculty members have the freedom to utilize the equipments of the laboratory. The institute maintains log book for important equipments which give details about its utilization by students and staff. The use of library is also monitored frequently.

Table 3.9
Details of Equipments Available for Research

Sl. No	Items	Nos
1.	UV visible spectrophotometer	2
2.	Atomic absorption spectrophotometer	1
3.	Precision balances	2
4.	Fermenter	1
5.	Deep freezer 20^0 C	1
6.	Electrophoretic equipment	1
7.	PCR	2
8.	Flash evaporator	1
9.	Incubator shaker	1
10.	Incubator	1
11.	Oven	2
12.	Baking oven	1
13.	Autoclave	3
14.	Laminar air flow 3	3
15.	Shaker	1
16.	Distilling columns	2
17.	BOD incubator	1
18.	Microscopes	15
19.	Calorimeters	2
20.	Hot plates	3
21.	Orbital shaker	1
22.	Air conditioned labs	3
23.	Tray drier	1
24.	Pulverizer	1
25.	Fruit pulping machine	1
26.	Liquid filling machine	1
27.	Mechanical sifter	1
28.	Roaster	1
29.	Ribbon blender	1

30.	Retort	1
31.	Heat sealer	1
32.	Control Atmospheric packaging	1
33.	Steam jacketed kettle	1
34.	Crown corking machine	1
35.	Bottle washer	1
36.	Cooking range & burner	1
37.	Cooking range with oven	1
38.	Oven toaster grill	1
39.	Grinder/ mixer	1
40.	Air compressor	2
41.	Mixing tank with agitator	1
42.	Blanching chamber	1
43.	Stainless Steel Tables	1
44.	Pot rack	1
45.	Pot rack sink	1
46.	Work table with sink	2
47.	Work table with rack	2
48.	Weighing balance	1
49.	Storage tanks	1
50.	Portable sealer for plastic bags	1
51.	Double seamer	1
52.	Juice extractor	1
53.	Auto clave	1
54.	Deep freezer	2
55.	Dough kneader	1
56.	Digital weighing balance	1
57.	Baby boiler	1
58.	Atomic absorption spectrophotometer	1
59.	Vacuum flash evaporator	1
60.	Atomic absorption spectrophotometer	1
61.	Vacuum flash evaporator	1

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If yes give details

Yes. The institution has received special grants from various funding agencies such as DST, Govt. of India, ICMR, ICAR, KSTEC, BARC, and CSIR.

Table 3.10
Details of Special Grants and Financial Supports

(Rs. in Lakhs)

Organizations	**Nature of financial support**	**2010 – 2011** (Rs.)	**2011-2012** (Rs.)	**2012 – 2013** (Rs.)
DBT	TA, DA, Contingency Equipments etc.	18.11	5.36	5.36
DST	TA, DA, Contingency Equipments etc.	17.56	3.46	3.46
DST (for developing biosensor)	TA, DA, Contingency Equipments etc.	11.00	1.20	0.00

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details on ongoing and grants received during the last four years.

The college is following the policy of promoting various research activities from the time of its inception. The faculty members are given the freedom of exploring and identifying the

prospective funding agencies and to submit project proposals to carry out the research activities by utilizing the infrastructure and expertise available.

Table 3.11
Details of the Research Projects, Name of Funding Agencies and the Amount Sanctioned
(Rs. in Lakhs)

Nature of the project	Duration of year from – to	Title of project	Name of funding agency	Total Grant		Total grant received Rs.
				Sanctioned Rs.	Received Rs.	
Minor Project	2004-2007	Micro propagation of *Myristica sp.*	KSCSTE, Govt. of Kerala	6	6	6
Major project	2007	Pilot plant and Incubation centre	Food Processing Industry, Govt. of India	14	14	14
Major project-Women scientists scheme(WOS)	2007 – 2010	Algal Resources of South- West Coast of India –Systematic Study and Evaluation as Food and Nutritional supplements	Department of science and technology, Govt. of India	15	15	15

Major Project	2008-2012	Development of Optical fiber Biosensors Based on ATP-Bioluminanscence assay for rapid hygine monitoring in hospitals for effective deterrence of nosocomial infections	DST, Govt. of India	21.3	21.3	21.3
Major project	2009-2012	Integrated Technology for the Production of Reinforced Bio plastic using Celluloses of Plant Origin.	Department of Biotechnology, Govt. of India	29	25	25
Major project	2012-2015	Bio diversity of Medicinal Macrofungi: Their Nutritional & Therapeutical Values.	Department of Science & Technology, Govt. of India	25	20	20

Minor Project	2014-2019	Establishment of a Herbal Garden for Mass Education and Wide Spread Cultivation by Raising Herbal Nursery	Medicinal Plant Board, Govt. of India	2.5	0	0
	2010-2011	Development of an *in vitro* protocol for Rapid Multiplication of *Rhizophora mucronata*, a Vulnerable Plant	KSCSTE, Govt. of Kerala	0.1	0.1	0.1
	2012-2013	Callus Initiation from the Immature Flower Buds of *Ensete superbum* Roxb	KSCSTE, Govt. of Kerala	0.1	0.1	0.1
	2012-2013	Developing a Protocol for in vitro Propagation of Screw pines	KSCSTE, Govt. of Kerala	0.1	0.1	0.1
	2012-2013	Studies on pigments of marine algae of south west cost of India	KSCSTE, Govt. of Kerala	0.1	0.1	0.1
Student projects	2014-2015	In *vitro* Regeneration from the nodes of Inflorescence peduncle of*Eryngium foetidum* L.	KSCSTE, Govt. of Kerala	0.13	Nil	Nil

	2014-2015	*In vitro* Culture of *Gloriosa superba* L., anendangered Medicinal Plant	KSCSTE, Govt. of Kerala	0.11	Nil	Nil

3.3 Infrastructure for research

3.3.1 What are the research facilities available to the students and research scholars within the campus?

The college has full-fledged labs for Biotechnology, Plant Biotechnology, Molecular Biology, Food Processing, Biochemistry, Protein Chemistry, Enzymology and Microbiology as well as high throughput Computational Biology labs. The labs have state-of-the-art equipments like the thermal cycler for PCR, electrophoretic units, U. V. and visible transilluminators, 20°C freezer, gel documentation systems, electronic balances, shakers, laminar air flow hoods, fruit pulping machine, mixing tank, pasteurizer blanching chamber, vacuumetric liquid filling machine, crown corking machine, two-stage pulverizer, ELISA plate reader, fermentor, BOD incubator , orbital shaking incubator, autoclave, high speed cooling centrifuge, -40°C deep freezer, UV-Visible- spectrophotometer, constant and variable temperature water bath, vortex mixer.
In addition to this, the college has a well equipped computer lab and library with Wi-Fi connectivity.

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

The college has adopted the strategies for promoting research by acquiring modern equipments and recruitment of qualified young researchers, besides modernizing the laboratories, introducing technological upgradations based on new and emerging areas of research.

3.3.3. Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities? If yes what are the instruments/ facilities created during the last four years.

The college has developed research facilities by utilizing the grants received from different funding agencies.

Table 3.12
Details of the Equipments Purchased from the Grants Received from Different Funding Agencies.

(Rs. in lakhs)

Year	Particulars of Equipments	Cost (Rs.)
2010 – 2011	Fermenter	4.50
	Freeze-drier	3.00
	BOD Incubator	0.30
	Incubator shaker	0.40
	Rotary Vacuum Evaporator	0.10
	Micro Kjeldhal Apparatus	0.08
	Soxhlet Apparatus	0.12
2011 – 2012	Baby Boiler	1.00
	Deep freezer	0.80
	Electronic balance	0.60
2012 – 2013	Double Beam Atomic Absorption Spectrophotometer	9.00
	PH meter	0.12
	UV-Vis Spectrophotometer	2.50
2013 – 2014	Camera	0.36
	Light Microscope	0.30
	In-house baking unit	2.50

3.3.3 What are the research facilities made available to the students and research scholars outside the campus/ other research laboratories?

The college facilitates the students to do research in the following institutions:

- Center for Cellular & Molecular Biology, Hyderabad
- Indian Institute of Sciences, Bengaluru
- National Center for Biological Sciences, Bengaluru
- Central Food Technological Research Institute, Mysore
- Defence Food Research Laboratory, Mysore
- Bhabha Atomic Research Center, Mumbai

- Central Institute Fisheries Technology, Cochin
- Central Plantation Crops Research Institute, Trivandrum
- Rajeev Gandhi Center for Biotechnology, Trivandrum
- National Institute for Interdisciplinary Science & Technology, Trivandrum
- Jawaharlal Nehru Tropical Botanical Garden & Research Institute, Trivandrum
- UPASI Tea Research Foundation, Coonoor, Tamilnadu
- Indian Institute of Spices Research, Calicut
- National Institute for Nutrition, Hyderabad

3.3.5. Provide details on library/information resource centre or any other facilities available specifically for the researchers?

The college library is equipped with a large collection of books, journals, research reports and e – sources along with a congenial environment for references. The library provides the facility of OPAC to assist the researchers to locate various sources of information.

Table 3.13
Details of Books/ Journals/Periodicals /e – Resources Added During a Period of Four Years

Library holdings	2010 – 2011 (No.)	2011 – 2012 (No.)	2012- 2013 (No.)	2013 – 2014 (No.)
Text books	1785	720	728	875
Reference books	1248	1434	562	1008
Journals/periodicals	180	180	180	180
e-resources	Nil	Nil	3	3

3.3.6. What are the collaborative research facilities developed/created by research institute in the college. For ex. Laboratories, library, instruments, computers, new technology etc.

The institution has undertaken collaborative research work with:

- Pushpagiri Research Center, Tiruvalla on establishing anti-cancerous activity of medicinal macrofungi
- CIPET, Hyderabad and developed moulds of Bioplastic (coat hanger) using jute fiber waste and Ichornia. Patents filed and field (process and product) Bioplastics details. No. 2721/CHE/20112
- RADI Infinity system and solutions, IIM, Bangalore for developing biosensor

3.4 Research Publications and Awards

3.4.1. Highlight the major research achievements of the staff and students in terms of:

Patents obtained and field (process and product)

- Patent Title: Integrated technology for the production of reinforced bioplastics with celluloses of plant origin (Patent filed No. 2721/CHE/2012)

Original research contributing to product improvement

- Developed a biosensor for the detection of nocosomail contamination of microorganisms
- Developed bioplastics integrating celluloses of plant origin with plastic granules
- Identified 50 to 60 species of medicinal macrofungi in the Western Ghats forests of Kerala
- Medicinal properties of algae was explored
- Algal floras of costal area in Kerala was documented
- Protocols for tissue culture bananas and nutmeg were developed
- Perfected the technology for the separation of collagen from underutizied and under exploited marine fishes

Research studies or surveys benefiting the community or improving the services:

- Medical properties of macrofungi
- Environmental protection by developing bioplastcs
- Detection of hospital contamination while developing biosensors
- Vale addition of underutilized fishes by separating collagen
- Mass multiplication of banana by perfecting the protocols
- Documentation of algal flora in the sea cost of Kerala
- Systematic methods of demonstration and education of medicinal plant to public and students

- Microbial proliferation in the Pampa river
- MACFAST industry interaction by detection of microbial succession in the cashew kernels

Research inputs contributing to new initiatives and social development:

- Environmental protection by developing bioplastic utilizing waste weeds and waste materials
- Value addition of environmental waste by the separation of collagen from underutilized fishes
- Promotion of banana cultivation by mass multiplication of seedlings
- Development of biosensor to detect contamination in Operation Theater.
- Medicinal properties of macrofungi and algae

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'YES', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

Yes. The college publishes a multi-disciplinary journal "Journal of Science Technology and Management" with ISSN No. 0974-8334. At present the journal is not listed in the international database.

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3.4.3. Give details of publications by the faculty and students: Publication per faculty

The details of the department wise publications per faculty are given below.

DEPARTMENT OF MANAGEMENT STUDIES

Publications per faculty:

- Name of the faculty**: Prof. (Dr). K. M. George**

Books/ chapters in books:

- "Financial Inclusion Initiatives of Private Sector Banks in Palakkad District of Kerala". *Hand Book of Management & Behaivoural Studies*: 2012; 77. ISBN 978-93-81505-37-3.
- "Investor Preference TowardsUTI Mutual Fund". *Emerging Issues in management & Behaivoural Sciences*: 2012; ISBN9789381212-17-2
- "Employee Satisfactionin Cooperative Entreprises, A case Study of Cannoore Cooperative Spinning Mills Ltd,".*Hand Book of Finance& Business Management:*2012. ISBN978-93-81212-28-8.
- *Contemporary Issues of Finance, Business& Management* (Book Edited); Bharathi Publications, Delhi; 2013.ISBN 978-93- 81212-39-4
- "Dignity and Social Security of Women through Self-Help Groups". *Contemporay Issues of Finance &Business Management*; 2013. Bharathi Publications, Delhi. ISBN978-93- 81212-39-4

National/ International Journal:

- "Impact of Credit Risk Management on Profitability of South Indian bank". IJMBS: 2012; 1(4), ISBN2278-1285.

National/International Conference proceedings:

- "Investor Preference towards UTI Mutual Funds". International Conference on Management & Behaivoural Sciences: 2012, STMP, New Delhi;.
- "Financial Inclusion Initiatives of Private Sector Banks in Palakkad District, Kerala". 5th International Conference on Management and Behaivoural Sciences. The Society of Management & Behaivoural Sciences: 2012, Uttarakhand, India.
- "Employee Satisfaction in Cooperative Enterprises-A Study of Cannanoore Cooperative Spining Mills Ltd". International Conference on Finance& Business Mangement 2013 Society of Technical and Mangement Professionals; 2012, New Delhi, India.
- "Entrepuneurial Innovatoion for Agri-Business,A study on the Impact of Nadukkara Agro Processing Company Ltd".UGC sponsored National Seminar on Impact of Globalization on Rural Entrepreneurship Development in India: 2013, Gandhigram Rural Institute-Deemed University, Dindigul, Tamilnadu, India
- "Impact of Credit Risk Management on Profitability of South Indian Bank Ltd.". International Conference on Finance& Business Mangement- Society of Technical and Mangement Professionals:2013, Jaipur, India
- "Dignity and Social Security of Women Through Self-Help Groups"4th International Conference on Finance& Business Mangement organised by Society of Technical and Mangement Professionals: 2013, Haridwar,India,
- "Entrepreneurial Innovation for Agri-Business". 4th International Conference on Finance& Business Mangement organised by Society of Technical and Mangement Professionals: 2013, Haridwar,India.

➢ Name of the faculty: **Dr. Jeemon Joseph**

National/ International Journal:

- "Students' Criteria in Selecting A Business School". International Journal for Research in Commerce and Management: 2013; 3(4). ISSN 2231-5756.
- "Privatization - Is It A Solution to Prioritization?" International Journal for Research in Commerce and Management: 2013;3(10). ISSN 2231-4245.

National/International Conference proceedings:

- "Impact of Research Methodology in Management. National Seminar - ICFAI, 2009, Chennai.
- "Leadership Qualities". International Seminar- ICFAI, 2010, Hyderabad.
- "Tourism in Rural Areas". National Seminar – ICFAI, 2010, Calicut.
- "Tourism – A Fast Growing Sector". National Seminar –IIPS, 2010, Kochi.

➢ Name of the faculty: **V. P. Vijayamohan**

Books/ Chapters in books:

- "Impact of Lbp on Millennium Development Goals of India". Research Management A Contemporary Approach. ISBN 98-81-9104-720-2, Laser Park, Coimbatore.
- "Green Banking: An Initiative of Banks to Sustainable Development". Recent Trends in Banking and Finance, ISBN: 978-93-82062-05-9, Excel India.

National/ International Journal:

- "Customer Perception on Service Quality of Retail Banking In Pathanamthitta District of Kerala". An Empirical Study, ISSN: 2249-264x, Volume2.
- "Perception of the Unemployed Youths' Towards the Unemployed Youth EmploymentGeneration Programme (Uyegp), In Theni District of Tamilnadu". Global J. Of Arts & Mgmt., 2013: 3 (3)ISSN: 2249-2658 (Online): 2249-264x (Print)

National/International Conference proceedings:

- Environmental Responsibility of Indian Banks". International Seminar, SJCET: 2011, Pala, Kerala.
- "Impact of Blp on Millinium Development Goals of India". International SeminarVIMS: 2011, Erode, Tamilnadu.
- "Are Indian Banks Gradually Moving From A Cluster Of 'Large Number Of Small Banks' To 'Small Number Of Large Banks"? International Seminar, Kristu Jayanti College-Bangalore.
- "Consolidation of Indian Banks: An Opportunity for Inorganic Growth". BMIM: 2013, Kochi, Kerala.
- "Technological Challenges Of Indian Banking Operations": International Seminar: 2013, MACFAST, Tiruvalla, Kerala.
- "Efforts Of NABAD On Micro Finance And Financial Inclusion In Rural India". International Seminar: 2010, SD College, Kerala.
- "Green Banking: An Initiative of Banks to Sustainable Development". National Seminar: 2011, Saintgits Institute Of Management-Kottayam.Kerala.
- "Sustainable Banking: An Indian Perspective". National Seminar; 2012, Marthoma Institute of Management, Ayoor, Kerala.

➢ Name of the faculty: **Mr. Sudeep B Chandramana**

Books/ Chapters in Book:

- "Management Megatrends - Twenty-first Century Perspectives": 2010, Allied Publishers, Bangalore,
- "Human Resource Management: An Anthology of Contemporary Research": 2009, Excel India Publishers, New Delhi

National/International Conference proceedings:

- "A Paradigm Shift in the Role of HRin Corporate Governance", National Summit on Human Resource Practices and Management:2009, Saint Gitts Institute of Management, Kottayam, Kerala
- "Creating Responsible Business Leaders for Global Sustainability", International Conference on Excellence in Management Practices (ICEMP); 2011, Kristu Jayanti College of Management and Technology, Bangalore, Karnataka
- "Inclusive Growth and Youth Empowerment: A Development Model for Aspirational India". International Conference on **Evolving Frontiers in Business-Society-Nation Interfaces:** 2011, Indus Business Academy, Bangalore, Karnataka
- "Sustainable Development through Empowerment at the Base of Pyramid – The IAHV Example". International Conference on **Management of Emerging Paradigm Conflicts in a Globalising World:** 2010, PES Institute of Technology, Bangalore, Karnataka
- "Towards a Knowledge Economy: Spirituality and Sustainable Development". International Conference on **Emergent Business Models and Strategies for the Knowledge Economy: Impact on Business, Government and Society:** 2009. Indian Business Academy, Bangalore, Karnataka
- "Taking the Lead towards Sustainable Development". 15th World Forum of the International Association of Jesuit Business Schools (IAJBS):2009, XLRI, Jamshedpur, Jharkhand
- "Shaping Leaders for Global Sustainability", National Conference on Shaping the Future Leadership Challenges and Business Strategies in Emerging Markets:2009, Mount Carmel Institute Of Management, Bangalore, Karnataka

➢ Name of the faculty: **Mr. Ligo Koshy**

Books/Chapters in Books:

- "Customer satisfaction towards mobile phone operators, India Inc. Innovative Management Strategies". Excel Publication, New Delhi, 2012. ISBN No:978-93-81361-67-2
- "Editor for the compendium of the International conference India Inc. Innovative Management Strategies". Excel Publication: 2012. ISBN No: 978-93-81361-67-2
- "Effect of celebrity endorsement on customer buying behaviour towards gold ornaments, Marketing Dynamics". Aruna Publications Chennai: 2013. ISBN: 978-93-81790-93-9.
- "E-Learning-A Pedagogy, India Inc. Challenges and Opportunities". Excel Publication, New Delhi: 2011 ISBN No: 978-93-80697-43-0.

National/ International Journal:

- "Retention Strategy for talented faculty: A study on private management institutions in Bangalore". Caarmel Journal of Management Research: 2013, 1(2). ISSN: 2320-1088.
- "Factors affecting the purchasing behaviour of customers towards male grooming products, Zenith". International Journal of multidisciplinary research: 2013, 3(7). ISSN 2231-5780.
- "Impact of celebrity advertisement on Gold Jewellary purchasing behavior of customers". Excel International Journal of multidisciplinary management studies: 2013. ISSN 2249-8834
- "Role of campus community radio as a channel for improving effectiveness of social marketing: A case study with special reference to Radio MACFAST 90.4".Management innovator: , 7(1). ISSN 0974-6749,
- "Determinants of retail customer satisfaction: A study of organised Retail Outlets in Ernakulum, Kerala". EXCEL International Journal of Multidisciplinary Management Studies: 2014, 4 (8). ISSN 2249- 8834 EIJMMS.

- Name of the faculty: **Mr. Ajai Krishnan G**

Book/Chapters in Books:

- "Effect of Celebrity Endorsement on Customers' Buying Behaviour Towards Gold Ornaments - A Descriptive Study Conducted at Kottayam, Kerala". Marketing Dynamics. ISBN: 978-93-81790-93-9

National/ International Journal:

- "Factors Affecting the Purchasing Behaviour of Customers Towards Male Grooming Products", ZENITH International Journal of Multidisciplinary Research (ZIJMR); 2013, 3 (7). ISSN: 2231-5780.
- "Impact of Celebrity Advertisement on Gold Jewellery Purchasing Behaviour of Customers". EXCEL International Journal of Multidisciplinary Management Studies (EIJMMS); 2013, 3 (6). ISSN: 2249-8834.
- "Consumers Buying Behaviour from Traditional Mom and Pop Stores to Large Format Retail Outlets". ZENITH International Journal of Multidisciplinary Research (ZIJMR); 2014, 4 (6). ISSN: 2231-5780.

National/International Conference proceedings:

- "Effect of celebrity endorsement on customers buying behaviour towards gold ornaments: A descriptive study conducted at Kottayam, kerala. National Conference "Recent Trends in Marketing: 2013. National Institute of Technology, Tiruchirapalli, Tamilnadu.

- Name of the faculty: **Dr. Ashalakshmi R K**

National/ International Journal:

- "Work place ethics: Issues and challenges –A Framework to overcome". Journal of Management'-Managing the Future: 2011, 1(2). ISSN 0975-0045-BAM College, Thurithicadu

- "A Study on Creating Cultural Compatibility through Performance Culture". Global Journal of Arts and Management:- 1(3), 1SSN 2249-264X.
- "A Study on Creating Cultural Compatibility through employee interest and workplace morale in IT industry in Kerala". IFRSA Business Review (IBR), 2 (3). ISSN 22498162.

National/International Conference proceedings:

- "Ethical practices in Workplace". International seminar, MSN Institute of Management and Technology, Chavara.
- "A Study on Creating Cultural Compatibility through Performance Culture". National Seminar: 2011. St. Berchman's College, Changanacherry,
- "A Study on Creating Cultural Compatibility through employee interest and workplace morale in IT industry in Kerala". National Seminar conducted, St. Berchman's College, Changanacherry, 2013.

- Name of the faculty: **Mr. Shibu Itty Mathew**

National/ International Journal:

- "Privatization – Is It a Solution to Prioritization". International Journal of Research in Commerce, Economics & Management; 2013, 3(10). ISSN 2231-4245.

- Name of the faculty: **Mr. Arun Prem**

National & International Journal:

- "Solar Energy Program Management – Introspection into Educational Institutions with special reference to MACFAST, Kerala". Forum of Researchers Students and Academician; 2013, 3(1). ISSN No.: 2249-5444, ISSN No: 2249-8168.

- "Role of campus community radio as a channel for improving effectiveness of social marketing": A case study with special reference to Radio MACFAST 90.4, Management innovator, 7(1). ISSN 0974-6749

Department of Computer Application

- Name of the faculty: **Dr. M.S Samuel**

  National/ International Journal:

  - "Fuzzy Vector Lattices". The Journal of Fuzzy Mathematics, Los Angeles. ; 1995, 3: 405 – 409.
  - "Fuzzy Sets and Systems". Elsevier Science BV, Amsterdam; 1996, 81:379 – 382.
  - "Fuzzy Daniell Integral I. Fuzzy Sets and Sytems". Elsevier Science BV, Amsterdam; 1996, 81:379 – 382.
  - "Fuzzy Daniell Integral III. Fuzzy Sets and Systems". The Journal of Fuzzy mathematics, Los Angeles: 1997, 5(4):781-791.
  - "Fuzzy Daniell Integral II. Fuzzy Sets and Systems". Elsevier Science BV, Amsterdam; 1998, 96:367 – 371.
  - "On some results in Fuzzy Subspace of Cc(X)". The Journal of Fuzzy Mathematics; 2008, NJ 08107.
  - "Length of fuzzy interval and Lebesgue measure". The Journal of Fuzzy Mathematic;2009,17:415 – 420
  - "Fuzzy measures, fuzzy Bourbaki and fuzzy Daniell Integrals". Fuzzy. Bulletin of Kerala Mathematics Association, India; 2009, 6(2).
  - "Properties of Digital Homotopy". Bulletin of Kerala Mathematics Association, India; 2011, 8(1):53 – 56
  - "Frequent Pattern Mining Using Dynamic Programming". International Journal of Research in Commerce, IT and Management; 2011, 1(2).

- "Some results on graphs of semi rings". Bulletin of Kerala Mathematics Association, India; 2013, 9(1).
- "Non homogeneous poisson model for mining frequency of an item from data stream". Technology Operational Management, Springer; 2013.
- "A model for finding frequent pattern from transactional Database". Bulletin of Kerala Mathematics Association, India; 2013,9(2):53 – 56
- "Bounded solution for second order fuzzy initial value problem". Journal of Science Technology and Management ; 2012,4
- "Properties of Digital Homology". Bulletin of Kerala Mathematics Association; 2011,8(1):53 – 56
- "On Fractional Helmholtz Equation". Fractional Calculus & Applied Analysis; 2010, 13(3)

National/International Conference proceedings:

- "Fuzzy Riesz Convergence". U.G.C. sponsored national level conference on Mathematics, 1999. Dept. of Mathematics, Gobi Arts & Science College, Gobichetti Palayam, Tamil Nadu
- "Fuzzy Analogue of Stone's Theorem in the context of Fuzzy Vector Valued Integrals", International conference on "Recent Developments in Mathematical Analysis with Applications to Industrial Problems, 1998. Dept. of Mathematics, Banaras Hindu University, Varanasi.
- "Fuzzy Vector Valued Integrals and Convergence Theorems". National symposium on Fuzzy Sets and their Applications, 1997. Indian Institute of Technology, Madras
- "Measurability and Fuzzy Measure of a Fuzzy Point". National conference sponsored by U.G.C., 1997. N.G.M. College, Pollachi, Tamil Nadu.

- "Fuzzy Vector Valued Integrals" National seminar on Fuzzy Mathematics and its Applications in Engineering, held at Govt. Engineering College, Jabalpur, 1996. Madhya Pradesh

➢ Name of the faculty: **Ms. Phijo J. Cherickal**

National & International Journal:

- "Pattern Mining Based On Utility Functions". International Journal of Engineering Research &Technology (IJERT); 2013, 2(6). ISSN: 2278-0181

➢ Name of the faculty: **Ms. Ranjini Mariam Philipose**

National /International Journal:

- "Pattern Mining Based On Utility Functions". International Journal of Engineering Research &Technology (IJERT); 2013, 2(6). ISSN: 2278-0181

➢ Name of the faculty: **Mr. Tiji Thomas**

Book/Chapters in Books:

- "Database Management System for Business". Prakash Publications, Changanacherry, 2011.
- "IT for Office". Prakash Publications, Changanacherry, 2012.

➢ Name of the faculty: **Mr. Stephen James**

Book/Chapters in Books:

- Database Management System for Business". Prakash Publications, Changanacherry, 2011.
- "IT for Office". Prakash Publications, Changanacherry, 2012.

➢ Name of the faculty: **Mr. Terry Jacob Mathew**

National & International Journal:

- "Insinuations of Adherence Calculations on Indian Healthcare Sector". Journal of Science Technology and Management; 2013, 6(4) 2013: 29-35, ISSN: 0974 - 8334

Book/Chapters in Books:

- "Database Management System for Business". Prakash Publications, Changanacherry, 2011.
- "IT for Office". Prakash Publications, Changanacherry, 2012.

National / International Conference Proceedings:

- "A Case Study on Medical Costs Vs. Adherence Cost". Proceedings, ICMCMM: 2013, MACFAST, Tiruvalla

School of Biosciences

- Name of the faculty**: Dr. Balagopalan. C**

National/ International Journal:

- "Functional Properties Of Cellulose – Reinforced Bioplastics and Their Potential Usage As Food Packaging Material". Journal of Science Technology and Management; 2014, 7(1): 31-34.ISSN No: 0974 – 8334.

- Name of the faculty: **Betsy M Baby**

National /International Conference proceedings:

- "DoR-The complete Receptome Database" presented in the 17th ADNAT symposium held at CCMB, Hyderabad
- "Domain Designer"-Designer protein development tool for synthetic systems biology experiments". 17th ADNAT symposium held at CCMB, Hyderabad

- "Computational Analysis of Putative Calmodulin Binding Protein SUN". International Symposium Biospectrum,; 2009, RGCB, Thiruvananthapuram
- "Biofortification: A valuable ingredient in high quality cereals production". International Symposium Biospectrum; 2009, RGCB, Thiruvananthapuram
- "Database on Imprinted Genes;' GeneiMprint(GEMDb)' ". International Symposium on Computationl Biology and Drug Design; 2013 Mar Athanasios College for Advanced Studies, Tiruvalla
- "Computaional Studies on Proteolytic Activity of Papain to Increase the Platelet Count". International Symposium on Computationl Biology and Drug Design ;2013, Mar Athanasios College for Advanced Studies, Tiruvalla

➢ Name of the faculty: **Dr. Gincy Marina Mathew**

National & International Journal:

- "Highly glucose tolerant β-glucosidase from Aspergillus unguis - NII 08123 for enhanced hydrolysis of biomass". Journal of Industrial Microbiology andBiotechnology ; 2013, 40: 967-975.
- "Synergistic collaboration of gut symbionts in Odontotermes formosanus for lignocellulosic degradation and biohydrogen production". Bioresource Technology; 2013, 145: 337-344.
- "Microbial community analysis in the termite gut and fungus comb of Odontotermes formosanus: The implication of Bacillus as mutualists. FEMS". Microbiology Ecology; 2012, 79(2): 504-517.
- "Antioxidant and antihemolytic activities of common Nilgiri barberry (Berberis tinctoria Lesch.) from South India". International Food Research Journal; 2012, 19(4): 1601-1607.

- "DGGE detection and screening of lignocellulolytic bacteria from the termite gut of Coptotermes formosanus". Malaysian Journal of Microbiology; 2011, 7(4): 201-209.
- "Establishment of Functional Rumen Bacterial Consortia (FRBC) for simultaneous biohydrogen and bioethanol production from lignocelluloses". International Journal of Hydrogen Energy; 2011, 36(19): 12168-12176.
- "Anti-inflammatory, analgesic and anti-lipid peroxidative effects of Rhaphidophora pertusa (Roxb.) Schott. and Epipremnum pinnatum (Linn.) Engl. aerial parts". Indian journal of Natural Products and Resources; 2010, 1(1): 5-10
- "Comparative study on antioxidant activity of methanol extract and flavonoid –rich fraction of Nyctanthes arbor-tristis leaves". Electronic journal of Environmental, agricultural and Food chemistry; 2010, 9 (1): 227-233.
- "Cellulase production using biomass feed stock and its application in lignocelluloses saccharification for bio-ethanol production". Renewable energy; 2009, 34: 421-424.
- "Progress in research on fungal cellulases for lignocellulose degradation". Journal of Scientific & Industrial Research; 2008, 67: 898-907.
- "Antioxidant activity of Pseudarthria viscid". Indian Journal of Pharmaceutical Sciences; 2007 69: 581-582.

National/International Conference proceedings:

- "Synergistic collaboration of gut symbionts in Odontotermes formosanus for lignocellulosic degradation and biohydrogen production". 5th International conference on Industrial Bioprocesses (IFIB -2012); 2012, Taipei,
- "In vitro free radical scavenging potential of Nyctanthes arbor-tristis". In- National Conference on Bioxplore, Vivekananda College of engineering for Women; 2006, Tiruchengode, Tamil Nadu.

- "Exploring the lignocellulose degrading bacterial community in the fungus-growing termite gut". American Society for Microbiology, 112th General meeting, San Francisco; 2012.
- "Identification and characterization of a glucose tolerant Beta–glucosidase from a novel fungus Aspergillus unguis NII-08123". In- International conference on New horizons in Biotechnology; 2011, Trivandrum.
- "The function and optimization conditions of Termitomyces isolated from the termite gut of Odontotermes formosanus (Taiwan)". In-Asian Mycological Congress 2011 and 12th International Marine and Fresh Water Mycology Symposium; 2011, University of Incheon, Incheon, Korea.
- "The occurrence of Bacillus species and their potential roles in fungus comb of Odontotermes formosanus (Fungus growing black subterranean termite)". In-Ecology of Soil Microorganisms ; 2001, Prague, Czech Republic
- "Termitomyces species and other microbes associated with the fungus comb of Odontotermes formosanus from Taiwan". In- International Mycological conference (IMC); 2001), Edinburgh, United Kingdom.
- "Comparative study on antioxidant activity of methanol extract and flavonoid–rich fraction of Nyctanthes arbor-tristis leaves". 3rd Indo Korean Joint Seminar on Medicinal Plant Research (IKMPR-2010); 2010, Coimbatore, Tamil Nadu.
- "Studies on the fungal microbial communities of the fungus comb of Odontotermes formosanus". In-Asian Mycology Congress (AMC 2009) and the 11th International Marine and Fresh water Mycology Symposium (IMFMS); 2009, Taichung, Taiwan.
- "Bioethanol from lignocellulosic biomass: Indian scenario and perspectives". In-International Conference on Technologies and Strategic Management of Sustainable Biosystems; 2008, Western Australia.

- "Optimization of enzyme cocktails for lignocellulose saccharification. International conference and exhibition on Renewable energy in BEXCO and Nurimaru; 2008, Busan, Korea.
- "Bioethanol from water hyacinth biomass; An evaluation of distributed bio-fuel production strategy". International conference and exhibition on Renewable energy in BEXCO and Nurimaru; 2008, Busan, Korea.
- "Bioethanol from lignocellulosic biomass-Concept of biorefinery". International conference on New horizons in Biotechnology; 2007, Trivandrum.

➢ Name of the faculty**: Dr. Madhu Shankar**

National & International Journal

- "Catalysis product captured in lumazine synthase from the fungal pathogen Candida glabrata". Acta Crystallographica Section D: Biological Crystallography; 2013, D69: 1580-1586.
- "Product complex of Lumazine Synthase from Candida glabrata". ; 2012, (PDB code-4KQ6) http://www.rcsb.org
- "[Fe2L3]4+ Cylinders Derived from Bis (bidentate) 2-Pyridyl-1,2,3-triazole "Click" Ligands: Synthesis, Structures and Biological Activity"; Molecules; 2013.
- Name of the faculty: Dr. Sanu Jacob
- National & International Journal:
- "Ready to eat nectarines - assuring quality in the chain". Acta Horticulturae; 2010, 880:99-103. ISSN: 05677572
- "Optical absorption and scattering phenomena in 'Jubileum' plums in relation to their colour properties". Acta Horticulturae; 2010, 858: 381-386. ISSN: 05677572

- "TRS-measurements as a nondestructive method assessing stage of maturity and ripening in plum (Prunus domestica L.)". Acta Horticulturae; 2010, 858: 443-448. ISSN: 05677572
- "Water loss in horticultural products -Modelling, data analysis and theoretical considerations". Acta Horticulturae; 2010, 858: 465- 471. ISSN: 05677572
- "Prediction ability of firmness decay models of nectarines based on the biological shift factor measured by time-resolved reflectance spectroscopy". Postharvest Biology and Technology; 2009, 54 (3): 131-140
- "Time-resolved reflectance spectroscopy as a management tool in the fruit supply chain: an export trial with nectarines". Biosystems Engineering; 2009, 102(3):360-363.
- "Time-resolved reflectance spectroscopy as a tool for selecting at harvest 'Ambra' nectarines for aroma quality". Acta Horticulturae; 2009, 796: 231-235. ISSN: 05677572
- "Assessing harvest maturity innectarines". Postharvest Biology and Technology; 2007, 45(2):204-213. ISSN: 09255214
- "Ethylene production in nectarine fruit of different maturity as measured by time-resolved reflectance spectroscopy. In: Ramina, A". Advances in Plant Ethylene Research; 2007, 219-221. ISBN: 9781402060137
- "Effects of maturity on chlorophyll related absorption in nectarines, measured by non-destructive time-resolved reflectance spectroscopy". International Journal of Postharvest Technology and Innovation; 2006, 1 (2): 178-188. ISSN: 17447550
- "Changes in sugar and acid composition of 'Ambra' nectarines during shelf life based on non-destructive assessment of maturity by time-resolved reflectance spectroscopy". Journal of Fruit and Ornamental Plant Research; 2006, 14 (2): 183-194. ISSN: 12310948
- "The post-harvest control of Alternaria fruit rots of brinjal using different fungicides and plant extracts". Orissa Journal of Horticulture; 2006, 34 (1): 113-116. ISSN: 09732160

- "Postharvest use of organic coating for maintaining bio-organic avocado and mango quality". Acta Horticulturae:2005; 682 (1): 507-512 ISSN: 05677572
- "Crop Improvement in Guava: An Overview". Indian Journal of Plant Genetic Resources; 2001, 14 (3): 325-330. ISSN: 09718184
- "Studies on the success of softwood grafting in some commercial hybrid mango (Mangifera indica L.)". Orissa Journal of Horticulture; 2001, 29 (2): 6-9. ISSN: 09732160

➢ Name of the faculty: **Ms. Pinchu Elizabeth Thomas**

National/International Journal:

- Functional Properties Of Cellulose – Reinforced Bioplastics And Their Potential Usage As Food Packaging Material. Journal of Science Technology and Management; 2014, 7(1):31-34.ISSN No: 0974 – 8334.
- "Preparation and Characterization of Micro Cellulose and its Cellulose Acetate from Cotton TextileWaste". Biomass and Bioenergy, Communicated (JBB-D-11-00028)

National/International Conference Proceedings:

- "Rapport between Bioinformatics and Food Technology". International Symposium on Computational Biology and Drug Design; 2013, MACFAST, Thiruvalla, India

➢ Name of the faculty: **Mr. Biju Dharmapalan**

National /International Journal

- "Establishment of Fast-Growing Normal Root Culture from the Leaves of Coleus vettiveroidesJacob". Advanced Biotech;2011,11 (3):16-18
- "An Efficient Protocol for Multiple Shoot Initiation in Coleus vettiveroides Jacob, medicinally important plant". Advanced Biotech.; 2011, 10,(9):34 – 36.

- "Isolation and characterization of essential from the leaves of Cymbopogon flexuosus (Steud.) Wats. Growing in Aryanad". Journal of Science Technology and Management;2011, 3 (4), 5-8

National /International Conference proceedings:

- "Evaluation of antioxidant activity of Musa cultivars using TBARS assay". Proceedings National seminar on Nutritional phytochemicals;2010, Christain College, Kattakada
- "In vitro initiation of roots from leaves of Alangium salvifolium (Linn.f.) Wang". Proceedings 7th National Seminar on Medicinal Plants; 2008, Govt. Ayurveda College, Thiruvananthapuram
- "Chemical composition and antimicrobial activity of essential oil from the leaves of Cymbopogon flexuosus (Steud.) Wats". Proceedings 6th National seminar on medicinal plants; 2007, Govt. Ayurveda College, Thiruvananthapuram.
- "Effect of media strength in the multiple shoot production of Bacopa monnieri (L.)Pennell, an important medicinal plant". Proceedings 6th National seminar on medicinal plants; 2007, Govt. Ayurveda College, Thiruvananthapuram.
- "Phytochemical investigation and antibacterial activity of Gymnema sylvestre (retz.) r.br. ex roem.& schult. and andrographis paniculata (burm.f.) wall. ex nees". Proceedings of the nineteenth Kerala science congress; 2007.
- "Multiple shoot production and biochemical analyses in Bacopa monnieri, an important medicinal plant". Proceedings of the ninety fourth annual session of the Indian science congress association; 2007.
- "Micropropagation of Gymnemma sylvestre, a vulnerable medicinal plant". Proceedings of the ninety third annual session of the Indian science congress association, Part IV p242; 2006.

- "In vitro culture and biochemical studies of Cymbopon flexuosus (steud.)Wats". Proceedings 5th National seminar on medicinal plants; 2006, Govt. Ayurveda College, Thiruvananthapuram.
- "Micropropagation of Syzygium samarangense, a medicinal plant". Proceedings National Symposium on recent trends in biotechnology; 2005, Sree Buddha College of Engineering, Alapuzha.
- "A brief study of effect of various PGRs in the micropropagation of Santalum album L., an endangered plant". 4th National seminar on Medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram.
- "Analyzing and characterization of p53 gene (in silico)". Proceedings National Symposium on recent trends in biotechnology; 2005, Sree Buddha College of Engineering,Alapuzha.
- "Induction of callus in endangered medicinal plant Gymnemma sylvestre". Proceedings 4th National seminar on medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram."Bioinformatics a valuable tool in biomedical research". Proceedings 4th National seminar on medicinal plants; 2005. Govt Ayurveda College, Thiruvananthapuram.
- "Study of genetic polymorphism in GSTT1 and GSTM1 Genes". 4th National seminar on medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram.
- "Conservation of plants in changing world". Proceedings National Environment Awareness Campaign; 2000, Centre for Interdisciplinary studies, Trivandrum.
- "Conservation of rare medicinal plant Aristolochia bracteata". Proceedings 9th Swadeshi science Congress; 1999.
- "Taxonomy as tool in Biodiversity conservation". Proceedings International conference on Conservation of Tropical species, communities and ecosystems;1999, TBGRI, Palode

- "Need for tree planting and protection". Proceedings NationalEnvironment Awareness Campaign; 1998, Centre for Interdisciplinary studies, Trivandrum.

Books/Chapters in Books

- "Scientific Research Methodology"; 2012, Narosa, Delhi.
- "Methodology of Plant Science", 1st edition, Academica,Thiruvananthapuram; 2012.
- "Methodology and perspectives of Science-Botany". Academica, Thiruvananthapuram; 2011.
- "Methodology and perspectives of Science-Zoology". Academica, Thiruvananthapuram; 2010.
- "Botany for plus one", 9th edition. New Jyothi Publications, Thiruvananthapuram; 2011.
- "Initiation of multiple shoot Buds in Clerodendron inerme, a mangrove associate. In Non-Timber Forest Products and Medicinal Plants-Conservation, improvement and sustainable utilization"; 2012. eds Sanjay Singh and Rameshwar Das. ICFRE, Dehradun. pp 28-32
- "Fermented Products from Mango. In Mango Production and Processing Technology"; 2012. Vol. 1, eds. Sudha G Valavi et al. Studium Press LLC, USA. pp 648-654.

➢ Name of the faculty: **Mr. Harish R**

National/International Journal:

- "Clinical Association and Resistance Pattern of Bacterial Pathogens Causing Nosocomical Infections". Journal of Science Technology and Management; 2014, 7(1): 21-30, ISSN No: 0974 – 8334.

- "Standardization of ATP-Bioluminescence assay for rapid detection of nosocomial infective agents". Journal of Science, Technology and Management; 2013), 6(2): 7-12.
- "In vitro pre-selection of Lactobacillus strains isolated from fermented dairy products for their probiotic potential". Indian Journal of Microbiology; 2007.
- "Production of Heat-stable Proteases by Bacillus sp. Isolated from Alkaline soils receiving dairy waste drainage".Indian Journal of Microbiology; 2005.
- "Prevalence and persistence of pathogenic vibrios in shellfishes and shellfish growing waters in Cochin estuary". Asian J. of Microbiol. Biotech. Env. Sc.; 2006.
- "Prevalence of opportunistic pathogens in paddy-cum-shrimp farms adjoining Vembanadu Lake, Kerala". Asian Fisheries Science; 2003.16: 185-194.
- "Studies on extracellular alkaline proteases from soil Bacillus sp". Asian J. of Microbiol. Biotech. Env. Sc; 2005.
- "Growth characteristics of enteropathogenic Escherichia coli and Salmonellatyphimurium on shrimp muscle at different temperatures". J. Food. Science and Technology; 2005, 48(2): 175-179

National/ International Conference Proceedings:

- Bacteriology of Cole lands used for fish farming in Malappuram District. Kerala". In: Proceedings of the National Symposium on Riverine and Reservoir Fisheries of India; 2001: 231-236.
- "Prevalence and antibiotic resistance of E. coli in extensive brackish water aquaculture ponds". Fishery Technology; 2003, 40 (1): 8-12.
- "Prevalence of opportunistic pathogens in paddy-cum-shrimp farms adjoining Vembanadu lake, Kerala". Asian Fisheries Science; 2003, 16: 185-194.

- Growth characteristics of enteropathogenic Escherichia coli and Salmonellatyphimurium on shrimp muscle at different temperatures. J. Food. Sci. Technol; 2005, 48(2): 175-179.
- "Production of Heat-stable Proteases by Bacillus sp. Isolated from Alkaline soils receiving dairy waste drainage". Proceedings of the National Symposium on Recent Trends in Biotechnology; 2005:117-120.
- "Studies on extracellular alkaline proteases from soil Bacillus sp". Asian J. of Microbiol. Biotech. Env.Sc.; 2005.
- "Prevalence and persistence of pathogenic vibrios in shellfishes and shellfish growing waters in Cochin estuary". Asian J. of Microbiol. Biotech. Env. Sc.; 2006.
- (2007). "In vitro pre-selection of Lactobacillus strains isolated from fermented dairy products for their probiotic potential". Proceedings, International Symposium on Advances in Food Biotechnology and Nutrition; 2007, 50.

- Name of the faculty**: Dr. Maya Subramoni**

  National & International Journal:

  - "A study on the algal diversity of Vamanapuram River of South Kerala, in relation to certain water quality parameters". Indian Hydrobiology; 2007, 10 (1): 157 – 163.
  - "Ethnobotany of marine algae of south-west coast of India". Seaweed Res.Utln.; 2008, 30 :269-271.
  - "Cutivation of Kappaphycusalvarezii Doty (Doty) in India – Prospects and perspectives". J.ScienceTech.Management; 2009, 2(1):7 – 10.
  - "Studies on Extraction, Isolation and Characterization of Bioactive Compounds from the Aquatic weed Cabomba caroliniana A. Gray". Journal of Agricultural Science & Technology A (Accepted); 2014

National /International Conference proceedings:

- "A study on the inhibitory effect of some marine algal extracts on matrix metalloproteinase activity". Proceedings of theInternational conference on Algal Biomass, Resources and Utilization; 2010, 153-156.
- "Studies on seasonal variation in biochemical and elemental composition of Kappaphycus alvarezii Doty (Doty) cultivated in Kerala coast". Proceedings of the International conference on Algal Biomass, Resources and Utilization; 2010, 55-57. Areas of consultancy and income generated : Microbial analysis of food products and water; phytochemical analysis

Table 3.14
Data Sheet of Publications

Name	Total No. of Publication	No. of Publication in journals		Publication Listed in International Database	Chapters in Book	Books Edited	No. of books with ISBN/ISSN	National/ International conference/proceedings	Impact factor
		National	International						
	Department of Management Studies								
Mr. Ligo Koshy	9	-	5	4			4	-	12
Dr.K.M.George	13		1	1		1	5	7	2.55
Dr. Jeemon Joseph	6	-	2	2	-	-		4	1

Dr. Ashalakshmi R. K.	6	2	1	1	-	-	3	3	-
Mr. Vijaya Mohan	12	-	2	2	2	-	4	8	-
Mr. Sudeep Chandramana	9	-	-	-	2		2	7	-
Mr. Ajai Krishnan G	4	-	3	3	1	-	4	1	11
Mr. Arun Prem	2	2		1	-	-	2	-	-
Mr. Shibu Itty Mathew	1		1	1	-	-	1	-	-

	School of Biosciences								
Dr. C. Balagopal	1	1	-	-	-	-	1	-	-
Mr. Biju Dharmapalan	27	3	-	-	7	1	24	17	-
Mr. Hareesh R.	16	4	4	-	-	-	-	8	-
Dr. Sanu Jacob	15	5	10	-	-	-	15	-	7
Dr. Madhu Sankar	3	-	3	3	-	-	3	-	19
Dr. Gincy Mariam	24	4	7	11	-	-	11	13	18
Ms. Pinchu Elizabath Thomas	3	2	-	-	-	-	1	1	-
Ms. Betsy M. Baby	-	-	-	-	-	-	-	6	-
Ms. Maya Subramoni	6	4	-	-	-	-	-	2	-
	Department of Computer Application								
Dr.M.S. Samuel	21	3	13	13	-	-	-	5	-
Mr. Tiji Thomas	3	-	-	-	-	3	3	-	-
Mr. Stephen James	3	-	-	-	-	3	3	-	-
Mr. Terry Jacob	4	-	1	-	-	3	3	1	-
Ms. Phijo	1	-	1	1	-	-	-	-	-
Ms. Ranjini Philipose	1	-	1	1	-	-	-	-	-

3.4.4 Provide details (if any) of

- ***Research awards received by the faculty.***

  Nil

- ***Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally***

Dr. C. Balagopalan, Director of Research was honored with the following recognitions by professional bodies

- *Winner* of the "Donald L. Plucknet International Award", 1991 for research contributions in "Tropical Root Crops" instituted by International Society for Tropical Root Crops
- *Best team Leader of the research* - National Award of "Indian Council of Agricultural Research" Biennium(1997-98)
- *Best team Leader of the research* - National Award of "Indian Council of Agricultural Research" Biennium (1985-86)
- *Good service entry* by Dept. of Agriculture, Govt. of Kerala, 1965-66

- ***Incentives given to faculty for receiving state, national and international recognitions for research contributions***

The college has the policy to provide incentives to faculty for their meritorious achievements

3.5Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

The college has a well-developed system for establishing Institute-Industry interface known as "MACFAST Industry Interface" (MII). The major strategies of MII are:

- Exposing students to state-of-the-art tools that the industry uses to encourage them to see the benefits and limitations of these tools and to think of better solutions. Hence, the students will have a general idea of what is available and what may be expected their future employers.
- Providing software courses for students majoring in various disciplines.
- Engaging students in long term projects which involved large systems, large groups, and dealing with end users. This would teach students different aspects of analysis, design and implementation by involving the, understanding, modification and extension of existing software.

- Interaction of faculty with the Project Managers of the Companies. This would help in understanding the industry standards and their current projects.
- Conducting seminars by practicing the professionals of the industry. This would introduce awareness of the existing projects amongst students so they can develop their knowledge to fit into the spectrum.
- To provide soft skill training courses as per the needs of the industry
- Undertake Consultancy Assignments for the industry.

3.5.2 What is the stated policy of institution to promote consultancy? How is the available expertise advocated and publicized?

The institution has a policy of providing consultancy to the Industries and other beneficiaries under MII platform through:

- Preparation of Feasibility and Project Reports
- Market Research and Market Survey
- Management Consultancy
- Recruitment, Training and Placement for Organization
- Organizing EDPs and MDPs
- Providing Pilot Plant Facilities in Food Processing

It is publicized through institutional websites and brochures.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

The institution encourages the faculty members by offering incentives and perquisites to engage in consultancy services.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years?

1. Food processing technologies.
2. Ethanol from starch
3. Tissue culture technologies
4. Effluent treatment of starch companies
5. Vegetable gardening
6. Bio gas technology
7. Bio fertilizers
8. Bio pesticides

9. Bio fungicides
10. Modernization of slaughter house.

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: institution) and its use for institutional development?

40% of remuneration received will be shared with participating faculty.

3.6 Institutional Social Responsibility (ISR) and Extension Activities.

3.6.1 How does the institution promote institution-neighborhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The collegepromotes institution-neighborhood-community network and student engagement, contributing to good citizenship, service orientation and holistic development of students through a unique programme "MACFAST Knowledge Scheme (MAKS)" initiated by the college in 2011 with a view to disseminate knowledge to the neighborhood schools. The selected high school students of Pathanamthitta, Idukki, Kottayam and Alappuzha districts are given continuous training programmes for three years during the Onam, Christmas and annual vacation as residential coaching. The aim is to instill in the students the capability to attend any type of competitive examinations starting with PSC/UPSC exams to Civil Service exams like IAS, IPS and IFS. This programme identifies the inherent talents and potentials of each student and directs to achieve the highest possible levels they have been cherishing. The classes for MAKS programme are planned and executed through eminent faculty members and invited experts from various fields. Dr. Alexander Jacob, IPS, DGP Govt. of Kerala is the chief mentor of this programme. Currently the college runs classes for three batches of selected students. The first batch completed their SSLC/ CBSE/ ICSE exams with flying colours, indicating the success of this programme.

Table 3.15
Details of the Programmes Organized by MAKS

Year	Selected No. of students					Area of focus	Resource persons
	Std	StdVIII	Std	Std	Total		

	VII		**IX**	**X**			
2011-2012	8	14	22	12	56	General Knowledge English Communication skills Internet practices Physics Chemistry Mathematics Biology History Politics Economics Public Administration Constitution of India Value education Games and Yoga	Dr. Alexander Jacob, IPS Dr. Paul Joseph, IFS Dr. Jacob Thomas, IAS Dr. Rani Jacob, IAS Dr. Jose Paul, IAS Dr. Roy Abraham Kallivayalil Mrs. Subaidha Ahemmed, Trainer, IT Mission Kerala Dr. Abraham Mulamoottil Faculty members of MACFAST
2012-2013	17	30	18	26	91		
2013-2014	37	48	35	14	134		

MACFAST Community Radio 90.4 initiated by the college identifies and deal with community related problems and prospects of people living in Pathanamthitta, Alappuzha, Chengannur, within a circle of 20 Km for the last five years. The radio is able to provide information regarding education, health, sanitation, farming and community entertainments in the catchment area and radio has successfully completed many community awareness programmes such as clean and green city, war against drugs etc. It has also initiated financial help for heart surgery to poor people. It provides an opportunity for students of the college to acquire the practical skill for marketing and audition.

3.6.2 What is the institutional mechanism to track students involvement in various social movements/activities which citizenship roles?

The college has a mechanism to track student's involvement in various social activities by imparting the significance of such involvements through organizing awareness programmes. Some of such progrmammes organized by the college include 'War against Drugs' campaign, Traffic awareness programme titled 'Nervazhi', 'Clean and Green City Tiruvalla' project, awareness on organic farming etc.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The college has a Governing Board constituted with eminent and well-known academicians, administrators, entrepreneurs and leaders of political and religious institutions. The policy decisions are made in the annual meeting of the Governing Board. The perceptions of the stakeholders from different walks of life are discussed in the meeting and the policy decisions are framed/ revised by incorporating the perceptions of such stake holders

.

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details of last four years, list the major extension and outreach programmes and their impact on the overall development of students?

The college organizes outreach programmes (MORP) to extent expertise as a part of the institution's social responsibility. The programme focuses on improving the career potentials of the students from selected colleges in different districts of Kerala. The expenditure for conducting the MORP, including the travelling expenses and DA to the resource persons are met by the college.

Table 3.16
Details of the Outreach Programmes Organized by the College

Sl No:	Date	Name of College	Location	Course	No: of students	Topic covered
Department of Computer application						
1	06-12-2013 & 7/12/2013	BAM College, Thuriticadu	MACFAST	B.Sc. Physics	39	PHP, MySQL
2	09-12-2013	Mar Thoma	MACFAST	B. Sc.	35	C, C++

	& 10/12/2013	College , Tiruvalla		Physcis		
3	11/12/2013 & 19/12/2013	Mar Thoma College, Tiruvalla	MACFAST	B.Sc. Mathematics	32	C, C++
4	02-12-2013 & 3/12/2013	Bishop Speechly College, Pallom	Bishop Speechly College, Pallom	BCA	14	PHP, MySQL
5	06-01-2014	St. Gregorious College, Parumala	MACFAST	BCA	30	PHP, MySQL
6	07-01-2014 & 8/01/2014	Sree Ayyapa College, Eramallikara	MACFAST	BCA	35	PHP, MySQL
7	10/01/2014 & 11/01/2014	BAM College, Thuriticadu	MACFAST	B. Sc. Mathematics	32	Problem Solving using 'c'
8	02-02-2014 & 05-02-2014	St. Thomas College Kozenchery	St. Thomas College Kozenchery	B. Sc. Computer Science	58	PHP and MySQL
9	28-02-2014	Viswa Brahminina College, Vechoochira	Vechoochira	B. Sc. Computer Science	35	PHP and MySQL
10	22-02-2014 & 23/02/2014	St. Joseph College Mallappally	MACFAST	BCA	15	PHP and MySQL
11	10-06-2014 & 11/06/2014	Marthoma College	MACFAST	B. Sc. Physics	21	C ++ , Java , HTML , Java Script
12	18/06/2014& 19/06/2014	MES College , Nedumkandam	MES College , Nedumkandam	B. Sc. Mathematics &BCA	80	PHP & MySQL, LaTeX , Carrier Orienation Program
13	24/07/2014& 25-07-2014	JPM College, Kattappana	JPM College, Kattappana	BCA	55	PHP & MySQL

14	18/08/2014& 19/08/2014	NSS College, Konni	NSS College, Konni	BCA	50	PHP & MySQL
15	17-09-2014	PMG College , Parumala	MACFAST	BCA	23	PHP & MySQL
16	9/10/2014& 10/10/2014	St. Joseph College Devagiry , Calicut	St. Joseph College Devagiry, Calicut	BCA	28	PHP & MySQL
17	9/10/2014& 10/10/2014	Sree Ayyappa College, Erammallikkara	Sree Ayyappa College , Erammallikkara and MACFAST	BCA	25	PHP & MySQL
School of Biosciences						
1	9/10/2014& 10/10/2014	Pazhassiraja College, Pulpally	Pazhassiraja College, Pulpally	B. Sc. Biochemistry& B. Sc. Microbiology	50	Your Life your Passion
2	9/10/2014& 10/10/2014	St. Joseph College Devagiry , Calicut	St. Joseph College Devagiry, Calicut	B.Sc. Botany & Zoology	60	Importance of Bioinformatics
3	24/10/2014& 25/10/2014	Christian College, Chengannur	Christian College, Chengannur	B. Sc.& M. Sc. Zoology	50	Understanding the complexities of life through Molecular Biology
4	13-11-2014	BCM College, Kottayam	BCM College, Kottayam	B. Sc. Food Science & Quality Control	35	Role of Vitamins and Minerals in Human Body
Department of Management Studies						
1	25-09-2013	Assumption College Changanasserry	Assumption College Changanasserry	B.Com	71	Training on Group Discussion, Resume Writing & GD

2	22-11-2013	Govt.College Nattakom	Govt.College Nattakom	Placement Cell	65	Training on Personality Development, Resume Writing & G.D
3	25-11-2013	Bishop Speechly College, Pallom	Bishop Speechly College,Pallom	B.Com, M.Com	61	Training on Personality Development, Resume Writing & G.D
4	06-12-2013	St.Marys College Thiruvalla	St.Marys College Thiruvalla	BBA	46	Training on Personality Development, Resume Writing & G.D
5	07-12-2013	St.Marys College Thiruvalla	St. Marys College Thiruvalla	B.Com	60	Training on Personality Development, Resume Writing & G.D
6	09-12-2013	St. Marys College Thiruvalla	St.Marys College Thiruvalla	BCA	52	Training on Personality Development, Resume Writing & G.D
7	16-01-2014	St. Alosyus College, Edathua	St.Alosyus College Edathua	B.Com	58	Best Choice Demonstration, Resume Writing & G.D
8	17-01-2014	St. Alosyus College, Edathua	St. Alosyus College, Edathua	BA Economics	55	Best Choice Demonstration, Resume Writing & G.D
9	18-01-2014	St. Alosyus College, Edathua	St. Alosyus College, Edathua	BA English	52	Best Choice Demonstration, Resume Writing & G.D

10	04-02-2014	MES College, Erumeli	MES College, Erumeli	BBA	55	Best Choice Demonstration, Resume Writing & G.D
11	12-02-2014	NSS College, Konni	NSS College, Konni	B. B.A	60	Best Choice Demonstration, Resume Writing & G.D
12	14-02-2014	JPM College, Lubbakkada	JPM College, Lubbakkada, Kattappana	B.Com	56	Best Choice Demonstration, Resume Writing & G.D
13	15-02-2014	Jyothis Pastrol Centre, Kattappana	Jyothis Pastrol Centre	BA, B.Com	45	Best Choice Demonstration, Resume Writing & G.D
14	19-02-2014	NSS College, Konni	NSS College, Konni	B.Com	50	Best Choice Demonstration, Resume Writing &GD
15	03-03-2014	Bishop Moor College Mavelikkara	Bishop Moor College Mavelikkara	B.Com	58	Best Choice Demonstration, Resume Writing&GD
16	02-09-2014	Kristhujyothi College Changanasserry	Kristhujyothi College Changanasserry	B.Com	60	Best Choice Demonstration, Resume Writing&GD
17	09-09-2014 & 10-09-2014	Pazhassiraja College, Pulpally	Pulpally	Bcom, BBA, BA	130	Best Choice Demonstration, Resume Writing & GD

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC, and other national/international agencies?

The college has a policy to promote extension activities organized by NSS, Red Ribbon Club etc. The students are made aware of the objectives of these organizations and how they are beneficial for personal development through community work, leading to the

involvement in the nation building exercise. In addition to these, the provision of granting grace marks by the University is also brought to the notice of the students with a view to create interest in participating with such agencies.

3.6.6 Give details on social surveys research or extension work (if any) undertaken by the college to ensure social justice and empower students from under privileged and vulnerable sections of society?

- PURA (Providing Urban Amenities in Rural Areas) – This is a study of the infrastructure requirement of 10 villages in Thiruvalla Taluk. The report was submitted to the Ministry of Rural Development, Govt. of India in January 2005.
- Consultancy for SERIFED – A consultancy for conducting market survey, design competition, exhibition – cum – international seminar to launch a world – class brand for their silk products. A report on consumer and trade survey was submitted to Kerala State Seri Culture Co-operative Federation Ltd. In January 2006.
- A survey on customer awareness was conducted among the households in Tiruvalla, Chengannur, Changanasserry municipalities and 10 Panchayaths in Central Travancore on July 2012. The purpose of the study was to identify the efficacy of the programme broadcasted along with mapping out the present listener strength of Radio MACFAST 90.4

3.6.7 *Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement student's academic learning experience and specify the values and skills inculcated.*

The outcomes of the extension activities are reflected positively in the performance of students in their curricular and extracurricular activities. These activities lead to inculcate and develop ethical values and skills for developing leadership qualities.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

To encourage community participation, efforts have been taken from the part of the college to buildup relations with the members of the local bodies, Govt. officials and the head of the religious, charitable and educational institutions.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

The college has introduced various outreach programmes (MORP) in other colleges and has undertaken extension activities. The outreach programmes are designed based on the requirements of the institution and the extension activities are designed with a view to extend the potential of the college to the social wellbeing of the society. The constructive relationships of the faculty members and the management with other colleges are utilized for the purpose of identifying the requirements of other colleges and the society.

3.6.10 Give details of awards received by the institution activities and/contributions to the social/community development during last four years.

"**Paristhithi Mithra Award-2013**", for the promotion of Environmental Protection, conservation and preservation in the state of Kerala by The Centre for Environmental and Rural Development, St. Stephen's College, Uzhavoor, Kottayam.

3.7 Collaborations

3.7.1. How does the institution collaborate and interact with research laboratories, institutes and industry for research activities? Cite examples and benefits accrued of the initiatives-collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

The institution has research collaboration with Pushpagiri Medical College and Research Centre, Tiruvalla. The research scholars utilize the facilities available in the Pushpagiri Medical College and Research Centre for their doctoral programmes. The faculty members are also involved in collaborative research with the scientists of the centre.

The college initiates collaborative research through sharing of the laboratory facilities and technical expertise.

The institution has also suggested the assistance of central institute of Plastic Technology, Hyderabad to mould the bio plastic material on payment basis.

3.7.2 Provide details on the MoUs /collaborative arrangements (if any) with institutions of national importance/other universities/industries/corporate (corporate entities) etc. and how they have contributed to the development of the institution.

MoUs

- MoU with IISAC International Institute for scientific and academic collaboration, Inc(IISAC), Honiss Place, Newark, USA for the purpose of arranging collaborative programmes with American institutions and professional specialists.
- MoU with ICAR institutions like CIFT Cochin, IISR Calicut etc. and CSIR labs like CFTRI, NIIST Trivandrum etc. for the purpose of student research work.

Collaborative arrangements

- Validation of microbial load in processed cashew kernels by adopting latest technologies using type cultures of Entero bacteriacae for Western India Cashew Company, Quilon
- Water quality testing for the general public of Tiruvalla Taluk
- Technical support to Bodhana (Tiruvalla Social Service Society) of Malankara Archdiocese, Tiruvalla

3.7.3 Give details (if any) on that have contributed to the establishment /criterion/up gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories /library/new technology/placement services etc.

The industry – institution – community interactions through the MII programmes and Radio MACFAST has enabled the college to assign the students to prepare their project works as per the requirements of the curriculum at various industries, to organize campus placements, to organize national and international seminars, to introduce technological upgradation of the library, to develop consultancy and extension programmes etc.

3.7.4 Highlighting the names of eminent scientist/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

Table 3.17
Eminent people participated in various events

National Seminar On Recent Trends In Algal Biotechnology	3.08.2010 to 5.10.2010	DST, Ministry Of Earth Sciences Govt. of India	• Dr. P. Pushpangadan,, Director General Amity Institute of Herbal and Biotech Products Development, Trivandrum. • Dr. C. S. P. Iyer, Indian Institute Of Information Technology & Management, Kerala • Dr, P. Sampath Kumar, Centre For Advanced Study In Marine Biology, Annamalai University • Dr. V. Krishnamurthy, Krishnamurthy Institute Of Algology • Dr. Suman keerthi Dept. of Botany, School of Chemistry • Dr. V. Sivasubramanian Vivekananda Institute of Algal Technology, RKM, Vivekananda,College, Chennai
International symposium and congress on Advances in Herbal science and technology	25.11.2011 to 27.11.2011	Medicinal plant board, KSCSTE, DST, ICMR	• Dr. P.Pushpangadan, • Director General Amity Institute Of Herbal and Biotech. Products Development, Trivandrum.

			• Dr. N. C. Shah, ex – scientist CIAMP, (CSIR) & Founder Director, Herbal Reserch And Development Institute. • Dr. S. Rajasekharan & Dr. P. G. Latha, Scientist Head Division of Ethnomedicine And Ethnopharmacology, TBGRI, Palode Thiruvananthapuram • Dr. Bala Nambisan principal scientist, CTCRI. • Dr. Yamini B. Tripathi, Dept. of Medicinal Chemistry, BHU • *Dr. Rajavashisth Tripathi*, Molecular Biology Unit, Institute of Medical Sciences, Banaras Hindu University, Varanasi • *Dr. S. H. Ansari.* Dean. Designation. Professor. Department. Pharmacognosy & Phytochemistry Faculty of Pharmacy, Jamia Hamdard • Dr. Adam Wheeler Elsevier UK.

			• Dr. M. D. Nair, Consultant Health Care Industry, Chennai.
International Conference on Mathematical Modelling in Computer, Management and Medical Sciences, ICMCMM 2013	13th to 15th June 2013	DST	• Dr. Julian Teicher, Australia • Dr.Bernadine Van Gramberg, Australia • Dr. Thavanayagom Gnanavinthan, New Zealand • Dr. Anusooya, Gnanavinthan, New Zealand • Dr. Ealasukunthan Thavanayagom, New Zealand • Dr. Shams Khwaja California, USA • Dr. S. C. Joag , New Jersey, USA • Dr. K. G Subramanian, Malaysia Professors from India • Dr. T. Thrivikraman, • Dr. V. Kannan,

			• Dr. N. Jayasankaran, • Dr. P. Nagabhushan
International Symposium on Computational Biology & Drug Design	10.07.2013 to 12.07.2013	A*STAR, Singapore, ICMR, KSCSTE	• Dr. Chandra Verma, Head of Division & senior principal investigator, Bioinformatics Institute (BII) A*STAR, Singapore • Dr. Eisenhaber Frank Head of Division Bioinformatics Institute (BII), A*STAR, Singapore • Dr. Achuthsankar S. Nair heads the Centre for Bioinformatics, University of Kerala • *Dr.Eisenhaber Birgit*, Principal Investigator, Bioinformatics Institute (BII) A*STAR, Singapore • *Dr. Vivek Tanavde*. Principal Investigator Bioinformatics Institute (BII) A*STAR, Singapore • *Dr. Anoop Kumar* T. Scientist, Sree Chitra Tirunal Institute for Medical Sciences & Technology, *Trivandrum*

			• *Dr. Rakesh K. Mishra* Senior Scientist, Centre for Cellular and Molecular Biology Hyderabad

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated –

a. Curriculum development/ enrichment activity: Nil
b. Internship/on the job training: Nil
c. Summer placement: Nil
d. Faculty exchange and professional development: 2

Fullbright Scholars:

1. Dr. Roman W. Siniaski, USA had a lecture series for MCA students in the month of July, 2006.
2. Dr. Constantine Roussos, Professor of Computer Science, Lynchburg College, Virginia and Mrs. Gail Roussos have done exemplary services for the students and the Faculty members of the Department during their one-month stay in our campus. The department has also organized an International workshop on Software Engineering on 1st June 2007. In addition to this, Dr. Constantine Roussos delivered lectures in Computer Science, for 25 professionals from various colleges.

e. Research :2
   1. The medicinal value of macrofungi with Pushpagiri Medical College, Tiruvalla
   2. Bioplastic moulds using plastic and biomaterials were developed in association with CIPET, Chennai
f. Consultancy: The college has given consultancy to Western India Cashew company, Quilon for validation of micro flora in the processed cashew kernel
g. Extension: 5.
   - A proposal for modernization of Slaughter house in Tiruvalla Municipality is prepared to be submitted to the Suchithva Mission, Govt. of India.
   - Environmental awareness classes were organized with the financial support of ministry of environment.
   - Entrepreneur development programmes were organized regularly with the support of ministry of food processing industries.

- In collaboration with Tiruvalla municipality solid waste treatment training for the members of the municipal ward and public was organized.
- Two programmes entitled Biosciences for the people were organized. In this programme, training was imparted to local participants in food processing mushroom culture. Dental camp was organized. Bacteriological quality of well water samples received from public was analyzed and results were communicated over phone. Ayurveda and allopathic examinations of participants were carried out and pre-distribution of medicines was done.
- A workshop was organized for farmers on the topic entitled 'Changing Weather and Changes Required for Cultivation'.
- A project was proposed for the establishment of a modern herbal garden and got it approved by the Ministry of Health (AYUSH) to educate public about medicinal plants.

h. Publication : Nil
i. Student placement : Nil
j. Twinning programmes : Nil
k. Introduction to new courses : Nil
l. Student exchange : Nil
m. Any other : Nil

3.7.6Detail on the systemic efforts of the institution in planning, establishing, and implementing the initiatives of the linkages/collaborations.

- A website on MACFAST Bioplastic was developed besides filing and patent application.
- A project has been submitted to Science and Engineering Research Board SERB titled, Prediction of the relationships between Diabetes and other diseases using Mathematical and Computer tools, the PI being Dr. M. S. Samuel from Department of Computer Applications.

Any other relevant information regarding Research, Consultancy, Extension which the college would like to include.

Nil.

CRITERION IV- INFRASTRUCTURE AND LEARNINGRESOURCES

4.1 Physical facilities

4.1.1What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

The policy of the Institution is to provide state-of- the- art infrastructure. To facilitate effective teaching and learning, timely upgrading of the technology aided resources and modernization of laboratories, class rooms, hostel facilities and the facilities for extra-curricular activities are implemented. The management has the policy of funding liberally for the upgradation of the infrastructure according to the number of students in different streams and the strength of teaching and non-teaching staff as per the guidelines of the AICTE/University.

4.1.2: Details of facilities available for:

a) Curricular and co-curricular activities - class rooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, animal house, specialized facilities and equipments for teaching, learning and research etc.

The college has two adjacent campuses with multi-storied buildings. The main campus hosts the MBA and MCA programmes and the Bio campus hosts the M.Sc. Biosciences programmes. The campus accommodates with a total built up area of 3, 00,000 sq.ft class rooms, seminar halls, laboratories, hostels, library, computer lab, and areas for recreation and entertainment. A well- furnished and well-maintained Examination Hall solely for conducting internal and external examinations is also available at the top floor of the main campus.

- **Class rooms and seminar halls:**
  The buildings are architecturally designed to make the class rooms naturally airy and comfortable for academic activities. Efforts have been made by the management to provide the class rooms and seminar halls equipped with modern furniture, LCDs, microphones, and appropriate boards and screens. Separate class rooms, tutorial

rooms and seminar halls are earmarked for MBA and MCA programmes in the main campus and for M. Sc. Biosciences programmes in the Bio campus. The seats designed are comfortable long hours of learning.

In the Main Campus there are 8 class rooms which can accommodate 60 students each, 2 seminar halls, 2 tutorial rooms, 4 office rooms for faculty members, and a common space for recreation. In the Bioscience campus there are 12 class rooms and 4 office rooms for faculty members.

- **Technology enabled learning process:**

  The college has a full-fledged computer lab which consists of silicon graphics workstation, network lab, microprocessor lab and two Mbps leased line internet connection with five servers running on open source operating system. The computer lab is accessed by students and faculty members for getting a continuous technology-enabled learning. In addition to this, the campus is round the clock Wi-Fi connected.

  'MACFAST Technologies', a wing of the college, is an industry-academia collaboration developed for training the students in an industrial real-time scenario. The student is benefitted from an environmental friendly atmosphere for learning and working experience. MACFAST Technologies offers world class technological solutions for the emerging net-centric world. Facility for video conferencing is also available in the campus.

- **Herbal Garden:**

  The Herbal Garden maintained by the college serves the purpose of education, research and conservation of germ-plasm of medicinal and aromatic plants, wide varieties of endangered species, dye-bearing plants and other species of ecological/economic interests. The garden with nursery and green-house facility, at present, maintains more than300 indigenous medicinal plants, including rare and endangered species. The collections include Nalpamara (composed of four species of Ficus, such as *Ficus racemosa*, *Ficus tinctoria*, *Ficusi religiosa* and *Ficus benghalensis*), Triphala (composed of *Phyllanthus emblica*, *Terminalia bellirica* and *Terminaliachebula*), Safed Musali (*Chlorphytum borivilianum*) along with Arogyappacha (*Trichopus zeylanicus*), Red sandal (*Pterocarpus santalinus*) and rare species like *Adenia hondala*, *Aristolochia tagala*, *Karempferia rotunda*, *Myristica malabarica*, *Piper longum*, *Salacia reticulata*, *Semicarpus travancoricus*, etc. Efforts are being made to display the species according to their medicinal/therapeutic properties such as anti-diabetic, anti-poison, anti-fungal and anti-viral as also relating to formulations in indigenous medicines like, 'Chyavanaprasam', 'Dasamoolam' etc. Arboretum, shrubbery, Orchidarium, Rockery and Aquatic-biotopes are also being developed apart from lawns, mounts and topiaries.

- **Laboratories:**
  The college has five full-fledged laboratories for the programmes of Biosciences such as Plant Biotechnology, Molecular Biology, Food processing, Biochemistry and Microbiology. The college has also installed a high throughput Computational Biology laboratory. These laboratories have state-of-the-art equipments like the thermal cycler for PCR, Atomic Absorption Spectrophotometer, electrophoretic units, U. V. and white trans-illuminators, -20° freezer, gel documentation system, electronic balances, shakers, laminar air flow hoods, fruit pulping machine, mixing tank, blanching chamber, vacuumetric liquid filling machine, crown corking machine, two-stage pulveriser, ELISA plate reader, fermenter, BOD incubator, incubator and shaking incubator, autoclave, high speed cooling centrifuge, -40^{o}C deep freezer, UV spectrophotometer, constant and variable temperature water bath, etc.

- **Language Lab:**
  The facility of a language lab is provided to encourage students to accrue proficiency in communicative English and foreign languages. Students are encouraged to gain competence in Communicative English. Those engaged in research as well as pursuing their Master Degree in Biosciences are encouraged to make use of the lab to learn foreign languages also. The Laboratory is equipped with workbooks, software, audio-video CDs and cassettes.

b) Extra -curricular activities- sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skill development, yoga, health and hygienic etc.

- **Sports and games:**
  For promoting sports and games, the college maintains basketball court, shuttle badminton court, volley ball court and table tennis court. The college has an annual sports day and conducts athletic meet, games and prizes are to the winners.

- **Auditorium:**
  The college has a well-furnished air conditioned auditorium with a seating capacity of four hundred.

- **NSS:**
  The college has provided an office for the NSS unit and the programme officer is in charge it. Separate space is provided for keeping the tools and equipments.

- **Conference Hall :**

A conference hall with a seating capacity of 120 is provided in the campus and it is used for arranging various programmes for developing skills in communication and public speaking , practicing yoga and for organizing classes related to health, hygiene etc.

Fig. 1 MACFAST Campus sitemap

4.1.3: How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (encloses the master plan of the institution/campus and indicate the existing physical infrastructure and the future planned expansions if any).

Since its inception in 2001, the College has been keeping pace with the changing requirements of its academic growth and additional infrastructure is added from time to time. During the last four years initiatives have been taken for the installation of Solar Power Plant, CCTV, construction of Hostel buildings, play grounds , purchase of land for expansion of the college etc. (Master Plan of the college attached)

Table 4.1
Details of Amounts Spent for Various Development/Expansion Activities

Period	Particulars of Facilities	Amount Spent (Rs)
	Buildings	125,00,026

2010-2011	Furniture	7,83,875
	Equipment	2,17,378
	Computer	97,871
	Vehicle	28,68,293
	Air Conditioner	32,000
	Green &Clean Campus	17,860
	Electrical Installation	6,48,485
	Library Books	9,37,970
	Mobile Phone	7,900
	Pump set	14,045
	Sound System	8,670
	Transformer	6,48,485
	Utensils	9,27,136
	Total	**197,09,994**
2012-2013	Buildings	98,83,884
	Furniture	3,01,860
	Equipment	2,95,243
	Computer	28,24,221
	Bicycle	9,600
	Electrical Installation	31,860
	Library Books	8,99,219
	Pump set	18,400
	Solar Power Plant	57,43,733
	Sound System	57,353
	Transformer	1,35,127
	Transformer Installation	7,029
	Water Cooler	19,999
	Total	**202,27,528**
	Buildings	97,04,367
	Furniture	6,17,336
	Equipment	2,44,374
	Computer	26,000

2012-2013	Vehicle	12,21,648
	Air Conditioner	78,950
	Camera	59,830
	C.C Camera	4,51,732
	Electrical Installation	8,750
	Land	86,60,013
	Library Books	5,33,586
	Refrigerator	42,900
	Solar Power Plant	2,74,270
	Sound System	1,89,672
	Television	20,750
	Transformer Installation	1,51,583
	UPS & Battery	98,700
	Total	**223,84,461**
2013-2014	Buildings	40,41,252
	Furniture	2,44,148
	Equipment	7,35,932
	Vehicle	18,07,973
	Air Conditioner	75,000
	Bio Gas Plant	4,29,156
	Library Books	7,88,782
	Lighting Arrester	86,325
	Mobile Phone	4,014
	Pump set	19,994
	Play Ground	3,48,850
	Scanner	3,550
	UPS & Battery	1,49,000
	Utensils	2,13,090
	Total	**89,47,066**

4.1.4: How does the institution ensure that the infrastructure facilities meet the requirements of the students with physical disabilities?

With a view to meet the requirements of the students with physical disabilities a ramp is provided in the administrative block to have access to all the floors of the block. A lift is installed in the St. Thomas Men's hostel and provision has alreadygiven to install lifts in the main campus.

4.1.5: Give details on the residential facility and various provisions available within them:

The college provides residential facilities for teaching and non-teaching staff and for students.

- **Hostel facility- accommodation available:**

The college provides hostel facilities for students with sufficient infrastructure. The ladies hostels are in the main campus and the men's hostel is adjacent to the main campus with a distance of less than 200 metres.

St. Alphonsa Ladies Hostel- The old block of the hostel provides the facilities of double rooms, dormitory and Study Hall. The new block is a six-storied building with the facilities of single rooms, shared rooms and Study Hall.

St. Thomas Hostel for Men –A seven- storied hostel is built on the south west zone of the College campus for men .This hostel is facilitated with single room, double room dormitory accommodation and Study Hall.

Allotments of rooms in the hostels are stipulated as per the guidelines framed by the college. Dormitories are generally provided for combined studies at the time of examinations.

- **Recreational facilities, gymnasium, yoga centre etc.**

Recreational facilities and gymnasium are available both in the Men's and Ladies hostels.

The Gymnasium is equipped with the following machineries:

1. Lateral pulley
2. Seated rowing pulley
3. Seated chest press
4. Wrist curl
5. Elliptical cross trainer
6. Abdominal crunch
7. Abdominal board
8. Rotary Torso
9. Seated Leg Press
10. Bench press machine.

Carom boards and chess boards are made available in the hostels.

An amount of Rs.150 /- each is collected from students as admission fee for using the gymnasium. There is no monthly subscription further.

Facilities are also available for practicing yoga in the hostels. For the Christian students, Holy mass is celebrated every day in the Mother Theresa Chapel. A Meditation Hall is set up for the members of other religions.

- **Computer facility including access to internet in hostels :**
  As a backup for the learning process having own laptop is mandatory .E-mail id and round the clock access to internet is available for all students in the hostels.

- **Facilities for medical emergencies:**
  There is a tie up with the Pushpagiri Medical College Hospital owned by the same management to get medical care for students at times of need. All medical emergencies are attended with maximum care.

- **Library in the hostels:**
  Separate library is not set up in the hostels, but the main library in the college campus is kept open till 9.45 pm for hostellers.

- **Internet and Wi-Fi facilities:**
  The Wi-Fi enabled internet connectivity is available in all hostels.

- **Recreational facilities with audio-visual equipments:**
  All the hostels are connected to view audiovisual recreational programmes aired from the main campus.

- **Available residential facility for the staff and occupancy :**
  Accommodation is available for the staff members either in the Administrative Block or in the hostels.

- **Constant supply of safe drinking water:**
  Uninterrupted supply of safe drinking water connections are set up in the main campus as well as in the hostels and guestrooms**.**

- **Security**:
  The entire campus and hostels are protected by round the clock security system and the security men are provided by the concerned agencies on contract basis.

.

4.1.6: What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The college conducts annual free medical check up for students and staff. In addition to this, the college has tie-up with Pushpagiri Medical College Tiruvalla, a sister concern under the same management. The medical officers from the Pushpagiri Medical College routinely conduct medical camp in the college campus .The students and staffs of the college are ensured medical care on and off the campus through this tie up.

4.1.7: Give details of the common facilities available on the campus spaces for special units like IQAC, Grievance Redressal unit, women's cell, counselling and carrier guidance placement unit, health centre, canteen recreational spaces for staff and students, safe drinking water facility, auditorium etc?

The college provides separate furnished rooms for the smooth functioning of the special units like IQAC. Grievance Rederessal Cell etc. The office of the IQAC is functioning in the main campus ensuring accessibility for the stakeholders in participating discussions on quality related aspects and to provide a common place for documentation and to enable the stakeholders to locate a particular document as and when required.(see Criterion VI for details) .

A full-fledged Career Guidance and Placement Cell is functioning in the main campus with a full time Placement Officer and an Assistant Placement Officer for co-ordinating the activities of career guidance and placement. (See Criterion V for details).

The college has a well-maintained canteen with modern amenities. Breakfast, lunch and refreshments are served in the clean and posh ambience of the Food Court.

Safe drinking water facility is available in each floor of the main campus and the Bio Sciences campus, hostels, Departments, administrative office and other identified points. The lobby in the main campus is earmarked as the common place for boys and the Conference hall is earmarked as the common room for girls. The auditorium is used for conducting seminars, conferences, arts festivals, cultural events, and other major functions.

4.2 Library as a Learning Resource

4.2.1: Does the library have an advisory committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student / user friendly?

Yes. The library of the college is known as MACFAST Library Information Centre (MLIC).

An Advisory Committee was constituted for the library.

Composition of the Library Committee

Chairman :

Rev.Fr. Pradeep Vazhatharamalayil (Principal)

Members:

- Rev.Fr. Sajan Plakkootathail (Manager)
- Mr. Christy Bastian (Administrator)
- Mr. Ligo Koshy(Head, Dept. of Management Studies)
- Mr. Tiji Thomas (Head,Dept. of Computer Applications)
- Mr. Biju Dharmapalan (Head, School of Bio-Sciences)
- Mr. Stephen James (Associate Prof. School of Bio-Sciences)
- Prof. Varghese Abraham (Co-ordinator,MAKS)
- Dr. Sanu Jacob (Co-ordinator,MII)
- Sr. Licy OSS (Librarian)
- Mahitha Dileep, (Asst. Librarian).

The significant initiatives implemented by the committee to render the library student/ user friendly are as follows:-

1) Assessment of the requirements of the books, journals etc. during the year by collecting the requisitions from each department.
2) Arrangement of book exhibitions in the campus by inviting leading publishers so that the faculty members and students can select the books according to their requirements.
3) Scrutinize the list of books selected by faculty members and students and the requisitions submitted by the Departments.
4) Placing the orders for the books, journals etc. and monitor the purchase procedures.
5) Assessment of the library facilities available and give suggestions in the area of improvements, if any, required.

6) Periodical evaluation of the utilization of the Library by students and faculty members.
7) Ten computers are provided for students in the library to make use of e-journals and one computer has OPAC (Online Public Access Catalogue) from where the students can access the catalogue and locate the books.
8) The campus is made Wi-Fi and e-journal package is made accessible from anywhere within the campus free of cost.

4.2.2: Provide details of the following

*** Total area of the library - 441 m^2**

*** Total seating capacity - 124**

*** Working Hours:**

Reference and Reading Room:

Monday to Friday : 8am –9.45 pm
Saturday : 8.30 am – 1 pm

Issue and Return of Books:

Monday & Tuesday : 8 am - 4.30 pm
Wednesday : 8 am - 4.30 pm (12.00pm-1.00pm)
Thursday : 8 am – 3 pm
Friday : 8 am - 4.30 pm
Saturday : 8.30 am – 1 pm

A notice board, showing the working hours is available at the entrance of the library.

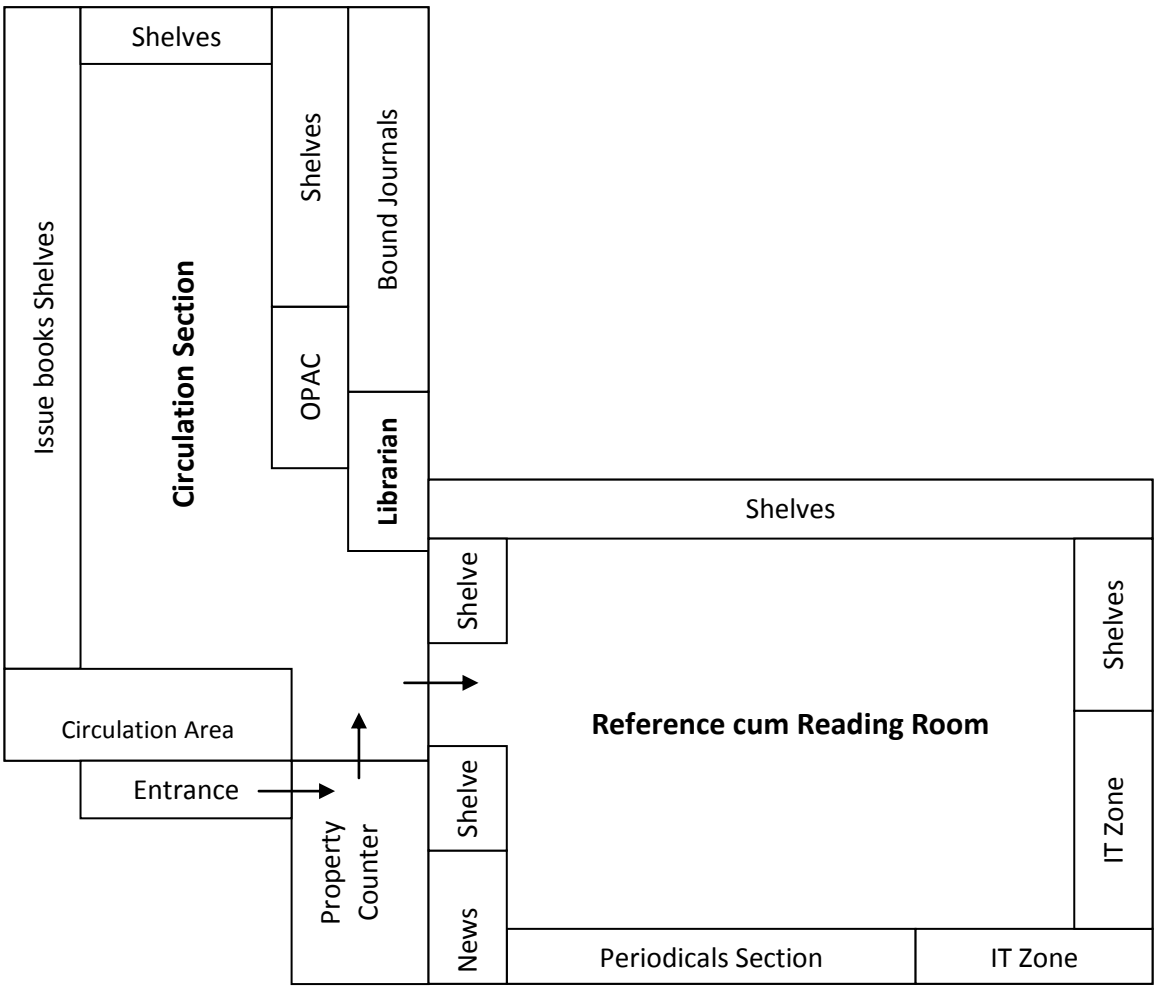


Fig. 2 Library layout

4.2.3: How does the library ensure purchase and use of current titles, print, e-journals and other reading materials? Specify the amount spend on procuring new books journals and e – resources during the last four years?

The purchase of books and subscriptions of journals including e-sources are maintained as per the requisitions received from different departments. The college ensures the

requirements of the students and faculty members while placing orders for procuring new books, journals and e-resources.

Table 4.2
Details of the Amount Spent on Procuring New Books, Journals and E-resources during the Last Four Years

Library Holdings	2010-2011		2011-2012		2012-2013		2013-2014	
	No.	Amount Rs.	No.	Amount Rs.	No	Amount Rs.	No.	Amount Rs.
Text Books	1785	9,25,803	720	8,40,460	728	5,27,223	875	12,66,044
Reference Books	1248		1434		562		1008	
Journals /Periodicals	180	83,984	180	91,905	180	89,805	180	81,068
E-resources	Nil	Nil	Nil	Nil	3	5,58,420	3	5,58,420

4.2.4.: Provide the details on the ICT and other tools deployed to provide maximum axis to the library collection.

* **OPAC:**
The MLIC provide this service to all users. Online software Koha is installed in April 2014.

* **Electronic Resource Management package for e- journals**
ProQuest & Jgate Management are the two e-journals subscribed by the library for the MBA students and IEEE ASP (Institute of Electrical and Electronics Engineers) is an e-journal subscribed for MCA students. Those e-journals are helpful to get awareness about the

development of a specific field. The journals can access from all over the campus of MACFAST through Wi-Fi and LAN network.

***Federated searching tools to search articles in multiple database:**

The college library is linked to the websites of Mahatma Gandhi University, Kottayam and AICTE through the software 'Koha' so that the students and faculty members can get easy access to information from these sites. Access is possible to these sites from www.library.macfast.org.

***Library website:**

library@macfast.org is the official website of MLIC. All the activities of MLIC are added in this website. Updating of the website is done every week.

***In-house / remote access to e-publications:**

The college subscribes e-publications and provides round the clock accessibility to the students and faculty members and research scholars.

***Library automation:**

The Library is fully computerized and using 'Koha', an open source Library Management software. Classification and Cataloguing of books are on the basis of DDC 22nd Ed., and AACR-II.

***Total number of computers for public access:**

There are 11 PCs installed in the library for public access. 2 other PCs are also available for use of the library staff.

***Total number of printers for public access:**

The library has a large sized multi compact machine with provisions for Photostat, Print, Scanning and Faxing.

***Internet band width / speed □ 2mbps□ 10 mbps □ gb (GB):**

The college is a Wi-Fi campus with 12 Mbps leased line internet connection with Class- C private address network, connected to the desktops and other hand held devises.

***Institutional Repository**

The college is publishing aquarterly journal - JSTM (Journal of Science Technology and Management). It is a multi disciplinary Journal with ISSN No: 0974-8334. Selected articles and research papers on Management, Computer Applications, Biosciences and related areas are published in the Journal.

The college has also published six books.

Table 4.3
Details of Books Published by MACFAT Publications

Name of the Author	Title	Year of Publication
Dr. Mathew Illathuparampil	Business Ethics	2005
	Indian Ethos and Management Values	2011
	Business Ethics and Corporate Governance	2013
Rev. Dr. Abraham Mulamoottil	Puthiya Veenjum Puthiya Kuppiyum	2011

***Content management system for e – learning:**

- ✓ **E-books Archive**: Books relating to Computer Sciences, Management, Biosciences and other general books are housed in the electronic format for easy reference.
- ✓ **Study Archive**: The faculty members can upload study materials in the form of notes, PPTs, abstracts etc. in the study archive. The students are using the study archive as part of their learning exercise.

***Participation in Resource sharing networks / consortia (like INFLIBIT)**

Library is a part of resource sharing network. The college Library is one of the members of DELNET (Developing Library Network) which promote resource sharing among libraries through the development of library networks.

MACFAST Library Information Centre

4.2.5: Provide details on the following items:

Average number of walk-ins: 160

Average number of books issued/returned: 48 books per day

Ratio of library books to students enrolled: 1:50

***Average number of books added during the last 3 years* :** 2090 books

***Average number of login to OPAC*:** 10

Average number of login to e-resources:More than 90 per cent the students and faculty members

Average number of e-resources downloaded / printed:More than 90 per cent of the Students are availing this facility

Number of information literacy trainings organized:

***Details of "weeding out" of books and other materials**:* A separate space is provided in the library for weeded out books and other materials labeled as 'Old Collections'.

4.2.6 Give details of the specialized services provided by the library :

*Manuscripts:

Manuscripts are not available at present. .

*Reference:

A Reference section is earmarked for the users of the Library. The collections of print and electronic sources for references include general references and other relevant materials in many cognate and interdisciplinary areas. Services for reference over phone are available in the weekdays from 8.00am to 9.45pm. On Saturdays, this service is provided from 8.30am to1.00 pm. The telephone No. is 91-**469-2730305.**

*Reprography

The library provides facilities for photocopying, scanning and printing like reprographic services are free for faculty members and for the students, at nominal rate during the normal working hours of the library.

*Book Bank Scheme:

Under the Book Bank Scheme**,** prescribedtexts are issued to the MBA and MCA students at the beginning of each semester. They are eligible to keep the books till the end of the semester.But they should return these books before the commencement of the next semester.

*Current awareness service:

To give awareness about the current trends, a display rack is placed at the entrance of the library for exhibiting the new arrivals.

*Newspaper clippings

A large collection of newspaper clippings, relating to relevant areas published in different news papers from 2001 onwards are kept in the library under the label "News Paper Clippings". News pertaining to the College that appears in various newspapers and other publications are kept orderly and according to its relevance and mailed to all Faculty members.

The bounded volume of various journals published since 2001 and Question Papers of previous University Examinations of the different programmes offered by the college along with its syllabus are also made available in the library.

ILL (Inter Library Loan Service) **:** NA

**** Information Deployment and Notification*** **:** Email based alerts are provided regarding new arrivals and a display shelf for current arrivals is prominently placed in the library

**** Download*** **:** Available

**** Printing*** **:** Available

**** Reading list/ Bibliography compilation*** **:** Available

**** In-house / remote access to e-resources:***

The college library consists of a digital library wing which enables greater access to wide range of well-organized data in digital form. The online data base subscribed and web based online catalogue is available in the internet. Students can access the online database in entire college network. The online catalogue can be searched from the url:www.koha.macfast.co.in . It enables searching, retrieval and processing of information user-friendly and easy**.** The digital library can be accessed through intranet/internet by logging in www.library.macfast.org. E-journal and online catalogue is available in the library website and in college website. Faculty members can access online database from anywhere. The access to online database for students is IP based and for faculty members it is IP based and username- password mode.

**** User orientation and awareness:***

The library has the practice of providing orientation to the newly admittedstudents for familiarizing them the functions of the library and to have a user-friendly access to library resources.

Recently published literature in the areas of specialization, with their full bibliographic particulars will be available in the library website on the next day of the arrival. Email

based alerts of new additions and list of latest articles in the journals are also available in the website.

**** Assistance in searching Database:***

The library has a well-knit network system for searching, lending, reserving, appending etc. The information is available from the MACFAST website also. During the orientation of students, special training is provided in searching e-journal database and availing of online catalogue. On request support services by library staff also given to individual students.

****INFLIBIT / IUC facilities:***

As a part of exchangethe software use, the open facility has been upgraded from SOUL to Koha.

4.2.7 Enumerate the support provided by the library staff to the students and teachers of the college.

The library staff on-duty is expected to provide adequate support to the visitors. The following services are available:

- Reference assistance
- Orientation process for new students
- Guided library tour
- Email based current content information

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

The ramp facility is available to support the physically challenged persons who visit the library. As per request, services of an attendant will be provided to them.

4.2.9 Does the library get the feedback from its users? If yes, how is it analysed and used for improving the library services (What strategies are developed by the

library to collect feedback from users. How is the feedback analysed and used for further improvement of the library services?

Yes, the library has a mechanism for getting the feedback from its users. A pro forma is generally used for getting the feedback. Visitors of the library may use the complaints/suggestion box. They can register their feedbacks through the library website LSC (Library Suggestion Centre). The responses collected are analyzed on a five-point scale- "Excellent", "Fair", "Average", "Poor" and "Very Poor" and the factors rated are environment, facilities, books & periodicals and staff behaviour. The results of the analysis are used as corrective measures and for, equipping the library and thus improve the services provided by the library.

4.3IT Infrastructure:

4.3.1 Give details on the computing facility available (hardware and software) at the institution.

Number of computers with configuration (provide actual number with exact configuration of each available system:

Table 4.4
Details of Computers and Configurations in the Computer Lab

No of Computers	Processor	HDD	RAM	Monitor	Cabinet	Keyboard and Mouse
300	Intel Dualcore E5700	80GB	2GB	Acer 15" LCD	Intex	Logitech

- **Computer- student ratio:** 2:1
- **Stand alone facility: We are providing UPS and solar power backups.**
- **LAN facility:**

  100mbps LAN interconnectivity through four Class- C private address networks, connected to the desktops, laptops and other hand held devices.

- **Licensed software:**

  The following licensed softwares are available

Windows 8

Microsoft Office 2013

Fore front endpoint protection

Windows Server 2012

- **Number of nods/computers with internet facility**

  The Internet facility is provided to all 300 nodes throughout the campus and wireless connectivity is made available through 40 access points across the college campus.

Table 4.5
Details of Server and Firewall

Servers:				
Local Website Server	Library Server	Attendance Management Server	Aptitude Server	Dspace Server
Firewall Hardware:				
Cyberoam UTM 200iNG				

- **Any other:** Nil

4.3.2 Details on the computer and internet facility made available to the faculty and students on the campus and off –campus?

On Campus

- ✓ The college provides PCs for the different departments and laptops as per the requirements of the faculty members.
- ✓ Both faculty members and students are provided with high speed internet connectivity of 12mbps through wired and wireless networks.
- ✓ Unified Threat Management is obtained by the hardware firewall- Cyberoam UTM 200iNG which prevents intrusions, malware, spams and virus threats.
- ✓ All the facilities related to library and skill development techniques can be accessed through intra-network.

OFF campus

- ✓ Library catalog services are made available through college and library websites.
- ✓ Aptitude development server is also made available for students.
- ✓ Faculty-Student interactions regarding their academic matters is maintained using study archives.

MACFAST Computer Lab

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

Plans

- Upgrading servers to blade servers.
- Refurbishing of 100mbps LAN connection to 1000mbps CAT-6 networks.
- Increasing the number of PCs to obtain a computer-student ratio of 1:1.
- Shifting over to Open Source.
- Air conditioned Computer lab.
- Provide faculty video tutorials for outside students and act as a knowledge hub.

Strategies

- Upgrading the ICT infrastructure state of the art to keep up the pace
- Upgrading the licensed software as per the guidelines from AICTE/MG university
- Upgrading the internet security
- Upgrading the hardware components upon new version arrivals
- To conduct feasibility analysis on the above points on need basis

4.3.4: Provide details on the provisions made in the annual budget for procurement, upgradation, deployment and maintenance of the computers and their accessories in the institution (year-wise for last four years).

Table 4.6
Annual Budget Provisions for Purchase
Upgradation, Deployment and Maintenance of Computers and Accessories

Year	Budget Allocation (Rs)	Actual Utilization (Rs)
2010-2011	100,000	97,871
2012-2013	30,00,000	2,824,221
2012-2013	100,000	26,000
2013-2014	100,000	0.00

4.3.5: How does the institution facilitates extensive use of ICT resources including development and use of computer-aided technology/learning materials by its staff and students?

MACFAST operates 3 computer Lab's on campus

- General Computer Lab
- Multimedia Lab
- Computer Lab in the Library

The College facilitates the use of its ICT resources for video conferencing mainly for interviews, meetings of the Governing Board, Academic Council etc., and power point presentations of seminars by faculty members and students. It also provides access to e-resources like e-journals, study archive, etc. through library website.

4.3.6 Elaborate using suitable examples on how the learning activities and technologies deployed (access to on-line teaching-learning resources, independent learning,ICT enabled class rooms/learning spaces etc.)by the institution place the student at the centre of teaching- learning process and render the role of a facilitator for the teacher.

- **Access to online teaching-learning resources:**
  MACFAST has provided opportunity for students to access e-journal.
  It can be accessed by different categories like Pro Quest, IEEE, J-Gate. It can be reached through the library website by entering into library.macfast.org and clicking on the e-journal link.

- **Access to independent learning:**
  The college provides study archive where all subject related materials like syllabus, lesson plan, lecture notes, power point presentations, assignments, seminar topics and question bank are uploaded.
  It can be accessed through the college website, by clicking on the portal link. Selection of the study archive link can be done from the drop down list .. The study archive materials are periodically updated by the concerned faculty members. Students can access this only through their personalized MACFAST login.

- **ICT enabled classrooms/learning spaces:**

- PoS(Point of Study)Internet Connectivity – Hi-speed Internet connectivity is provided to the students at their point of study.
- PowerPoint presentation – Each classroom is provided with high quality projectors for an interactive teaching experience.
- Library – Catalog services can be accessed by the students at their study table which will enable them to find out the required titles, if available at the library.
- Aptitude Development Server – One of the innovations of the college is the implementation of ADS. Students can train themselves in various aptitude tests available and enhance their employability. This can be accessed by students both on and off campus.

4.3.7 Does the institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so what are the services availed of?

The institution does not avail this facility.

4.4 Maintenance of Campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and up keep of the following facilities (substantiate your statements by providing details of budget allocated during last four years.)?

By considering various stakeholders, their types, needs and headcount every year the management conducts budget meetings and prepares the annual budget.

Table 4.7
Budget Allocation and Utilization for the Maintenance and Upkeep of the Campus Facilities

(All figures are in Rs)

	2010-2011		2011-2012		2012-2013		2013-2014	
Items	Budget Allocation	Utilization	Budget Allocation	Utilization	Budget Allocation	Utilization	Budget Allocation	Utilization
Buildings	15000000	12500026	10000000	9883884	10000000	9704367	5000000	4041252
Furniture	1000000	783875	500000	301860	700000	617336	300000	244148
Equipment	300000	217378	300000	295243	300000	244374	700000	735932

Computer	100000	97871	3000000	2824221	100000	26000	100000	0
Vehicle	3000000	2868293	0	0	1500000	1221648	2000000	1807973
Others								
Air Condioner	30000	32000	0	0	75000	78950	75000	75000
Bio Gas Plant	0	0	0	0	0	0	4500000	429156
Bicycle	0	0	10000	9600	0	0	0	0
Camera	0	0	0	0	50000	59830	0	0
C.C Camera	0	0	0	0	450000	451732	0	0
Green &Clean Campus	25000	17860	0	0	0	0	0	0
Electrical Installation	600000	648485	30000	31860	10000	8750	10000	0
Land	0	0	0	0	10000000	8660013	0	0
Liberary Books	1000000	937970	1000000	899219	500000	533586	1000000	788782
Lighting Arrester	0	0	0	0	0	0	100000	86325
Mobile Phone	10000	7900	0	0	0	0	5000	4014
Pumpset	15000	14045	20000	18400	0	0	20000	19994
Play Ground	0	0	0	0	0	0	500000	348850
Refrigerator	0	0	0	0	50000	42900	0	0
Scanner	0	0	0	0	0	0	4000	3550
Solar Power Plant	0	0	6000000	5743733	500000	274270	0	0
Sound System	10000	8670		57353	200000	189672	0	0
Television	0	0	0	0	20000	20750	0	0
Transformer	700000	648485	150000	135127	0	0	0	0
Transformer Installation	0	0	200000	7029	200000	151583	0	0
UPS & Battery	0	0	0	0	100000	98700	150000	149000
Utensils	1000000	927136	0	0	0	0	200000	213090
Water Cooler	0	0	20000	19999	0	0	0	0
	22790000	**19709994**	**21230000**	**20227528**	**24755000**	**22384461**	**14664000**	**8947066**

4.4.2 What are the institutional mechanisms for maintenance and up keep of the infrastructure facilities and equipments of the college?

A supervisor is appointed on permanent basis, for overseeing maintenance and repair works of buildings and infrastructure.
An electrician is appointed for carrying out maintenance and repairs of electrical gadgets. So also a plumber is appointed on permanent basis for carrying out and maintaining plumbing works.
The I.T. Officer looks after the maintenance of the computers and accessories.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/instruments?

The calibration and precision measures for the equipment/instruments are performed on need basis and according to the frequency signed in AMC agreement for electrical items.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipments (voltage fluctuations, constant supply of water etc.)?

UPS support is available in the server room and computer lab. 30 KV solar panels are installed in the campus which provides uninterrupted power supply.
Sufficient number of water tanks / wells are available in the campus for ensuring sufficient supply of water for the college campus and hostels. Safe drinking water facility also is also provided.
The I.T. Officer, the electrician and the plumber conducts frequent inspections and ensures proper functioning of all the equipments and facilities.

Any other relevant information regarding infrastructure and Learning resources which the college would like to include.

- The college provides transport facilities to the students for attending seminars, conferences, factory visits and other programmes related to MII by operating its own bus.

- The College is planning to construct a new Library block for the students under the MAKS Programme. It is expected to be completed by the year 2017.

- The facility of the lift is provided in the St. Thomas Men's hostel. Provisions for this facility are already given in the main campus and it will be installed within a short period.

CRITERION V-STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes. The college publishes updatedprospectus and handbook every year in print and digital form. The prospectus gives information about the various courses offered,eligibility criteria for admission,hostel facilities, scholarships etc. The hand book publishes the rules and regulations to be followed by the students in the campus and hostels,academiccalendar, details of co – curricular and extracurricular activities, the mode of functioning of various committees like Anti -Ragging Committee, Hostel Committee, Ethics Committee, Grievance Redresses Cell, Women's Redresses Cell etc. and the contact details of the Principal, Administrator, Administrative Office, Faculty Members and Hostel Wardens.

The handbook contains detailed information about:

- History of the college
- Governing Board, Academic Council and Advisory board
- Courses offered
- Campus Etiquette
- Relationships
- Library
- Computer lab
- Bioscience Laboratory
- Kerala prohibition of Ragging Act 1998
- Anti Ragging Committee
- Grievance Redresses Mechanism
- Ethics Committee
- Surprise Inspection Squad
- Hostel facilities
- Discipline Committee
- Food committee
- Faculty details (Department wise)

- Academic Calendar
- MBA Plus certification
- NSS
- MACFAST Industry Interface
- Clubs/Associations
- Earn While Learn Initiatives
- Green Campus
- MACFAST Knowledge Scheme (MAKS)
- Radio MACFAST 90.4
- MACFAST Technologies
- Innovations and Best Practices

The college also publishes the placement brochure (department-wise),which contains the details of the students who are already placed and the prospective students for better placements. The commitment and accountability of the college is explained well to the students, parents and other stake holders through the corporate CD, which is updated every year. The information is also published through the college websitewww.macfast.org.

5.1.2 Specify the type, number and amount of institutional scholarships / freeships givento the students during the last four years and whether the financial aid was available anddisbursed on time?

The management provides scholarships to all the meritorious students who have secured university ranks in the qualifying examination and also to students from economically weaker sections.

Table 5.1
Details of Scholarships Given to the Students During the Last Four Years

Sl. No.	Name of the Scholarship	2010-2011		2011-2012		2012-2013		2013-2014	
		No. of students	Amount Rs.	No. of students	Amount Rs.	No. of students	Amount Rs.	No. of students	Amount Rs.
	Merit cum means Scholarship	1	20,000	1	25000	0	0	5	80000

	Scholarship for SC/ST students	0	0	13	1255000	9	96000	19	1706000
	MACFAST Scholarship for Malankara Catholic Students	10	508000	18	605625	16	448500	15	574800
	MACFAST Scholarship for economically weaker students	1	3125	2	3125	0	0	1	149000
	MACFAST merit Scholarship	8	128125	8	141500	2	60000	Nil	Nil
Total			6592500		2092750		1468500		2509800

5.1.3 What percentages of students receive financial assistance from State Government,Central Government and other national agencies?

About 10% of the students receive scholarships from state, central government and other national agencies.

5.1.4 What are the specific support services/facilities available for:

- ✓ The Students who are from SC/ST, OBC and economically weaker sections
- ✓ The students with physical disabilities
- ✓ The overseas students
- ✓ The students who participate in various competitions/National and International
- ✓ Medical assistance to students: health center, health insurance etc.
- ✓ Organizing coaching classes for competitive exams
- ✓ Skill development (spoken English, computer literacy, etc.)
- ✓ Support for "slow learners"
- ✓ Exposures of students to other institution of higher learning/ corporate/business House etc.
- ✓ Publication of student magazines

The institution is committed to provide the students every possible help including financial support for their academic requirements and career growth.

- ✓ **Students from SC/ST, OBC and economically weaker sections:**
  The students from SC/ST, OBC and economically weaker sections are given admission as per the rules and regulations of the Mahatma Gandhi University. In addition to the Central Govt., State Govt., and the University sponsored scholarships and concessions, the college offers support services in the form of concessions in tuition feeand free hostel accommodation to the above mentioned category.

- ✓ **Students with physical disabilities:**
  They are provided with comfortable seating arrangements; comfortable furniture and assistance of supporting staff in the classes. For the hostellers among them are allotted withrooms in the ground floor. The services of the supporting staffare provided, both in the campus and hostels, if required. Examinations for these students are conducted as per the guidelines of the university affiliated.

- ✓ **Overseas students:**
  At present no overseas students are studying in the college. However, there are students from outside the state and are given special counseling and mentoringto overcome cultural barriers. In the hostels they are provided special dishes to which they are familiar with.

- ✓ **Students to participate in various competitions/National and International/ Organizing coaching classes for competitive exams:**
  - Every year students are provided financial assistance to attend conferences organized by various national institutions. Severalstudents of MACFAST have utilized this opportunity for attending and presenting papers in various National/International conferences organized by CCMB, Hyderabad, SRM Chennai, NIMHANS, TBGRI, CFTRI etc. The students are also encouraged to participate in various National level management fests, IT fests and quizzes, business plan competitionsand debate competitions.
  - The college has the membership in various scientific and academic bodies like the Computer Society of India (CSI), Association of Food Technologists (India), All India Management Association (AIMA),Kerala Management Association (KMA), Confederation of Indian Industries (CII), Kerala Mathematical Association (KMA) and Central Travancore Management Association (CTMA). The students are actively participating in the activities of these organizations. The student chapters of KMA and CSI are functioning in the college. The Computer Society of India has given the certificate of Institutional Accreditation to the CSI student branch of this college

(Institution membership no: I00568)to engage in knowledge sharing, knowledge promotion, technology programmes and skill development and upgradation.

- Training programs for Soft skills developments are offered to all students. For this, professional trainers from outside are invited. Lifeskills training programs are also organized for the students and certificates are awarded to them on successful completion of the programme. (For example: Programs organized by FACE, YES+)
- The services of Professional trainers are also used to prepare the students for attending Bank aptitude tests, personnel interviews and Group Discussions (For example: Aptitude test training provided by SMART Aptitude Trainers, Chennai)
- MACFAST Industry Interface (MII)' is a scheduled program for every semesterin which the studentsare taken to various multinational/national companies/organizations like Reserve Bank of India, Cognizant Technology Solutions, UST Global, GeojitComtrade Ltd, Central Institute of Fisheries Technology (CIFT) Business Incubation. The students of MACFAST are getting opportunities to interact with the company officials and experiencetheir work culture.
- The students are given opportunity to acquaint with live online commodity trading terminals inside the campus. Every Wednesday afternoon, three hours are dedicated for Industry-Academia Interaction in which various industry experts visit the College to interact with the students.

The Department of Management Studies organized OEL (Out Bound Experiential Learning) programme at Suryanelli, Kerala Stateand PGL (Personnel Growth Lab)programme at Peechi, Kerala State, during 2013 and the Department of Computer Applications organizes Dot net, JAVA,PHP, Photoshop and FLASH training programmes. School of Biosciences also organizes training programmes on Hazard Analysis Critical Control Point (HACCP). The college also encourages the students to participate in university arts and sports competitions and various other competitions outside the college.

✓ **Medical assistance to students: health centre, health insurance etc.:**
The college takes special care on health and hygiene of the students, teaching faculty and non teaching staff. The college organizesfree checkup camps with the support ofPushpagiriMedical College, Tiruvalla. First aid boxes are provided in all the laboratories and a separate room is maintained to give medical attention to the sick students. Special medical care is given to hostel students by the hostel warden. Drinking water facilities are also arranged at identified spots.

✓ **Organizing coaching classes for competitive exams.**

The college offers free CSIR/GATE and ARS coaching to M.Sc. students and CMAT to prospective MBA candidates with a view to equip them for appearing national level competitive examinations. The College is also planning to conduct classes for NET and IBPS examinations free of cost.

- ✓ **Skill development (Spoken English, Personality Development Program, TechnicalCertifications etc.)**

The college on a regular basis conducts Personality Development Programmes intending to develop the IQ leveland communication skills of the students. The college also invites Guest speakers from the industry and research institutions, with a view to acquaint the students with regional and global employment opportunities. Taking into consideration the rural background of certain students, the college arranges Spoken English classes.Every day,news analysis session under the supervision of a faculty member is made compulsory for all thestudents from 8.30 am to 9.00 am. Online tests, based on the news from selectednews papers namely The Hindu, Deccan Chronicle and Economic Times are conducted with a view of assessingstudents' proficiency in English language, comprehension skills and general awareness. In addition to this, the college has initiated a programme, '*Let's Talk English'*in association with Radio MACFAST 90.4 which also helps improving the communication skills of students and the broadcasting is at 5.30 p.m.

In addition to this, MII programmes are orginsed for the students to get them familiarized with the industries.

Table 5.1
Details of the Institutions Visited by the Students

Year	Courses	Name of the Institutions	Name of Companies
2008-2009	M.Sc.	NIPGRI Delhi, Delhi University South Campus, JNU, Shimla-Manali,Rohtang Pass IIIT Allahabad	JIVE,Muvattupuzha
	MBA	Techno park business incubation facility	TCS, Infosys, UST Global, English Indian clays Ltd,HLL
	MCA	Techno Park Business Incubation	

		Facility	U.S.Technologies, SunTech, Arackal Solutions
2009-2010	M.Sc.	IIIT Allahabad, FRI, WII, Dehradun, NIPGR Delhi, JNU, IIT Madras	JIVE, Muvattupuzha
	MBA	Techno Park Business Incubation Facility	TCS, Infosys,UST Global, English Indian clays Ltd,HLL
	MCA	Techno Park Business Incubation Facility	TechnoparkTrivandrum,FaithInfotech
2010-2011	M.Sc.	KFRI, Peechi, Pastuer Institute Coonur, Botanical Garden, Ooty SreeChitraThirunal Institute of Medical Sciences, Trivandrum TBGRI, Palode Rajiv Gandhi Centre for Biotechnology, Trivandrum	MILMA, AAVIN Milk Ooty
	MBA	Techno park business incubation facility	TCS, Infosys,UST Global, English Indian clays Ltd,HLL
2012-2013	MCA	Techno Park Business Incubation Facility	Technopark Trivandrum, Faith Infotech

	MBA	CIFT, RBI	CTS, IBS, SudChemie, UST Global, GeojithComtrade, Mysore Silk,Mysoresandal, Wonderla,DP World,HLL
	MCA	Techno Park Business Incubation Facility	Technopark Trivandrum, Faith Infotech
2013-2014	MBA	CIFT, RBI	CTS, IBS, SudChemie, UST Global, GeojithComtrade, HLL, Mysore Sik,Mysoresandal, Wonderland, Banglore.
	M.Sc.	SreeChitraThirunal Institute of Medical Sciences, Trivandrum TBGRI, Palode Rajiv Gandhi Centre for Biotechnology Trivandrum, NIPER, Hyderabad,	Aavin, Ooty, UPASI Coonor

		National Institute for Interdisciplinary Science and Technology *(*NIIST*)*,Trivandrum	
	MCA	Techno Park Business Incubation Facility	Technopark, Trivandrum, Faith Infotech
2014-2015	MBA	Taylor University, Malaysia	CIFT, RBI, Chinese Newspaper factory -Sin chew JitPoh, Industrial Visit To North Port Royal Selangor, Beryl's chocolate factory CTS, IBS, SudChemie, UST Global
	MCA	Techno Park Business Incubation Facility	Technopark, Trivandrum, Faith Infotech
	M.Sc.	IISc,NCBS,CFTRI,DFRL Zoological Garden Mysore, NIMHANS Bangalore	Aavin Milk, Ooty, Mother Diary, Bangalore; Coca cola Bangalore, Nirapara, Kalady

- ✓ **Support for "slow learners"**

  The institution has a mechanism to provide additional support for slow learners. The class in charge of every department is given the responsibility to identify slow learners for each class based on the performance of the students in preparing assignments, presentations, internal examinations etc. Remedial coaching classes are arranged for supporting the slow learners.

- ✓ **Publication of student magazines.**
  The college encourages the students to publish articles in the magazines published by student unions and various clubs. The college union publishes a magazine titled"Reflections",Club *de* MAC publishes its magazine"Moogle" and the NSS Unit publishes the magazine titled "Fenestro" with the articles contributed by the students.
  The students are also encouraged to publish the articles in the peer reviewed"Journal of Science Technology and Management" published by the college.
  Guidance is given to the students by the faculty members in writing articles for publications.

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills,among the students and the impact of the efforts.

An Entrepreneurial Development club is functioning in the college to facilitate the development of entrepreneurial skills among the students. The club organizesorientation programmesat frequent intervals to inculcate interest in entrepreneurship. Among the various prominent personalities who delivered the sessions include the former Union Minister of HRD, Govt.of India Dr. SashiTharoor, Mr. ShyamSreenivasan, Managing Director and CEO, Federal Bank Limited, and Mr. SuhasGopinath CEO, Global Inc.
The pilot plant of Bioscience frequently organizes EDP in food processing and packaging in association with DIC Pathanamthitta and the Business Incubation Center of the college organizes programmes in association with the District Industries Center about the formalities for commencement of startup companies.

The Initiatives taken by the students are:

- Developed an android application for Radio MACFAST 90.4 to listen the radio from any android mobile phone by Mr. Anish Aravind (2011-2014 MCA).
- Developed an android application for MACFAST by Mr. Chintu Viju Mathew (2013 – 2016 MCA).
- Some of the students have started their own business ventures. The prominent among them are:
  a. Mr. Anish Krishnan, CEO, BGI Technologies, Technopark Trivandrum (MCA)
  b. Mr.Habib Rehman, CEO, Summer Minds" Cochin (2003-2006, MCA)
  c. Mr.Sanju S Nair, CEO, Story Box Communications Thrissur
  d. Mr. Dijo Antony,
  e. Mr. Sona, Celestium

f. Mr. Dileep Koshy, CEO, Red Letters Solutions Pvt. Ltd, (2008-2010, MBA)
g. Mr. Don Basil Kurien, M.D, Modern Bakers, Rajakumari (2007-2009, M. Sc)

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

The policy of the college is to promote participation of the students in extracurricular activities.

Students are encouraged to attend various intercollegiate competitions-both arts and sports, organized by the University and other institutions. These students are groomed under the guidance of a faculty member. They are also supported financially by the college by meeting travel expenses and registration fees. These students are also given permission to take special leave and extra classes are provided to them to compensate the classes missed.

Opportunities are also given to the students for co-coordinating prestigious National level programmes of the college such as Biospectrum, Tantra, Techniitrous and various other national/international conferences, events and competitions.

To promote arts and sports the college also organizesannual athletic meet and arts festival. The college also organizes inter/intra departmental debate competitions, quiz competitions, food fests etc.

5.1.7 Enumerating on the support and guidance provided to the students in preparingfor the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT /GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

At present, programme for competitive examinations are not offered by the college as on organized set up. However the faculty members in the concerned subjects are giving guidance for appearing for competitive examinationsUGC- CSIR,GATE and ARS examinations. Two students from the School of Biosciences Mr. AjithAshokan and Mr.

Rixon Raj secured 28th Rank and 58th rank respectively in the UGC-CSIR examination during 2013-2014. Mr. Harinandanan P. V qualified GATE Examination 2012, and Mr. Satheesh qualified GATE Examination 2008.

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

The college is providing counseling services to the students.While counseling services in academic matters are done by the concerned faculty members, personal and psycho-social counseling are provided by professionalcounselors from outside sources at the beginning of each semester.

As part of the mentoring exercise initiated by the college, each faculty member is allotted with a group of 10 students. The students are allowed to meet the concerned faculty member and seek advices as and when required. Every month two sessions are allotted for mentoring/counseling.

5.1.9 Does the institution have a structured mechanism for career guidance and Placement of its students? If 'yes', detail on the services provided to help students to identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

The college has a full time Placement Office led by the placement officer to undertake career guidance and placement related activities. A 'Placement Committee' which consists of students and faculty members is also functioning in the college. The committee organizes placement trainingprogrammes at periodical intervals andplacement opportunities available in the respective fields are informed to the concerned students. The notifications of various government and non-government organizations are exhibited in the notice board and also communicated to the students through e-mail .The placement committee helps the students in the preparation of bio-data and filling of application forms.The placement cell of the college invites many reputed companies for campus recruitment. Thestudentsare attending the placement drives conducted at other institutions also.

The major recruiters who have visited campus during the last four years include,

1. Cool Minds Technologies Pvt. Ltd, Infopark, Cochin

2. UST Global, Technopark ,Trivandrum
3. South Indian Bank Limited
4. Tata Consultancy Services Ltd., Technopark ,Trivandrum
5. IBS Software Services Pvt. Ltd., Technopark ,Trivandrum
6. Wipro Limited,Cochin
7. Royal Bank of Scotland, Chennai
8. New Age Sys Solutions Pvt. Ltd.
9. Federal Bank Limited
10. Ernst & Young, Cochin
11. R. R. Donelly India Outsource Pvt. Ltd.
12. TNG icube Technology Resources India Pvt. Ltd.
13. Cognizant Technology Solutions, Cochin
14. ADECCO India Pvt. Ltd.
15. ACS of India Pvt. Ltd.
16. Malayala Manorama Co Ltd., Kottayam
17. Klynveld Peat Marvick Goerdeler (KPMG),Cochin
18. Amalgam Speciality Foods Pvt. Ltd.
19. Allianz Cornhill Information Pvt. Ltd.

Table 5.2
Details of Students Selected through Campus Interviews

Year	% of students selected
2010-2011	59
2011-2012	63.5
2012-2013	64.3
2013-2014	65.8

5.1.10 Does the institution have a student Grievance Redresses Cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes, the Institution has a 'Student Grievance Redresses' cell. Grievance Redresses Cell actively interacts with the students to help them sort out their grievances. It attends to both registered and unregistered grievances of the students. The members are:

1. Mr.Christy Bastian, Administrator (Chairman)
2. Mr.Tiji Thomas, HOD, Dept. of Computer Applications (Member)
3. Mr. Sudeep B Chandramana, Dept. of Management Studies (Member)
4. Ms.PhijoCherickal, Dept. of Computer Applications (Member)

The students can either drop their grievances in the suggestion box or report the issues to the faculty member who is in charge of the class or directly to the Principal. The students can raise their grievances in the meeting of the student council also. The practice of the college is to settle the grievances as and when it is reported.

Grievances addressed:

On the basis of the grievances reported by the students, the following actions were taken.

- ✓ Provided improved Wi Fi Internet facility in thehostel.
- ✓ Fixed suggestion boxes in different places.
- ✓ Made improvements in hostel facilities.
- ✓ Installed water purifiers in different points of the campus and hostels.
- ✓ Provided 24 hour back up of electricity in case of power failure.
- ✓ Special coaching for communication and soft skills.
- ✓ Improvement in the microbiology laboratory and computer lab.

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

A Women Cell consisting of four members with Dr Maya Subrahmonias the chairperson has constituted to take all necessary measures to ensure the safety and the dignity of the female students. The members of the cell include lady teachers and warden of the ladies hostel.

5.1.12 Is there an anti-ragging committee? How many instances (if any) have beenreported during the last four years and what action has been taken on these?

Yes. The college has constituted an Anti-ragging Committee and Anti-ragging Squads. The Anti-ragging committee meets immediatelybefore the commencement of the first year/semester classesand gets an Affidavit signed by each student and countersigned by their parents.The Principal clearly communicates to the senior students about the consequence of ragging as per the government rules and regulations and sensitize them on the need for a harmonious relationship with the juniors.

The Anti-ragging Squad I & II are working under the overall guidance of the Anti-ragging Committee.

Composition ofAntiRagging Committee:

1. Rev.Fr.Pradeep Vazhatharamalayil, Principal- Chairman
2. Mr.Christy Bastian, Administrator- Vice Chairman
3. The Tahsildar, Tiruvalla- Member
4. The Circle Inspector of Police, Tiruvalla- Member
5. Mr. Varghese Abraham, Dept. of Management Studie - Member
6. Mr. Sudeep B. Chandramana, Dept. of Management Studies- Member
7. Dr. Jeemon Joseph, Dept.of Management Studies- Member
8. Mr.Ajai Krishnan, Dept.of Management Studies- Member
9. Dr. Ashalakshmi R.K, Dept.of Management Studies- Member
10. Mr.Tiji Thomas, Head, Dept. of Computer Applications- Member
11. Mr. Ashokraj R, Dept.of Computer Applications- Member
12. Mr. Deepesh A, Dept.of Computer Applications- Member
13. Ms. PhijoCherickal, Dept.of Computer Applications- Member
14. Mr.Stephen James, Dept.of Computer Applications: Member
15. Mr.BijuDharmapalan, School of Biosciences- Member
16. Ms.Treesa Varghese, School of Biosciences- Member

Antiragging Squad – I

Members:

1. Mr. Biju Dharmapalan, School of Biosciences (Leader)
2. Mr. Stephen James, Dept. of Computer Applications- Member
3. Mr. Shibu Itty Mathew, Dept. of Management Studies- Member
4. Mr. Ajai Krishnan, Dept. of Management Studies- Member

Anti-Ragging Squad – II

Members:

1. Ms. Treesa Varghese, School of Biosciences (Leader)
2. Ms. Preetha Panicker, Dept. of Management Studies- Member
3. Ms. Sreelakshmi, Dept. of Computer Applications- Member
4. Ms. Betsy M. Baby, School of Biosciences

The Anti-ragging squad makes surprise visits in different centers of the campus and raids in the hostels with a view to ensure that there is no attempt of ragging activities. Till date, no incident of ragging of any kind has been reported in the college.

5.1.13 Enumerate the welfare schemes made available to students by the institution.

The institution is working towards ensuring social justice through the various students' welfare schemes. The induction program clearly presents the welfare schemes available to the students. The following welfare schemes are made available to the students.

The college has a scheme titled "Earn While You Learn".Students do part time jobs in library, tissue culture lab, editorial office of the Journal of Science Technology and Management and also in the confectionary after the normal working hours. The students are also involved in the marketing, department of Radio MACFAST. Students are engaged with part-time job in the library after 5 PM for which they are been paid. Radio MACFAST 90.4 is a platform where students can work as Radio Jockey's on payment basis.

5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are itsactivities and major contributions for institutional, academic and infrastructuredevelopment?

Yes. The college has an Alumni Association registered on 21st May 2008 under the Travancore/ Cochin Literary, Scientific and Charitable Societies Registration Act (Act XII of 1955) with Reg. No: P.159/08

The association meets periodically and interacts with the management. The Association usually meets during Onam and Christmas holidays and discusses the progress of the college and brings out suggestions for improvement. A cordial relationship is maintained by the Association with the college. A global connectivity among its members is maintained through the AlumniPage (https://www.facebook.com/alumni.macfast) in Facebook. Apart from providing financial assistance to different programmes like TANTRA and TECHNITROUS initiated by the students, they also contribute effectively for exploring placement potentials of the outgoing students. This is made possible through their wide network spread over the world. Steps have also been initiated by the Association to form its unit in Gulf countries.

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlights the trends observed.

Table 5.3
Percentage of Students Progressing to Higher Education/ Employment

COURSE with Batch		HIGHER EDUCATION				EMPLOYMENT	
		UG to PG (%)	PG to M. Phil (%)	PG to Ph. D (%)	Ph.D to Post Doctoral Fellow (%)	Campus Selection %	Other Sources %
MCA	2008-2011	UG Courses are not offered in the college	2	NIL	NIL	20	35
	2009-2012		Nil	Nil	Nil	10	40
	2010-2013		Nil	Nil	Nil	5	30
	2011-2014		Nil	Nil	Nil	10	20
MBA	2009-2011		Nil	Nil	Nil	32	40
	2010-2012		Nil	Nil	Nil	36	42
	2011-2013		Nil	Nil	Nil	25	68
	2012-2014		Nil	Nil	Nil	35	62
M. Sc	2009-2011		2.5	7.5	NIL	2.5	47.5
	2010-2012		Nil	7.5	Nil	2.5	60
	2011-2013		2.5	2.5	NIL	2.5	62.5
	2012-2014		Nil	2.5	Nil	2.5	68

5.2.3 How does the institution facilitate student progression to higher level of educationand/or towards employment?

The institute facilitates the modern techniques in teaching, learning and in all academic programmes according to the trendy competitive world of employment market. The college is the nodal centre of AMRITA Virtual Lab (VALUE) and use the technology for effective communication with students. Research oriented and experiential learning methodology has been standardized by the college. Students are encouraged to take up minor projects supported by the college. Protocols for tissue culture of medicinal plants and new food products have been developed by the students.

Students are also encouraged to apply for fellowship from Kerala State Council for Science and Technology and Environment under student project scheme. As part of experiential learning, our students are actively involved in the development of college website, through an in-house software development company MACFAST Technologies and the students are also given opportunity to work with MACFAST incubated startup company, INNEXCOM. Solutions Pvt. Ltd. The students also get involved in the marketing of the Hollywood movie 'The Passion of Christ', development of new food products processed in the campus confectionary.

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

The main reason of dropouts usually is due to opting for jobs. Another risk group identified is the slow learners. For these students the college provides personalized counseling and remedial classesto avoid the risk of dropping out from a course.

5.3 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activitiesavailable to students. Provide details of participation and program calendar.

The college offers wide range of sports, games and cultural activities. The students are encouraged to participate in any of the following sports and games activities:

- Cricket
- Football
- Basketball
- Badminton
- Table tennis
- Volley ball

Besides these, the college conducts annual sports day in which department wise competitions are held and champions are awarded.

Cultural activities are staged on all Wednesdays as part of Wednesday gathering, in which the students get chances to showcase their cultural talents. In addition students also participate in various programmes organized during festival seasons like Onam and Christmas and also during the Biospectrum, TANTRA and TECHNITROUS .The students also make use of the Community radio operating from the campus.

Table 5.4
Programmes/events in the College

Sl.No.	Name of Programme	Date
1	Wednesday Gathering	Every Wednesday's
2	Onam Celebration	Last Working day before Onam Holidays
3	Christmas Celebration	Last Working daybefore Christmas Holidays
4	Annual Sports Day	Last Week of January

5.3.2 Furnish the details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State /Zonal / National/ International, etc. for the previous four years.

Achievements of MBA students:

- Won the 1st Prize in the HR Game at Management fest conducted at SB College, Chenganassery, 2014
- Won the 3rd Prize in the Marketing Game at Management fest conducted at SB College, Chenganassery, 2014
- Won the 1st Prize in the HR Game at Management fest conducted at Amity Business school ,Cochin, 2014
- Won the 2nd prize in the zonal competition of the MariapHilip Memorial debate competition at XIME, Kochi, 2014
- Won the best manager price at All India Mangement Fest concuted by DC School of Mangement Studies, Vagamon, Idukki, 2013
- Won the overall championship at Musliar College Mangement, Pathanamthitta , fest 2013
- Won the overall championship at DC School Mangement, Vagamon, fest 2013
- Won 2nd prize for Business Plan and Marketing Game at Marian College, Kuttikkanam, Fest 2014
- Won 2nd Prize for Marketing Game at SB College Changanacherry, Fest 2013
- Won 2nd prize in Business plan completion in Marian college, Kuttikkanam, Fest 2012
- Won 3rd prize in the Marketing Game in Marian College Kuttikkanam, Fest 2012
- Won 2nd prize in the Marketing Game in SB College Chenganassery, Fest 2012
- Won 1st Prize in the Best Management Team in Saintgist ManagementChenganassery, Fest 2012
- Won the Best Manager in Saintgist Management, Chenganassery,Fest 2012
- Won the Best Manager in Lourde Matha College of Science & Technology, Trivandrum, Business Fest 2012
- Won 1st prize in Best Management team in Lourde Matha College of Science & Technology, Trivandrum, Business Fest 2012
- Won 2nd prize in the Best Marketing Team in Rajagiri College Fest ,2012

Achievements of M. Sc students:

- Received grant from KSCSTE Student project scheme ,2014.(two students)
- Five Students got selection for the PG Student Interaction Programme organized as part of 26th Kerala Science Congress held on the 28th- 31st January 2014 at Kalpetta, Wayanad organized by the *Kerala State Council for Science Technology and Environment, Govt. of Kerala.*

- Received DBT studentship(one student) under the ad hoc scheme on establishment of sub DIC at CPCRI Kasargod-2014
- Five Students got selection for the PG Student Interaction Programme organized as part of 25th Kerala Science Congress held on 29th Jan - 1st Feb 2013 at Trivandrum organized by the *Kerala State Council for Science Technology and Environment, Govt. of Kerala*
- Received DBT studentship under the ad hoc scheme on establishment of sub DIC at CPCRI Kasargod-2013
- One student got selection as University player Badminton, 2013
- Won the overall championship in *Keraltosvam,*2012
- One student received National Science Academies Summer Research Fellowship during the year 2010
- Four students attended the Second Science Conclave with Nobel Laureates sponsored by MHRD, DST, Govt. of India at IIIT Allahabad as Invited Teacher Nominee, 8th December to 14th December 2009.

Achievements of MCA students:

- Won 2nd place in Word hunt , IT fest conducted by Depaul College, 2013
- Won 1st place in Treasure hunt, IT fest conducted by Santhigiri College

(Detecknista) - 2013

- Won 1st prize for Best Project at Marian College, Kuttikanam (ignite) – 2012
- Won 3rd prize in State level Elocution by Energy Conservation Society, 2012,
- Won 1st Prize in paper presentation, in Technical fest - 'Eximius 12' held in St.Joseph's College of Engineering – 2012
- Won 1st prize in project presentation in Technical fest 'Navigator' held in Marian College, Kuttikanam – 2012
- Won Best Marketing Team, Technical fest 'Eximius 12' held in St. Joseph's College of Engineering – 2012
- Won Best Marketing Team, IT fest conducted by SJCET College (Eximious) – 2012
- Won 2nd place in Concept presentation, IT fest conducted by AJCE College (AZURE) – 2012
- Won 2nd place in Code Cracking, IT fest conducted by SNGIST College (INZIO) – 2012
- Won 1st prize in Treasure hunt competition, by Nirmala College (Cameo) – 2011
- Won Best Personality Award, IT Fest, Kristu Jyothi College, Changanassery – 2011
- Won 2nd prizes in concept ppt, word hunt, theme show Amal Jyothy College, Kanjirappally, fest-AZURE, 2011

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

The placement officertakes the feedback from the employers during the campus placement drive about the performance and quality of students. Similar feedback is also collected from the Alumni who are employed in various institutions. These feedbacks are taken seriously and brought to the notice of the Principal and the management for making necessary rectifications. Various training programmes are designed for students, like online aptitude training, soft-skill training and catering to the needs of recruiters.

5.3.4. How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications\ materials brought out by the students during the previous four academic sessions.

- The college brings out various magazines to showcase the talents of students.
- The college publishes the peer reviewed journal of science technology and management quarterly. Students are encouraged to publish their papers in the journal.
- The NSS unit of the college published a magazine titled Festro in 2013.
- The student council has brought out a magazine titled "Reflections" in 2009.
- The Department of Management Studies brings out a monthly magazine "Moogle"

1.3.5. Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities, and funding.

Yes. Class representatives are selected from each class and the students select the council through the presidential form of election. The student council overseas various activities like, orientation programme for freshers, sports day, arts festival etc.

5.3.6. Give details of the various academic and administrative bodies that have student representation on them.

In addition to the College Student Council, student representatives are involved in the NSS Advisory Board, Placement Cell, Library Committee, Entrepreneur Development Club, Club de Mac, G.N. Ramachandran Science Club, Rays of Love, Organizing committee of various programmes like Biospectrum, Tantra Management Fest, Technitrous IT Fest, Clean and green initiative, MACFAST Industry Interface and the programmes organized by the Radio MACFAST 90.4

5.3.7. How does the institution network and collaborate with Alumni and former faculty of the Institution.

Through e-mail and personal contact, there is an online portal for MACFAST Alumni. Former faculties and students are also invited for various programmes organized by the college.

Any Other relevant information regarding Student Support and progression which the college would like to include.

- Students are encouraged to publish research articles in science magazines and journals
- The college supports the students in securing project internships in various National Institutions like IISC,NCBS, Delhi University, CCMB etc
- The college is the nodal centre for the Amrita Virtual Lab (VALUE) sponsored by Ministry of HRD, Govt.of India
- The Ministry of Food Processing sponsored Pilot Plant is operating in the campus.
- The college organizes various National and International Seminars that bring the best hands in the respective fields to the college.
- Organized 3 lecture workshops sponsored by Indian Academy of Science
- The NSS unit periodically organizes skill development programmes in painting, jewelry making etc.

National Service Scheme Unit No.124

The M.G. University, Kottayam has sanctioned one unit of NSS (Unit No 124) during the academic year 2012. The basic objective of the NSS is to arise and enrich the social consciousness of students. The scheme is intended to provide an opportunity for the students to engage in constructive social action, develop co-operative team spirit and gain skills in democratic leadership quality. At present Mr. Biju Dharmapalan is the programme officer. Mr. Roshan and Ms. Stephy Rose James were the volunteer secretaries during the year2012-13. An advisory body with Principal as the chairperson is constituted to monitor the

activities of the NSS. The NSS volunteers meet every week on Thursday from 4 to 5 within the campus to do the campus level activities and on holidays they are engaged in community services. The major community level work was carried out during year 2012-13, and was the cleaning and maintenance of Government Aganvadi Centre at Tholassery (Kuttapuzha village), cleaning of Govt.High School Kuttor campus, organized a medical camp at Kuttoor Panchayat, donation of books to the library of Govt. High School Kuttor on the Independence Day and books to Anganvadi students on children's day. The NSS volunteers used to take remedial classes for tenth standard students at Govt. High School Kuttoor. The NSS also organizes counseling sessions for high school students.

CRITERION VI- GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?

Vision:*To attain a level of excellence at par with top international institutions so as to becomea trend setter in education.*

Mission:***To transform young people and mould them into value-driven, culturally enriched and professionally competent change agents who would significantly contribute to improving their immediate community, the state, the country and the world at large.***

The college strives to elevate its students to meet the challenging demands of the world of business, science and technology. Thus, it addresses the needs of the society by moulding future leaders and managers with high ethical awareness. It creates and sustains a conductive environment for students to develop themselves as personally responsible, culturally sensitive and socially committed professionals. The college is not only focusing on the intellectual development of its students but also the integral formation of their character, discipline, and ethical values. Its purpose is to build up worthy citizens for creating a 'knowledge society' where knowledge is shared freely, and used for the well being of the society and the individuals. Ethical valuesadopted for attaining the objectives and policies of the collegeare as follows:

- Promotion of intellectual inquisitiveness, resourceful thinking, and commitment to excellence. We recognize a curriculum that is practical, relevant, pioneering and challenging.
- Commitment to excellence and a passion for learning as the primary motto. We are shaping up great leaders who should be masters in their respective field, act with integrity, have an enthusiasm for teamwork, and are passionate towards achieving their goals.
- Creation of a multi-disciplinary learning community to build up highly professionalized experts for the nation and world at large.

- Commitment to promote a studentinitiated campus that keeps its reputation in excellence over the years. The college creates an intellectual and innovative environment with focus on leadership and management which can be fruitfully applied in a technology-driven, global economy.

Objectives & Policies

- To meet the global, national and local needs of education.
- To provide spiritual as well as moral development of students.
- To mould the students as professionals who aim at personal development, institutional development as well as national development.
- To provide quality human resource for developing India's knowledge economy.

The college believes that the true purpose of education is not just imparting knowledge, but also encouraging personal empowerment with a desire for self development. It understands that a successful individual is measured not just by his ability to translate knowledge into society and get lucrative jobs, but also by the level of satisfaction he has in his personal life and career.

The college emphasizes holistic development of students through curricular, co-curricular and extracurricular activities that enables them to compete in the global arena. For realizing its vision, the college has framed committees for every activity. An efficient teaching fraternity works toward academic excellence, and fosters research, and also provides opportunities for co-curricular as well as extracurricular activities under their guidance.

6.1.2 *What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?*

The policies and plans are framed by the Governing Board in its Annual meetings and the implementation of these policies and plans are vested with the Principal, in consultation with the Academic Council. As the college is incorporated under the Catholic Educational Agency of the Diocese of Tiruvalla, the Principal also interacts with its Patron, President and the Secretary and convenes periodic meeting of the Governing Board and Executive Council of the Agency.

Governing Board and Academic Council

- **Composition of the Governing Board:**

  President & Patron:

H.G. Dr. Thomas Mar Koorilos, Archbishop, Malankara Cathalic Dioceses, Tiruvalla.

H.G. Dr. Philipose Mar Stephanos, Auxiliary Bishop Malankara Cathalic Dioceses, Tiruvalla.

M**embers:**

- **Padmabhushan Dr. M. V. Pylee**,Founder Director of the first School of Management in South India and formerVice-Chancellor, Cochin University of Science and Technology
- **Dr. A. M. Michael**
- Former Vice-Chancellor of Kerala Agricultural University and Former Director- IARI, New Delhi and Former Chairman - Kerala State Biodiversity Board.
- **Dr. K. M. Abraham IAS**, Principal Secretary, Higher Education Dept. Govt. of Kerala.
- **Rev. Fr. N. Casimir Raj S. J.**, Former Director- Xavier Labour Relations Institute (XLRI), Jamshedpur and Loyola Institute of Business Administration (LIBA), Chennai.
- **Very Rev. Msgr. Antony Chethipuzha**, Vicar General, President, Corporate Educational Agency of the Diocese of Tiruvalla
- **Dr. P. K. K. Nair,** Director- Environmental Resource Research Centre (ERRC), Thiruvananthapuram.
- **Mr. P. E. Thomas,** MD- Merchem, Cochin
- **Dr. Paulose Jacob,** Director- Dept. of Computer Science, Cochin University of Science and Technology
- **Dr. Sabu Thomas,** Reader in Polymer Science & Technology M. G.University
- **Dr. Jose Paul**, Member, Executive Council, Indian Maritime University, Chennai, Former Chairman- Port Trust, Goa.
- **Dr. Alexander Jacob IPS**, DGP, Kerala Police
- **Mr. Tobby Simon**, CEO, Synergia, Bengaluru.
- **Rev. Dr. Abraham Mulamoottil**, Former Chairman, Pushpagiri Group of Institutions and Former Principal,MACFAST.
- **Rev. Fr. Joseph Plakkoottathil,** Manager, MACFAST
- **Rev. Fr. Pradeep Vazhatharamalayil**, Principal, MACFAST

The Board shall also include nominees of AICTE and Government of Kerala.

Academic Council:

Patron

Dr. M. S. Swaminathan, Chairman, M. S. Swaminathan Research Foundation, Chennai.

Co-Patron

Padmavibhushan Dr. M. S. Valiathan, FNA - National Research Professor, Govt. of India, Former Vice-Chancellor, Manipal Academy of Higher Education and Former Director of the Sri Chitra Tirunal Institute of Medical Sciences, Thiruvananthapuram, Former Chairman of Academic Council, MACFAST

Chairman

Rev. Dr.Ignacimuthu S.J.

Director, Entomology Research Center, Loyola College Chennai, Former Vice Chancellor of Madras University and Bharatiyar University, Former Principal, Loyola College, Chennai

Co-Chairman

Padmabhushan Dr. M. V. Pylee, Founder Director of the first School of Management in South India and Former Vice-Chancellor, Cochin University of Science and Technology

Member Secretary

Rev. Fr. Pradeep Vazhatharamalayil, Principal, MACFAST

Members:

- **Dr. A. M. Michael**, Former Vice-Chancellor, Kerala Agricultural University and Director, IARI, New Delhi.
- **Dr. M. D. Nair,** Former Vice- President, SPIC Chennai.
- **Padmashri. Dr. P. Pushpangadan,** Director General, Amity Institute for Herbal and Biotech products Development, Trivandrum. Former Director, National Botanical Research Institute, Lucknow.
- **Prof. (Dr.) N. Jayasankaran**, Former Director General, Bharathidasan Institute of Management, Trichy.
- **Dr. Nagabhushan P**, Professor, Department of Studies in Computer Science, University of Mysore.
- **Dr. C. Balagopalan**, Director of Research, School of Biosciences, MACFAST
- **Dr. M. S. Samuel,** Director, Department of Computer Applications, MACFAST
- **Mr. Sanesh P. Varghese**, Deputy Director, MACFAST

- **Mr. Biju Dharmapalan**, Head of the Department, School of Biosciences, MACFAST

At the operational level, the college has a three-tier management system which consists of the "Principal's Advisory Council" (PAC), Council of Heads of Departments of the college with the Principal as chairman and the Faculty Council of Departments chaired by respective HODs. The role of the PAC is to act as an advisory body to the Principal on strategic issues. The decisions taken in the PAC meetings are communicated to the Heads of the Departments and faculty members in the HOD Council Meeting and Departmental Faculty Council Meeting, conducted once a week. In this way the Principal and all the Faculty members are involved in the implementation and execution of the plans and policies. There is a Students' Council which meets once in a month to provide feedback to the principal about the general functioning of the college. Table 6.1 shows the constitution and purposes of various councils/committees in the college:

Table 6.1
Details of Various Councils/Committees

Name of the Council	Members	Frequency of meeting	Purpose
Principal's Advisory Council (PAC)	Principal, Advisors, Administrator, Directors/Deans of all departments,	Once in a month	Provide advice to Principal on strategic issues and policy development
Council of HODs	Principal, Department Heads, Manager/Rector, Administrator, Librarian, Editor (Journal), IT Manager	All Tuesdays	Review of activities of each department during the previous week and plan for the coming week

Departmental Faculty Council	All the faculty members of each department	All Wednesdays	Review the progress of curricular and extra-curricular activities during the previous week and plan for the activities of the coming week
Students Council	Student representatives (one male and one female from each class) of all departments, Principal	Once in a month	To get feedback from students and to address the grievances, if any

The day-to-day administration and management of the college is vested with the Principal. The meeting of the Principal`s Advisory Council, Council HODs, Departmental Faculty Council and Students' Councils are the means through which the Principal gets proper information and feedback about the daily activities of the college. He makes sure that proper care is being taken to implement the mission and policies of the institution and the vision is being communicated to all the members of the college. The Principal takes the responsibility for maintaining the discipline, the code of conduct and take adequate steps to keep the standards of quality and excellence. The policies and programmes of the college are communicated by the Principal through HOD Meetings, Students Council Meetings and Wednesday Gatherings.

6.1.3 *What is the involvement of the leadership in ensuring :*

- **The policy statements and action plans for fulfillment of the stated mission**

The management of the College has long term vision for both, academic and administration. They initiate, guide and persuade the college community to actively involve themselves in

realizing the goals and objectives of the Institution. Top management is involved in taking all major decisions. Principal as Chairman of the majority of the meetings, leads through participatory method of interaction. He communicates and interacts with the Governing Board members and also regularly meets the Heads of the Departments, faculty members, students and staff in ensuring the fulfillment of the institutional mission. In addition to this, Principal coordinates the academic activities with outside agencies like Mahatma Gandhi University, AICTE, UGC, and other government bodies to comply with necessary regulations and directives. The Principal also follows an open door communication system and allows the members of the staff to approach him with their grievances and constructive suggestions. The policy statements and action plans are formulated after careful consideration of all the stakeholders.

- **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**
  The action plans for operations are prepared under the supervision and guidance of the Principal and Heads of the Departments. The same is presented in the Council of HODs for further discussion. Different sub-committees are constituted with defined objectives and they functions for the execution of the action plan.

- **Interaction with stakeholders**
  The college usually has various levels of interaction with its stakeholders. It includes, interactions with the Government, University, the corporate community, and the parents. The Principal, the Administrator and other concerned faculty members attend the meetings of the University, as and when convened. The internal Committees of the college are informed of all the decisions of such meetings and act accordingly.

- **Proper support for policy and planning through need analysis, research inputs and consultation with the stakeholder.**
  The management ensures that proper interaction is maintained with all the stakeholders, which ensures timely initiation of need based policies addressing the requirements of the entire interest groups. The long term requirements are considered after proper planning, need analysis and consultations with the stakeholders including KMA, CTMA, CII, Ministry of Food Processing etc.

- **Reinforcing the culture of excellence**
  The college believes that creating a positive ethical culture involves defining, communicating, modeling, teaching, enforcing and upholding the core virtues of the college through faculty members who are committed and well qualified, with expertise in their respective fields. The achievements of the faculty are duly recognized and

appreciated by the management. Faculty members and students are motivated to do research and publish their findings. As a part of continuous learning process, faculty members are encouraged to attend refresher courses and also participate in faculty development programmes and present papers in national/ international seminars and conferences.

- **Champion organizational change**
  The institute believes that providing visionary leadership is the most important skill in championing the change. The institution tries to address the economic, social and cultural issues pertaining to the society in general with the support and guidance of the top leadership. Short workshops are organized for introducing new tools, methods, or strategies.

6.1.4 *What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?*

Continuous monitoring and evaluation of the policy and plans are done in review meetings such as:

- Principal Advisory Council – Once in every month
- MACFAST Development Council (MDC) – Once in three months
- Council of HODs–Every Tuesday at 1:30 p.m.
- Faculty Council Meeting – Every Wednesday 1:30 p.m.
- Students Council - Once every month.
- Meeting with Non-teaching staff –on all first Thursday of every month.

These meetings review the progress of all activities and take corrective actions, wherever required. The periodicity and regularity of these meetings ensure continuous monitoring, evaluation and timely corrective actions.

6.1.5 *Give details of the academic leadership provided to the faculty by the top management?*

The Academic Leadership of the faculty is being monitored and reviewed by the college Academic council of the college.The lesson plans and work diaries of faculty members are scrutinized by HODs and principal on a regular basis.

6.1.6 How does the College groom leadership at various levels?

Every department has a Director/Dean as the chief and he is assisted by the Head of the department (HOD). Each faculty are usually given some additional charges over and above their academic duties for actively involving in the different activities of the college like MII programme, examination works, marketing of college radio, conducting of the major events in the college etc. under the supervision of the Principal and management. Each class has Faculty-in-charge to monitor the performance of the respective class.

Students are given lead opportunities to make presentations in Business updates sessions, Wednesday gatherings, for facilitating leadership development and to showcase their talents. Students are encouraged to plan, organize and execute their own academic as well as non-academic programmes. For example, TANTRA, a management fest conducted annually, completely planned, organized and executed by the students. There are also many opportunities for students to come out with their leadership potential by actively involving with the day-to-day activities of different departments of the college.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?

Once the policy decision is taken by the academic council, the Principal directs the Director/Dean of a department to monitor the implementation of the policies. These policies are executed by the HODs.They further delegate the faculty members to carry out day to day execution of these activities. Proper feedback is collected and reviewed for the effective implementation of the policies and programmes.

6.1.8 Does the college promote a culture of participative management? If 'yes', indicate the levels of participative management.

Yes. The college promotes a culture of participative management. The corporate educational agency of the Malankara Catholic Archdiocese of Tiruvalla allows freedom to the Principal to develop and executes plans and policies to be implemented in the college in consultation with them. Similarly the Principal give freedom of action to the HODs and faculty members in charge of different activities, to plan, organize and execute different programmes in the

department. Each department is empowered to take operational decisions and the top management welcomes and encourages it.

The college has a Parent Teacher Association registered on 25th May 2008 under the Travancore / Cochin Literary, Scientific and Charitable Society Regulation Act (Act XII of 1955) with Reg. No. P 158/08. The deliberations of the PTA are incorporated in the policy decisions of the college from time to time.

6.2 Strategy Development and Deployment

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes. The quality policy of this college focuses on providing quality education, quality placements, enhancing the leadership quality and employability of students. The quality policy of the college is framed to synchronize with the vision and mission of the college and entrusted the Principal to implement it. To review the implementation of the quality policy the following parameters are being considered:

- Analysis and evaluation of university results
- Attendance of students.
- Faculty Development programmes.
- Infrastructure facilities.
- Focus on quality placement.
- Social commitment & Involvement
- Stakeholder's satisfaction.
- Industry linkage & corporate interface
- Inter-personal relationships.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

Yes. As the departments of the college are dealing with different streams of programmes like Management, Technology and Biosciences, the plan for development of the college is considered at different levels. A multi-disciplinary approach is also resorted to integrate the activities of the departments. For this purpose the following plans are implemented:

1. Research center.

   The instituteis planning to set up research center for each department. Now, a Research Center is functioning in the Bioscience department where active research is carried on by research scholars. As a part of this objective, the college

has been undertaking various projects funded by state and national agencies like AICTE, UGC, KSCSTE, DST, DBT, BARC etc. The Bioscience department has at present three senior Professors with Doctoral degree and Guideship and other three PhD holders who are undertaking major and minor projects in the department. In addition to this, the college has an immediate plan for the upliftment of other departments as research centres in collaboration with the International Universities.

2. Autonomous Educational Status.

   Being a self financing educational institution the college holds the administrative autonomy. However, MACFAST is envisaging and thriving to achieve academic autonomy too.

3. Academic excellence

   As a post graduate college MACFAST has a well designed plan for academic excellence. On the basis of the academic performance, faculty members will design the student coaching classes. Those students with high academic caliber are motivated for higher acheivenments. At the same time, average and below average students will be provided individual attention and special coaching to achieve credible results.

   MACFAST believes that the better results in the examination can be achieved only through better relationship between the students and the faculty members and the timely action taken, to ensure the smooth relationship. Moreover, the management has given prime importance for the placement programmes of the college and new initiatives are taken every year. Furthermore, to excel in the personal development, the college is offering several training programmes like outbound experiential learning, personal growth lab, training on interview skills, communication, resume preparation, group discussion, presentations etc. Each year each department prepares its own plans in this regard for implementation within the academic calendar year.

4. Infrastructure facilities

   The institution provides the best infrastructure facility for undertaking various activities, both academic and non academic. This year the institution has identified the need for a jogging and cycling track within the campus and the project is being implemented. In addition to that, a new basketball court and an open auditorium are also under construction.

5. Self Sustainability

   The underpinning idea of every developmental activity and the future plans of the college is the sustainability factor. The institution is well known for its solar energy project, which provides uninterrupted supply of electricity. Similarly, the institution has its own biogas plant and an in-house baking unit. It facilitates food

production and provision for training facility for Bioscience students. The School of Biosciences also has a bakery training course to housewives of nearby areas. An Agricultural farm that facilitates the production and cultivation of vegetables is also included in the future plans.

6. Industrial and social Collaborations

   The institution has effective collaborations with industrial as well as social organisations. These collaborations facilitate the MACFAST Industry Interface and it enhances the placement opportunities. At the same time, the social collaborations positively reflect in the CSR activities of the college. The college is planning to transform it as a placement hub by utilizing the state- of the- art, infrastructure facilities where the recruiting companies and the prospective candidates can meet together. As part of the social collaboration programme ,a unique activity known as MAKS (MACFAST Knowledge Scheme) introduced since 2011 with the objective of training high school students to face competitive examinations and personality development.

6.2.3 *Describe the internal organizational structure and decision making processes.*

The institution has a well defined organizational structure. The hierarchical order of decision making process and the organisational structure is given Fig.1.

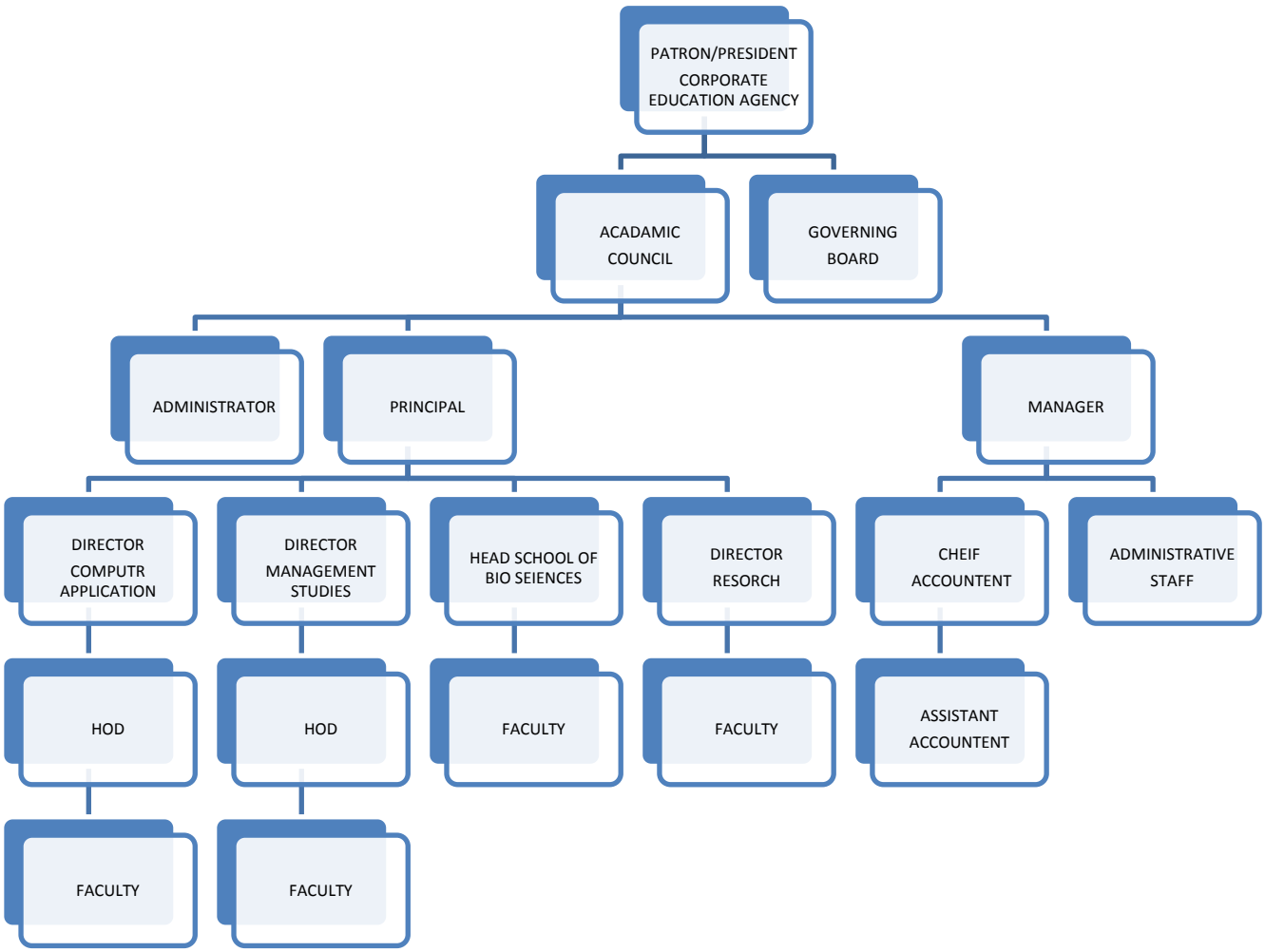


Fig. 3 Organization Structure

6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

Strategic decisions have been taken by the college for the quality improvement in the following areas.

(a)Teaching & Learning –

- Emphasis on using and supporting open source software and encouraging learning from the internet.
- Review mechanism enables the students to refresh their subject knowledge and thereby understand the real tang of professional studies and achieve excellent performance in the university exams.
- Remedial sessions for better academic perfomence of weak students.
- **'Faculty presentation'** a department wise faculty gathering for knowledge sharing is arranged bimonthly. Presentation, discussion and question answer session on a relevant topic is discussed by the faculty.
- Consistent feed back from students about the class room teaching-learning practices collected on a three tier system- faculty- per month, HOD- per semester, Principal- per annum is used to identify weakness of the faculty members in the delivery of the curriculum.

(b)Research & Development

For inculcating a research attitude among students the college arranges certain common programmes like expert – talks on the Research Methodology, Book Review etc. In the department level student's presentation and general assignments are also given to generate research aptitude. They are encouraged to prepare and present articles that can be published in the in – house journal - 'Journal of Science Technology and Management' and in other relevant publications.

(c)Social engagements.

Following are the contributions of the college for the overall well being of the society.

- **War against Drugs**-. This project aims at creating awareness among people especially young generation on the hazardous effects of drugs and also moves with an intention of peaceful, blissful and enchanting future.
- **Clean and Green city –**A project has been organised in association with Tiruvalla Municipality, which focused on the cleanliness and tidy

environment for a healthylife. Then after the Thiruvalla Municipality was selected for the sate award fo best Waste Management.

- **Hridayaspadanam**- This project is initiated to offer free heart surgeory to poor in association with Pushpagiri Medical College Hospital Tiruvalla, in 2013, ten Heart Surgeries with free of cost have been undertaken for the poor and needy.
- ***Nervazhi** - It is a traffic awareness programme initiated by Radio MACFAST for the public. The college has a resource team trained by the State Traffic Department for undertaking traffic awareness classes to school students.
- ***MAKS** (MACFAST Knowledge Scheme) MAKS is an endeavour of MACFAST to trigger the knowledge revolution. It envisages identification, training and development of talented high school students for enabling them to face competitive examinations.
- **Home for the Homeless** - The college has constructed a new house with the cooperation of the management, faculty, students and the local community for a poor family nearby.

(d)Human Resource Management

MACFAST is emphasizing on selection of competent and qualified persons for teaching and non teaching tasks. The selection process is well structured. For teaching faculty, it consists of a demonstration class followed by a personal interview. The selected candidates will be groomed with FDPs and other training programmes. At the end of each academic year, performance appraisal of the teachers is reviewed by the Principal.

The selection of non-teaching staff and sub staff is done by the management in consultation with the Principal.Their performance of are periodically evaluated by the Administrator of the college and reported to the Principal.

(e)Industry interaction

As a professional Post Graduate institute, the following industry programmes have been designed and implemented to ensure practical exposure to the students.

- MII (MACFAST Industry Interface): It is an initiative to identify the industry's needs and expectations and have to meet it with the academic aspirations. The activities are integrated with academic timetable.

- Industrial Visits: In order to attain live industrial experience,the institution regularly organise industrial visits of one week duration to various industrial locations of India and Abroad.
- Entrepreneurship Development Club: The objective of the club is to inculcate the entrepreneurial culture among the students. Industrialexperience sharing sessions of national and international industrialists are arranged once in a month under t5he leadership of EDC. The college has successfully incubated two IT companies viz., Logic Manze Solutions, and Innexcom Pvt Ltd. Currently, Innexcom Pvt Ltd. is operating in the campus with more than 10 employees including the alumni.

6.2.5 *How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?*

The Principal collects two level evaluation reports. He directly takes annual review from faculty, students, placement officer, recruiters, representatives of parents, and other stakeholders. The next level of evaluation is related to the academic performance and extra curricular activities. It is collected regularly through weekly HoD meetings. The consolidated points of these two reports would be discussed in the Annual Board Meeting and entrust the HoDs and other responsible persons to inform it to various stakeholders.

6.2.6 *How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?*

The management encourages and supports the staff members to involve in the developmental activities of the college by including them as members of different committees such as Purchase Committee, Maintenance Committee, Discipline Committee, Library Advisory Committee, Examination Scrutiny Committee, Anti-Ragging committee, Grievance Redressal Committee etc. To ensure cohesiveness in involvement, each of these committees have their meetings at periodical intervals. Each department is having a departmental meeting once in a week and thesuggestions, initiatives and decisions of the meeting are reported to the Principal.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The resolutions made by the the Management Council during the last year are as follows:

1. **Infrastructure Development**

   The college is identified as moving from a self-financing model towards a self-sustainable model. These years the college is able to prove as a self-sustaining model with regard to energy management, waste management and water resource management. The college produces 30 KW of energy and becomes a self-sustainable model in energy consumption. The hostels have become self-sufficient in fuel by replacing cooking gas with bio gas.The college construted two rain water reserviours for harvesting and channalising the increasing needs of water.The other developments of the college during the last academic year were:

   - Provision for furnished accommodation by constructing additional
   - Hostel for women and the renovation of the mens'hostel.
   - Completed the Installation of the Biogas plant for the hostels.
   - Introduction of Bakery for Macfast Foods.
   - Established New Microbiology Laboratory.
   - Constructed new Lab for Mushroom Cultivation.
   - Installation of elevator facility in the Boys hostel is its last phase.

2. **MBA PLUS Certificate**

   This is a new initiative of MACFAST. The students who join for 2 Year MBA program will be continuously monitored and evaluated on various parameters and certificates will be issued to them by the college.

3. **Moogle magazine**

   This is a Bi monthly magazine published by the Department of Management Studies. It is a student initiative magazine for current affair and provides the news of career openings for the students.

4. **Club de MAC**

   A new club named 'Club De Mac' was initiated with the objective of setting a platform for updating information about current affairs, economic and financial issues. The organisers are the MBA students, but students from other departments also are permitted to take part. A team of 20 students from 1st year and 2nd year MBA were selected as the club organizers.

5. NSS

In 2012 the M.G. University Kottayam, sanctioned a NSS (Unit No 124) in the college. The major community activities carried out during year 2012-2013 are the cleaning and maintenance of Government Aganvadi Centre at Tholassery (Kuttapuzha village), Cleaning of Govt.High School Kuttor campus, Organizing a medical camp at Kuttoor Panchayat, Donation of books to the library of Govt.High School Kuttor during Independence Day and books for Anganvadi students during children's day.

Apart from this, NSS Unit organized various programmes in the campus like planting of trees, construction of vegetable garden, organizing awareness campaign on lifestyle diseases, dengue awareness campaign and supply of preventive drugs to students, celebration of the Malala Day, National Education day, International Volunteers Day and UN Human Rights Day. NSS Unit of the college also organizes skill development programmes like fabric painting , jewellery making and painting.

6. MACFAST Knowledge Scheme (MAKS)

MACFAST Knowledge Scheme (MAKS), a programme for selected high school students of Idukki and Pathanamthitta district initiated in 2012 was carried over during this academic year as well. The classes were conducted during the Onam, Christmas and Mid-summer vacation for two batches. The following topics were taken:

- Career guidance
- Self-Marketing
- Learning through Internet and e-journals
- Motivation and Personality Development (Relax, Listen and Learn).
- Three special topics were also introduced:
  - Geology and Geography
  - Botany and Bioscience
  - Physics and Astrophysics

7. Proposals for new courses

During the year the college proposes two interdisciplinary MBA courses with specialization in Biotechnology and in Food science and Technology and submitted to the M.G. University for approval. The new course approved by university, 'MSc. Biotechnology' commenced from the academic year 2013 and admitted the first batch of students.

6.2.8 Does the affiliating university make a provision for according the status of

autonomy to an affiliated institution? If 'yes', what are the efforts made by the institution in obtaining autonomy?

No. The affiliating University does not make a provision for according the status of autonomy to an affiliated institution.

6.2.9 *How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder relationship?*

The institution always ensures that all grievances/complaints are properly attended and resolved effectively. A student Grievances and Redressal Cell is functioning in the campus with Administrator of the college as the convener, and the Head of all the Departments and a lady faculty as Executive member. They attend and solve the complaints/grievances of the students. The students have access to present their grievances directly to the Principal also. Such grievances will be solved by the Principal in consulatation with Grievances and Redressal Cell immediately.

Student Grievances and Redressal Cell Members:

1. Mr. Christy Bastian, Administrator – Convenor
2. Dr. Sukumaran Nair, Dept. of Management studies, Member
3. Mr. Tiji Thomas, Head of the Dept. of Computer Applications, Member
4. Mr. Stephan James, Dept. of Computer Applications, Member.
5. Ms. Treesa Varghese, School of Biosciences

The complaints/ grievances of the teaching and non-teaching staff are addressed directly by the Principal.

6.2.10 *During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?*

No such instances.

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

Yes. Apart from the standard feedback system to obtain student feedback regarding the faculty performance, students are also encouraged to provide their written comments to improve the the facilities provided in the college. The feedback data are analyzed, areas for improvement are identified and remedial action is initiated on a continuous basis. The feedback report will be discussed by the principal in the HOD meeting.

Apart from their written feedback, a monthly student's Principal interaction is held. In this meeting, students can freely put in their suggestions or feedbacks. After discussions with respective authorities, Principal ensures that the issues raised in the meeting are addressed without delay.

6.3 Faculty Empowerment Strategies

6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non teaching staff?

The college identifies the strength and areas of interest of each member of the faculty and staff and responsabilities are assigned according to the areas of their interest.The role of each member is well defined and the responsibilities are properly communicated. They are given with the freedom for the accomplishment of their roles. They are also motivated to associate with professional and academic bodies like KMA, TiE, IAA, AICA, Computer Society of India, ISTE, etc. to enhance professional development in teaching as well as in administration. The college is an institutional member of the Kerala Management Association and many of the faculty members have membership in different professional bodies.

The college supports the teaching and non teaching staff to enhance professional development by:

- Permission for carrying out research projects with leave facility granted.
- Presentation of paper and participation in Seminars/Workshops/ Conferences by faculty members considered as other duty and provided financial assistance and leave.
- Faculty members are encouraged to associate with State, National and International professional bodies.
- Providing e-Journals to the faculty members through the college library.
- The Institution encourages non-teaching staff for their academic enrichment by

making them to participate in Orientation Programmes, Refresher Courses, Seminars, Workshops and Conferences.

6.3.2 What are the strategies adopted by the institution for empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

Faculty development program and faculty training program are organized and conducted regularly by all departments. This provides a platform for the staff to learn and get trained for the leadership roles.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

The UGC guidelines are implemented for the performance appraisal system. Self appraisal system is followed annually or at the end of each semester. At the end each month the Faculty Goal Assessment (FGA) is submitted online. At the end of academic year Self-Appraisal Reports (I&II) along with the Confidential Report of each faculty with the remarks of the Head of each Department is filed in the Principal's office.

In addition to the self-assessment, Student Evaluation is also conducted. It is made through the feedback collected from the students of the concerned classes using a structured questionnaire. The identity of student is kept confidential so that they feel free to give any information they possess. The Self- appraisal reports and the student evaluation reports are kept as confidential files in the Principal's office.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

Based on the reports of the performance appraisal, those faculty members providing meritorious services are honoured with additional increments. The faculty members, whose performance was below the level of expectation, as per the reports, are communicated by the Principal through personal interview and corrective action ensured.

6.3.5 What are the welfare schemes available for teaching and non teaching staff?

What percentage of staff have availed the benefit of such schemes in the last four years?

The following welfare schemes are offered to the teaching and non-teaching staff:

(i) Contributory Provident Fund for teaching and non-teaching staff.
(ii) Maternity leave
(iii) Medical insurance scheme for teaching and non-teaching staff.
(iv) Free accommodation to the faculty members who wish to stay in the campus.
(v) Food at subsidized rate for the teaching and non-teaching staff.
(vi) Interest free loan to non-teaching staff
(vii) Interest free loan to teaching staff for purchasing laptops and other teaching aids.
(viii) Festival allowance(Onam & Christmas) to non-teaching staff
(ix) Transport facilities to and from the campus to Tiruvalla town.
(x) Free quarterly medical check up for teaching and non-teaching staff.
(xi) Rest rooms, Drinking Water facility, etc. for all.

Specific rules have been framed by the management for availing leave by both teaching and non-teaching staff. The details of leave are given below:

1. Casual leave: Teaching staff can avail 15 leave in a year.
2 Medical leave: Teaching staff can avail 10 medical leave per annum. However those who do not avail any medical leave in a year can avail additional 5 casual leave in the same year.

Participation in seminars, workshops, conferences and for University assignments like invigilation work, external examiner for practicals, valuation camps, meeting of examination boards etc. leave as other duty is granted.

Table 6.2
Percentage of Teaching and Non-teaching Staff Who Availed the Welfare Scheme

No	Schemes	2010 – 11		2011 – 12		2012 – 13		2013 – 14	
		Teaching	Non – teaching	Teaching	Non – teaching	Teaching	Non – teaching	Teaching	Non – teaching
1	Contributory Provident Fund	50	100	50	100	50	100	66.67	100
2	Medical insurance	20	0	20	0	20	0	20	0
3	Rent free accommodation	10	15	18	18	20	25	22	26
4	Food subsidy	50	75	50	75	50	75	50	75
5	Int. free loan to staff	5	10	5	10	5	10	5	10
6	Festival allowance	NIL	100	NIL	100	NIL	100	NIL	100
7	Free transport facilities	100	100	100	100	100	100	100	100
8	Med. checkup quarterly	100	100	100	100	100	100	100	100

6.3.6 *What are the measures taken by the Institute for attracting and retaining eminent faculty?*

For attracting and retaining eminent faculty, the management is keen in positively providing the following factors:

- Better work environment
- While assigning duties the personal interest and initiative of the faculty members are specially taken care of.
- Salaries and perquisites awarded according to their qualification and experience.
- For the selection of faculty members for various personal development programmes like FDP, workshops, seminars etc. their merit and expertise is considered.
- Providing chances for eminent faculty members to attend faculty exchange programmes and conferences in foreign countries.
- Availing the services of professors of emeritus as academic advisers and corporate strategists.

The college provides the right ambience to nurture and retain the competent staff by providing excellent remuneration and annual increments commensurate with qualifications, experience and performance. The staffs are continuously encouraged to enhance their qualifications and achieve career advancement. They are encouraged to participate and present papers at the national and international conferences.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

MACFAST is a self financing affiliated institution and has a clear-cut mechanism to monitor effective and efficient use of available financial resources. A proper system of financial planning is ensured by the finance Committee constituted by the management. The college has a Budget Committee with Principal as Chairman, Manager, Director/Deputy Director and Chief Accountant as members. The annual budget is prepared by the Budget Committee as per the budget prepared by the Heads of the departments and the general development plan prepared by the administrator and approved by the management. Budgetary allocations are made for the requirements of both academic and administrative activities. Finance Section of Administrative office keep records of all financial transactions under the control of the Chief Accountant. Half yearly and annual budget and its implementation is reviewed by an external financial auditor.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

The college has a mechanism for both internal and external audit. Internal audit is done on an half-yearly basis by the Audit Committee. In addition, the consolidated audit system of the Diocese of Thiruvalla for its Corporate Educational Agency is also examined and report to the corporate manager. The Annual audit of the finance and accounts of the college are also regularly done by external auditors. The last annual audit by the external auditors was completed on 09.09.2014

The only audit objection reported in the audit report is:

"TDS has not been deducted properly in accordance with the provisions of Income Tax Act, 1961".

Based on the audit report, the following actions have been taken.

1. The accountant is entrusted with the responsibility of deducting TDS for every invoice received during the corresponding financial year.
2. The Chief accountant shall monitor the same on a monthly basis to avoid any further audit objections in this matter.

6.4.3 *What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.*

As the college is a self financing institution, the Grant in Aid from the Government and the grants from UGC or other regulatory bodies are limited. The major sources of income are:

1. Tuition fee
2. Library fee, subscription fee (journal, Economic Times), Laboratory charges, placement facilitation charges, management development fund, etc.
3. Other income like Project grants from Department of Science and Technology, Department of Biotechnology, National Horticulture Board, Indian Council of Medical Research, Indian Council of Agricultural Research, Council of Scientific and Industrial Research, Ministry of Food Processing Industry, Kerala State Science Technology Environment Council, Bhabha Atomic Research Centre, Asia-Pacific Bioinformatics Centre, etc.

The audited Statement of Income and Expenditure for five years including the current financial year is given in Table 6.2

Table 6.2
Audited Statement of Income and Expenditure

(Rs. in lakhs)

INCOME	2009-10	2010-11	2011-12	2012-13	2013-14
Tuition fees received	504	382	421	439	395
Other fees received	16	15	19	56	123
Other Income	29	51	57	63	30
Total	549	448	497	558	548
EXPENSES					
Employee Benefit Expenses	96	134	158.00	180.00	196.5
Fees Concessions	14	6	21.00	15.00	24
Advertisement Expense	38	7	18.00	23.00	36.5
University Expenses	4	3	5.00	0.20	6.5
Projects & Seminars	5	9	17.00	10.00	21
Printing & Stationary	7	8	6.00	12.00	8
Repairs & Maintenance	11	24	20.00	13.00	17

Vehicle Expenses	8	13	11.00	9.00	7.5
Electricity Charges	7	14	14.00	12.00	14
Finance Cost	23	20	22.00	35.00	00
Other Expenses	56	40	50.00	53.00	87.5
Depreciation	72	126	75.00	70.00	67.5
Total	341	404	417.00	432.20	484

The statement of income and expenditure as given above has not reported deficiency of funds.

The audited Statement of Assets and Liabilities for five years including the current financial year is given in Table 6.4.

Table 6.3
Audited Statement of Assets and Liabilities

(Rs. Lakhs)

ASSETS	2010-2011	2011-2012	2012-2013	2013-2014
Fixed Assets	1090	1272	1411	1430
Deposits, Loans & Advances	50	139	139	130
Current	126	64	130	135

Assets				
Cash & Bank Balances	20	10	27	15
Total	1286	1485	1707	1710
LIABILITIES				
Capital Fund	882	1013	1137	1198
Long Term Liabilities	159	157	282	235
Deposits & Advances	151	146	147	145
Current Liabilities	94	169	141	132
Total	1286	1485	1707	1710

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

To ensure additional financial sources, the institution undertakes minor and major research projects of various funding agencies. The details of the funds received from such agencies

are given in the report of Criterion III . The funds so received are utilized as per the guidelines of the respective funding agencies and the accounts are duly audited by external auditors.

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Yes. The institution is now in the accreditation process and has constituted an IQAC on 04 August 2013. The composition of IQAC is as follows:

Chairman: Rev.Fr. Pradeep Vazhatharamalayil (Principal)

Members:

1. Prof. Christy Bastin (Administrator)
2. Mr. Sanesh P. V. (Deputy Director)
3. Sr. Licy (Librarian)
4. Prof. (Dr.) M. S. Samuel (Director, Dept. of Computer Application)
5. Prof. Tiji Thomas (Head, Dept. of Computer Application)
6. Prof. Biju Dharmapalan (Head, School of Bioscience)
7. Prof. Lijo Koshy (Head, Dept. of Management Studies)
8. Prof. Varghese Abraham (Dept. of Management Studies)
9. Dr. K. M. George (Dept. of Management Studies)
10. Prof. Ashokraj R. (Director, MACFAST Technologies)
11. Rev.Fr. Sajan Plakkoottathil (Manager)
12. Mr. Radhakrishnan Kuttoor (Nominee, local society)
13. Mr. Chintu Viju Mathew (Nominee, student)
14. Mr. Hareesh, Asst. Manager, The Federal Bank Ltd. Chennithala. (Nominee, Alumni)
15. Mr. M. Salim (Nominee, Employer/Industrialists/ stakeholders)
16. Prof. (Dr.) K. R. Sukumaran Nair (Co-ordinator, NAAC)

b. *How many decisions of the IQAC have been approved by the management/ authorities for implementation and how many of them were actually implemented?*

The following descisions were taken in the meeting of the IQAC.

1.The scheme of Earn while You Learn has to be strengthened.

2.The institution-industry linkage should be given more attention to enhance the chances of placement .

3.It is recommended to focus more on the application side of the teaching –learning practices of the college.

4.Possibilities of the widening of the existing campus may have to be explored.

All these decisions are approved by the college authorities and steps have been intiated for the speedy implementation of the first three decisions. Regarding the fourth one,a sub-committee under the chairmanship of the Manager is constituted.

c. *Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.*

Yes. The IQAC is constituted as per the latest guidelines of the NAAC. Hence, external members from the stakeholders like alumni, industry and a member from the local society were included. The suggestion for improving interaction with industry, by sending students for more internships with companies, is suggested by the industry representative. Alumni member suggested that a scheme for part time employment for the students, if possible implemented. Member from the local society suggested expansion of the existing infra structure and optimum utilization of the existing facilities.

d. *How do students and alumni contribute to the effective functioning of the IQAC?*

The continuous feedback mechanism from the students gives inputs related to need for improvement of quality systems. Alumni provide strong leads for placing students in reputed companies in India and abroad.

e. *How does the IQAC communicate and engage staff from different constituents of the institution?*

IQAC consists of Head of all departments and many other members of faculty. Hence, they communicate with other staff members about the important decisions and plans discussed in the meetings of departments, HOD meeting and other informal gatherings.

6.5.2 *Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalisation.*

Yes. The institution has a strong integrated framework for its academic and administrative quality maintenance. The student union, the Faculty council and the office staff are all involved in different stages of policy making and therefore, they are participating in the integrated quality assurance programme of the college. The necessary monitoring is done through Academic Council which meets periodically to ensure quality as per stipulations specified by the Mahatma Gandhi University and AICTE.

6.5.3 *Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.*

Yes. The college provides training to the staff for effective implementation of the Quality assurance procedures. Workshops on three occasions were organised for teaching and non teaching staff on NAAC accreditation process by:

1. Dr.KG Narayanan Pilllai former director college development council, M.G.University.
2. Dr. M.O. Koshy former vice chancellor Kannur University
3. Prof.(Dr.).N.Jayasankaran, Former Director General, Bharathidasan Institute of Management, Trichy.

They discussed about the quality assurance procedure to be followed inorder to get the college accredited. It enhanced the understanding of the teaching and non teaching staff and help them in maintaining documents.

6.5.4 *Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?*

Yes. Every faculty member is advised to keep track of teaching using a lesson plan and an academic diary at the beginning of the semester itself. This is cross checked with the details provided in their Faculty performance appraisal form. Principal convenes academic council meeting once in a year where academic matters related to teaching-learning and evaluation are discussed, important proceeding are sent to the Head of all departments and faculty council for necessary remedial action, if required.

6.5.5 *How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?*

The internal quality assurance mechanism measures are aligned with the requirements of the M.G. University, AICTE and NAAC. The college is also revising the systems and mechanism to align with the requirement of IQAC.

6.5.6 *What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?*

There is an effective structural mechanism in practice, since the inception of the college for reviewing the teaching leraning process. The broad policy frame work is designed by the Governing Board, which is percolated downwards to Academic Council,Head of Department Council and Department Council. The teaching process is monitored in terms of quality; coverage, methodology etc are collected through student evaluation of teachers. The work diary and attendance register maintained by the teachers are frequently checked by the heads of departments. The students are evaluated continuously interms of their performance in internal tests, assignments, presentations, group discussions etc. The PTA meeting after each internal examination is found effective in making suitable changes in the learning process by incorporating their suggestions for improvement.

6.5.7 *How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?*

The college communicates its quality assurance policies, mechanisms and outcomes through the prospectus of the college, college magazine, college website, placement brochures, college Notice Boards and digital displays.The college also publishes a newsletter periodically, which is circulated among students and industry. This newsletter provides the latest updates on the happenings in the institute.

Any Other relevant information regarding Student Support and progression which the college would like to include.

Nil

CRITERION VII: INNOVATIONS AND BEST PRACTICES

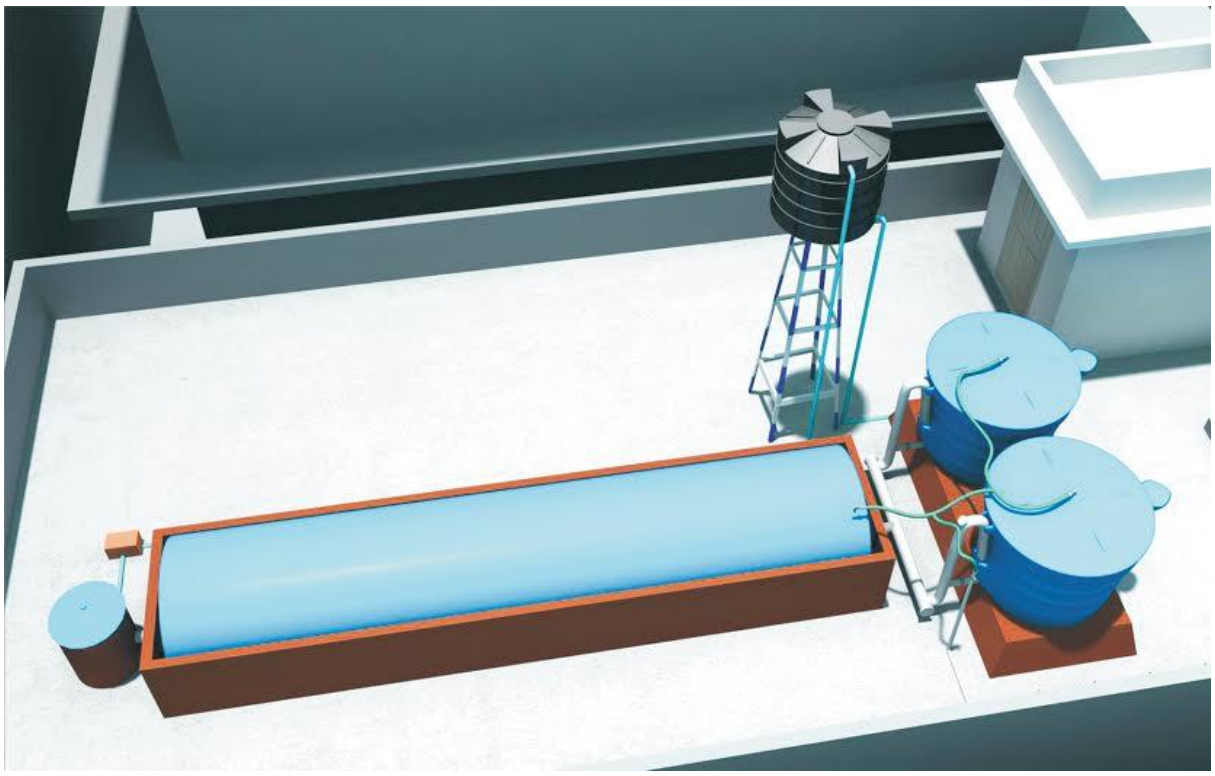
7.1 Environment Consciousness

7.1.1 Does the institute conduct a Green Audit of its campus?

The institution is not conducting formal green audit. However, the campus is labelled clean and green campus as part of the efforts made by the college in inculcating environment consciousness among its stake holders.

7.1.2 What are the initiatives taken by the institute to make the campus eco-friendly?

- **Energy conservation:**
  Bio-gas Plant
  Biomethanisation is a universally accepted and proven technology for bioenergy generation from biowaste. Applying this technology, fast decomposing waste materials like food waste, fruit and vegetable waste, fish and meat waste etc. can be treated hygienically. The gas generated could be converted into electricity.The Geo membrane bioreactor plant is fully pre-fabricated and the accessories include GeoMembrane reactor, Gas Scrubber and Pressure booster. The gas generated from the digesters could be collected in a single gas collector.The College has installed a bio gas plant in the campus in the year 2012. The amount of bio waste is being generated from the time of installation is 250 kg per day.
  Conventional models of biogas plants treat onlyeasily degradable materials. If all types of wastes are fed into the biogas plant, its working condition wouldbe damaged within a short span of time. But the plant installed in the campus applies different technologies for treating different types of organic wastes according to the nature and type of waste. More than 90% of the designs of plants and the treatment technologies are developed after incessant research. Hence better performance is assured.



Biogas plant installed in the MACFAST campus

- **Use of renewable energy:**
  Solar Power Plant
  MACFASTis the first educational institution in Kerala installed the highest and single largest roof top solar power plant with a capacity of 30 Kilo Watts in 2011. The design and installation of this plant was done by M/S Radiant Solar Private Ltd,Hyderabad, India.This project has got approval from the Ministry of New and Renewable Energy (MNRE),Government of India, and ANERT (Agency for Non-Conventional Energy and Rural Energy), Department of Power, Kerala Governmentand support from Jawaharlal Nehru National Solar Mission.The investment for this project was Rupees 72 lakhs. In that MNRE/ANERT allocatedRupees 22lakhs as capital subsidy,and got 37 lakhs Indian Rupee from State Bank of Travancore as low interest rate loan and which got refinanced by National Bank of Agriculture and Rural development (NABARD).
  The production of electricity from this plant is 45,000 units per year. About 50 Percentage of electricity required for the college is generated from this solar power plant. The maintenance cost for this plant is caparatively less.Minimum life period of this solar power plant is 25 years.There is also an energy monitoring and display systemin in front of the college which shows real time production and consumption of solar energy.

The Interactive Grid tie solar power system optimizes the use of natural energy resources with cutting edge technology. The system is interacting with the internal grid of the college and the directly specified connected load of the college buildings.The inverter, which is the central control unit of the power plant, regulates this interaction.

The Solar Panel installed at MACFAST Campus

Table 7.1
Particulars of Specified Connected Load to the Solar Plant

Specified Connected Load		
Phase	Location	Total Watt
R- Phase (L1)	Office Room – DB#1	8.767
Total Connected Load in R- Phase (L1)		8.767
Y- Phase (L2)	Mess DB#7B	5.283
Y- Phase (L2)	Principal-LDB#2C	2.000
Y- Phase (L2)	Ground Floor(DB2)	1.373
Total Connected Load in Y- Phase (L2)		8.656
B - Phase(L3)	Kitchen-DB#7A	0.543
B - Phase(L3)	Kitchen-DB#7B	0.240
B - Phase(L3)	DB#3(Canteen)	2.110
B - Phase(L3)	LDB#3B(New Bldg)	1.450
B - Phase(L3)	LDB#3C(New Bldg)	0.771
B - Phase(L3)	LDB#4B	0.724
B - Phase(L3)	LDB#2B	0.815
B - Phase(L3)	LDB#1B	1.046
Total Connected Load in B- Phase (L3)		7.699

Total Connected Load	25.122

- **Water Harvesting:**
  The campus has a full-fledged rain water harvesting facility. As a part of the watershed management scheme the institute has constructed two interlinked ponds infront of the administrative block with a storage capacity of 2,25,000 litres of rainwater collected from roof tops. The cost of this project is Rs. 18 lakhs.

- **Effort on Carbon Neutrality:**
  The college has a well organised system to check the emission of carbon dioxide. Special arrangements have been made for parking of vehicles.Seperate parking areas are given for parking four wheeler as well as two wheeler vehicles of staffs and students.Parking areas for visitors are given outside the campus and are not allowed to enter inside the college. Use of plastics is not allowed in the college campus as well as the hostel.
- **Plantation**
  Efforts have been made by the college to maintain eco-friendly green campus.
- **Herbal Garden:**
  The college is maintaining a herbal garden of several spcies of medicinal plants. Nursing and nourishing of these plants are done under the direct supervision of the Head of the Department of Biosciences
- **Hazardous waste management:**
  The college has an established waste management system. Wastebins are kept in each floor, hostels, canteenand other identified spots campus. Special care is taken to makesure thedead leaves and waste papers are not scattered inthe campus as well as in the hostels.
  Wastes collected from the campus are classified into different catagories. The plastic wastes are graded and taken for recycling by outside agencies .The college is also maintaining a plastic shredding unit which shreds plastic wastes.Fast decomposing waste materials are transferred into the Bio-gas plant for generating bio-gas.

7.2 Innovations

7.2.1 Give details of innovations introduced duringthe last four years which have created a positive impact on the functioning of the college.

- **Community Radio (Radio MACFAST)**

Radio MACFAST 90.4 (Reg. No. PRO268) – a social service arm and community radio station owned by the college is the first in-campus community radio in the state of Keralaand 46th in the country which is launched on the 1st of November, 2009. It's believed that

theemergence of a knowledge society is possible through focused work at the grass-root level. It realizes that transfer of knowledge happens in both directions- from the urban society to the rural one and vice versa. It ensures its extensive presence in the central Travancore (parts of Pathanamthitta, Alappuzha, Kollam, Idukki and Kottayam districts) as a catalyst by bridging the knowledge divide in people. It has almost 10 lakh listeners from different parts of these 5 districts. Now Radio MACFAST is a trend setter in community radio segment through its wide range of diverse and interesting programmes, which airs 18 hours and 15 minutes a day. It has a key position in the hearts of people by closely serving the community by reflecting vital community issues and focusing specifically on their needs. True to its punchline-'NattukarkkuKoottai'- (Community's Companion)-it strives to achieve exactly the same:'a partner friend in all the endeavours of the local populace. It is located with its founding philosophy – to give a voice to the voiceless. It acts as a medium for social, cultural and national integration. It intends to work towards creating a civil society with a growing sense of community values, irrespective of caste, creed and gender and for all people of different educational background and walks of life. But at the same time, it also realizes the pulse of the communityas communitare, and the community is its lifeblood, and it needs to be fully a part of it to allow the station to grow. Radio MACFAST 90.4 now becomes the coordinating centre for uniting the knowledge from all sources of information inthe society through community development, reconstruction and national integration.

Radio Programmes

Radio MACFAST 90.4 offers a multitude of programmes for the community which is informative, educative, motivating and entertaining. Around 57 programmes are broadcasted through this radio, and it dedicates 6 hours for telephonic programmes alone. Utmost importance is given by Radio MACFAST in educating people along with entertainment. It broadcasts special programmes on all imporatnr days, based on national, environmental and community importance. Additionally Radio MACFAST encourages peopleby conducting various seminars, exhibitions, shows and competitions.

Talkies and Jokies – a session from the Radio Macfast

Other Initiatives of Radio MACFAST:

Clean and Green Tiruvalla project

It is an initiative of Radio MACFAST 90.4 in association with the Tiruvalla Municipal Council to achieve the aim – Clean and Green Tiruvalla. The concept put forward is NIMBY (Not In MyBack Yard) Syndrome to IMBY (In My Back Yard) habit i.e. waste management is the Source itself which is an initiative to practice micro level decentralized waste management.

Radio MACFAST School Clubs

Radio MACFAST School Club is one of the novel initiatives of this community radio. Almost 15 schools in and around Tiruvalla participates in this program. They have the opportunity to perform their program on every Fridays and Saturdays.

Radio MACFAST Charities

RM Charities finds the poor and the needy in the community who are financially deprived and provides financial and labour assistance towards building houses for the homeless and for the treatment of the terminally ill.

Free Heart Surgery Programme - *'Hridayaspandanam'*

The heart surgery programme- 'Hridayaspandhanam'is one of the social responsibilityactivities of radio in association with PushpagiriMedical College, Tiruvalla and different stakeholders of radio MACFAST 90.4 . One surgerycosts round Rs. 1,50,000. It envisages offering 50 free heart surgeries for those who arein need. So far 9 persons were successfullytreated under 'Hridayaspandhanam'.

Participation from Students

As part of industry interface initiatives, students are participating with the programmes of Radio MACFAST. This enable the students to expose their talents and to get an exposure to explore the unlimited opportunities of community radio.They are offered fair remuneration to exercise the concept of self-sustainable campus. Students have the opportunity to work with radio from 5 pm to 10 pm every day including holidays.

War Against Drugs

War Against Drugs is a crusade programme against the usage of Alcohol and Drugs. Radio MACFAST conducts awareness programmes, seminars, road shows etc. to convey the message of abstaining from the use of liquor and drugs.

Road Safety Programme –*'Nervazhi'*

'Nervazhi' is a one year pilot project launched by Radio MACFAST, in association with the Kerala Motor Vehicle Department and Kerala Police. This programme is intended to give traffic awareness to students and the public.

2. MACFAST INDUSTRY INTERFACE (MII)

The highly competitive business world and the rapidly developing knowledge based service economy attract the attentuion of professionals to manage the business effectively. And this is precisely the reason for acquiring professional qualifications growing, both among the fresh graduates and working executives. Indian Industry, after the liberalization, has become more aware of the vital linkage between the education system and business and corporate productivity.

Academia- Industry Interface facilitates an interactive and collaborative arrangement between academic institutions and business corporations for the achievement of certain mutually inclusive goals and objectives. A productive interface between academia and industry, in the present times of knowledge economy, is a critical requirement. The constantly changing management paradigms, in response to growing complexity of the business environment today have necessitated these two to come closer. The industry-academia interface transacts with the transfer of knowledge and experience/technology.

The modalities of interface, the extent of collaboration and the benefits of the mutually interdependent relationship of academia-industry partnership were carefully examined and the model developed by the college intends to meet the expectations of the industry and academic aspirations.

With the idea of acquiring knowledge and cultivating the right scientific temperament as well as developing technical skills by providing specialized in-housetraining in the diverse fields like Computer Science and Management, the collegehas introduced MII programme at Technopark in Thiruvanathapuram. Such an interface can give rise to a robust, high quality, interdependent, long-term relationship between industry and academy leading to a win–win situation for both. This system of working with academia would be an essential constituent of Supply Chain Management for the Multinational Companies. Moreover, increasing

interdependence between academy and industry will satisfy needs for sustenance and innovation in their respective areas. This initiative aims to offer collaborative learning opportunities for students with the multinational companies at Technopark and other places.

Activities of MACFAST Academy Industry Interface

- Exposing students to state-of-the-art tools that the industry uses to encourage them to see the benefits and limitations of these tools and to think of better solutions. Students would thus have a general idea of what is available and what their future employers expect.
- Providing software courses for students majoring in various disciplines
- Engaging students in long term projects which involve large systems, large groups, and dealing with end users. This would teach students different aspects of analysis, design and implementation by involving the reuse, understanding, modification and extension of existing software.
- Interaction of faculty with the Project Managers of the Companies. This would help in understanding the industry standards and their current projects.
- Conducting seminars by employed professionals of the industry. This would introduce awareness of the existing projects amongst students so they can develop their knowledge to fit into the spectrum.
- Providing soft skill training courses as per the needs of the industry
- Undertaking Consultancy Assignments for the industry.

Composition of MII

i. Academy to Industry

Inorder to impart training for students and to bring academy to industry the college has initiated to establish collaborations with Faith InfoTech, a company in the IT training field, located in the Technopark campus.

ii. Industry to Academy

This is an example of successful cooperation between industry and academics, which is designed to help students develop vocational self-concept, acquire employement skills anddecision making capacity. This interface enable the studentsto get exposure to live projects, customer interaction and professional etiquette.

iii.Corporate Badging

The rationale behind "Corporate Badging" is to identify a talented student who has the right aptitude, interest and passion to set up their professional goals. Selected companies would be coming to the campus to provide relevant inputs related to their domains and to provide specific business knowledge. Students are given an opportunity to opt their companies and these companies would provide them with Corporate Badges. These students who are "badged" will virtually be a part of the company and the company in

turn will give Live Projects and Internships. The Company will put them through a rigorous fire walk, semester to semester, before offering a job to them. These initiatives will enhance the students to set up their immediate study goals and help them to nurture their future career aspirations.

iv. Corporate Scholar

Corporate Scholar Programme is for equipping the faculty with industry knowledge. Faculty will work in industries based on their needs and the requirements of the organization. This helps the faculty in horning their skills and helps in knowledge transfer from the industry to the academy.

Benefits to the members in the Interface

Academy

- Adopting market concepts in education and R&D
- Identifying priority industries which need innovation for competitive advantage
- Developing long-term sustainable collaboration with prioritized industries
- Mobilizing funds for developing infrastructure in the institute for specified R&D activities
- Promoting compulsory internship program for students and industrial research

Industry

- Realizing the possibilities of innovation in products and process through smart brains at institutes
- Identifying priority institutes which may help with innovation for competitive advantage
- Allocating funds for R&D and innovation activities
- Sharing free information with academic institutes on market and technical problems
- Collaborating on a long-term basis with appropriate institutes for R&D activities
- Allocating supervisors for monitoring and supervising project work and research programs of students at the industry
- New start-ups by commercializing ideas given by the academic fraternity thus helping the corporate grow
- Including the academia into their strategic decisions regarding new business ideas

Students

- Improving competency in managing situations
- Exposure to practical aspects of management
- Possibility of getting absorbed in the company as soon as they completes the course
- Increasing the "employability factor"
- Opportunity to practice 'Earn while you learn' scheme

3. MACFAST BIOPLASTICS

Bio Campus, the research wing attached to college has developed bio-plastics, or reinforced plastics, which is claimed to be biodegradable to a large extent and cheaper to produce.

Powdered cellulose obtained from natural fibres such as jute and water hyacinth is used as reinforcement in polymers to make the product. The organic content far exceeds the inorganic one. The product could be used to make buckets, mugs, dashboards, chairs, tables, cutlery, bathroom doors, etc.

Natural cellulose-based fibres were gaining importance for their varied applications in engineering, construction, and automobile sector, where lightweight was the norm. The main constituent of natural fibre is cellulose. One of the products, cloth hangers made on an experimental basis of bio-plastics, was well appreciated by experts at the Central Institute of Plastic Technology, Hyderabad, where the moulding of bio-plastics was done. The college has already filed an application for patenting the product.

There was much demand for environmental friendly products and means to remove hazardous materials from residential and workplace environment. Poly-vinyl chloride (PVC) and formaldehyde-based laminate work surfaces and components were now being discarded due to their toxic nature. Bio-plastics could solve the problem to an extent.The technology was developed with financial support of the central Department of Biotechnology(DBT).

4. MACFAST KNOWLEDGE SCHEME (MAKS)

A programme for helping poor students of the neighbourhood was launched on 15th June 2008 with the following specific objectives

- To cultivate correct practices (orthopraxis) i.e. correctpostures, gait, dressing, punctuality, hygiene and such other.
- To improve communication and leadership skills, fluency inlanguage (both English and Malayalam) and ability to workin a team.
- To improve vocabulary and general knowledge
- To develop self-confidence
- To inculcate moral values and principles
- To help in setting goals and strive to attain them

At present, 134 students from Class 8 to Class 10have attended the programme .

7.3 Best Practices

7.3.1 Elaborate any two best practices which have contributed to better academic and administrative functioning of the institutional objectives and/or conmtributed to the quality improvement of the core activities of the college.

Best Practice -I
Green Hour - AnInstitutional Initiative in Environmental Protection

The environmental issues include several aspects like pollution, wild life conservation, management of waste including bio degradable and non – degradable, global warming, conservation of endangered species, population control, water conservation, energy management etc.The economic development and industrial progress of Kerala at a rapid pace generates a large quantum of waste as well as other environmental issues. The promoters of the college, even at the time of its inception considered this as a vital issue and initiated a campaign to save our enviornment by introducing various programmes like ' clean and green campus', use of solar energy, green hour, identifying and sorting out bio degradable and other waste etc through the full involvement and participation of all the students and faculty members of the college.

- **Goal:**

  The goal of the practice is 'Enhancing active participation of the students in nature conservation and environmental protection through environmental education, awareness and capacity building'.

- **Objectives of the practice:**

To attain the goal the following objectives are being framed.

1. To familiarise the students with country's biodiversity major eco systems and critical landscape.
2. To promote active participation of students in programmes related to nature conservation, waste management, energy management etc.
3. To inculcate an interest among the students in the sustainable management and conservation of natural resources.
4. To minimize waste ful consumption and promotion of judicious use of natural resources by students.
5. To imbibe in the students a spirit of environment consciousness and an urge for protection of nature.

- **The Context:**

  The college has initiated the 'clean and green campus programme' with the slogan " *Go Green,Save Green to make a Clean and Green Campus*" aimed at developing a model

campus which is waste-free, energy-efficient, green and healthy, and empowering the students to directly involve in environmental issues that will exite and motivate them to lay a foundation for everlasting commitment to environment.The programme focuses its activities in the areas of:

- Water conservation,
- Control of water quality,
- Control of air quality and sound,
- Solid waste management
- Energy conservation and management
- Management of landscape and aesthetics
- Campus greening
- Management of social, ethical,and cultural environment
- Minimum usage of polythene etc.

In the beginning the area of operation of this practice was limited in the college campus which include classrooms, the college premises, canteen, mess hall, and the hostels and now it is extended to Tiruvalla Taluk. Through this practice the institution is trying to inculcate a green culture among the staff, students and other stakeholders of the college.

- **The Practice:**

The college has a systematic plan for the implementation of this practice.While preaparing the Master Time Table, one hour is specifically earmarked as "Green *Hour*" for creating environmental awareness as well as for identifying the issues related to it and entertain discussions leading to its solution.The practice is implemented in the institute not only for the students, but also for all faculty members as well as other employees. The present schedule of green hour is 4.00 pm to 5.00 pm on every Thursdays.

The activities transacted in the Green Hour is given below:

4.00 – 4.20 pm: Talk/Presentation by students, faculty members and other staff members in the respective class rooms or in the seminar hall (List of topics to bediscussed are given in advance).

4.20 – 4.30 pm: Environment Management– discussion and pooling together of ideas in the relevant topic.

4.30 – 4.40 pm: Tips for the week (To be discussed and displayed on notice boards)

4.40 – 5.00 pm: Evaluation of the Clean and Green actions of theprevious week by each participant.

All the faculty members and students of the college are directed to participate actively during this hour. Each batch is guided by a group of faculty members in their respective classrooms. Each class/group have a President (s/he chairs the Green Hours), Secretary(s/he organizes the Green Hours , record the minutes, documents , files, photos and other materials) , Content Writer for website (s/he uploads the entire materials of the class/group to the website), Weekly Tips Compiler (s/he identifies the weekly clean and green tips and display it on the notice boards) , Weekly Idea Compiler (s/he collects and the records the ideas of each individual of the class/group and record them in the website). The Principal/Administrator leads the meeting of non-teaching staff during this hour at the Conference Hall.

- **Evidence of Success:**
  Through this programme the college has made efforts to make Tiruvalla a model- waste-free, green, clean and healthy city through a viable, cost-effective and sustainable waste management system with people's participation.
  Change in attitude from ***'NIMBY' TO 'IMBY'-***A drastic change is felt in the attitude of the students — from 'Not In My Backyard' (Nimby) to 'In My Backyard' (Imby). This practice envisages the message of segregation and disposal of waste at its source without transporting it to outside. The implementation of this practice is based on the principle of three 'R's -*Reduce, Reuse and Recycle*which encourages a decentralised mechanism for waste disposal and it generates an income from waste. Hence this practise is self sustainable.

- **Problems Encountered and Resources Required:**
  Reluctance on the part of the students to participate actively in the cleaning activities in the initial stages , lack of environmental consciousness among the public, lack of encouragement from the parents in enviornmental protection initiatives, involvement of students in other extra curricular activities, busy academic schedule of the students, unexpected announcement of examinations, lack of identified programmes for promoting environmental consciousness by nodal agencies etc. are major issues encountered at the implemention stage of this practice.
  The major resources required for the successful implementation of the practice are full support of the nodal agencies, involvement of eminent environmentalists for propogation, active support of local bodies like panchayat, municipality etc, an established mechanism for inculcating the mindset for involvement in the social activities leading to social commitment etc.

- **Contact Details**:

  Name of the Principal : Rev. Fr. Pradeep Vazhatharamalayil

Name of the Institution: Mar Athanasios College for Advanced Studies Thiruvalla (MACFAST)
City: Thiruvalla
Pin Code: 689101
Accredited Status: Cycle -1
Work Phone: 0469-2730300 Fax: 0469-2730317
Web-site: www.macfast.org E-mail: principal@macfast.org
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Best Practice - II
'Earn While You Learn' Scheme

- **Goal :**

The goal of this practice is to 'Provide an opportunity for the students who are keen to learn and explore the possibilities of developing themselves professionally and has the willingness to work with passion and commitment.'

- **Objectives of the Practice:**

Students are motivated to work during the period of their study itself without affecting the regular academic activities. This practise has been developed with the following specific objectives

1. To exploit the potential of the students as a valuable human resource.
2. To give students hands on experience and to equip them for taking up appropriate jobs in future.
3. To encourage the students to learn about the dignity of labour.
4. To equip the students to become independent and to enhance their self esteem.
5. To enable the students to earn a reasonable amount to meet their requirements and to support their studies by themselves.

- **The Context**:

Nowadays profesionel courses like MBA, MCA, and specilaized M Sc courses are available comparatively at a higher cost which is beyond the reach of lower middle class and poor students. Most of them support their advanced learning programmes with the help of education loans. But in the industry oppurtunities are available for part time engagements in many skilled areas where needy and capable students can engage themselves and earn some amount to support for their education. In this context the

college charted out an "earn while you learn" programme in collaboration with various industries and institutions in Kerala.

- **The Practice:**
  The M.Sc students of the institution work in the laboratories and also in Bake House during their free hours. They are paid on hourly basis. Students are also given part time jobs in the college library, MACFAST radio 90.4, administration and other such departments. There are two in – campus companies in the college, InneXCom and MACFAST Technologies were students are also working as part time resource providers. The college Radio provides ample oppurtunities for the students to experience marketing field, programme production, radio jockeys and advertisement marketing.
  MACFAST Library and Information Centre (MLIC) is connected with Earn While You Learn program. This program helps the students in attaining an income during their studies. The selected students working as library assistants are managing the library operations in the evening section (5pm-10pm). Radio MACFAST is also offering students part time jobs as student radio jockeys during their free hours and week ends.

- **Evidence of Success:**
  Lot of students benefitted from this programme. Many of them were able to find money for their personal purposes without disturbing parents and has good opportunities for applying their practicalknowledgeand intelligence. This programme enabled them to enhance their life skills and team building skills and help them to tackle difficult business as well as personal relationships. The college is planning to include more firms to get involved with the 'earn while you learn' programme, so as to provide upgrading of practical knowledge, skill and employability of the students. The MoU related discussions in this regard is going on.

- **Problems Encountered and Resources Required:**
  The major problems encountered are:

  - **The time:**
    The college is affliated to the M.G.University, Kottayam and the semester, syallabus and examinations are fully regulated and controlled by as per the norms of the university. Hence, the time available for purposes other than curricular and co – curricular activities is limited. The college is working for two additional hours by starting the classes at 8.30 and ending the academic programmes by 4.45.p.m. and providing a noon interval of 45 minutes. Therefore, it is possible for the departments to let the students at random for various job engagements

under the 'Earn while you learn' programme. But for the fruitful deployment of students in to various part time jobs profiles a thorough rearrangement of the present time table is necessary. At present the residential students (consists of more then 80%) are able to enter into this programme without seriously interfering with their studies.

- **The responses:**
  Responses to 'earn while you learn' programme, although encouraging for the students, parents in general, are not interested in sending their wards outside the institution for small jobs. They generally want their children to concentrate on their studies hence there is a resistance from certain students and parents to accept this programme, especially parents of the girl students are worried about the safety and security of them.
  To overcome this difficulty, the college conducted detailed meetings and awareness programmes at department level, college level and also for the parents through the PTA meetings.

- **The responsibility:**
  When the 'earn while you learn' programme, introduced much reistance came from the faculty because of the constraints of time in academic responsabilities they have to monitor the tstudents who are engaging in this programme. The extended working hours, oustside activities, transportation problems, disciplinary issues etc discouraged the teachers from whole heartedly involving in this activity. To overcome this issue, the management made flexible working hours for the faculty members. Still certain issues are existing aganist the fruitful implementation of 'earn while you learn' programme which needs attention when this programme is fully implemented.

- **Resources required:**
  - ✓ At present, the academic semesters of students are framed without much scope for activities like earn while you learn programme. The time table need to be reframed to make the students free for professional engagements and at the same time they should be monitored by the faculty, who also has tight academic schedules.
  - ✓ It is possible for the residential students to have afternoon or after class hours engagement in earn while you learn programmes. But for the dayscholars some arrangements are to be made to let them free in the afternoons.
  - ✓ Proper MoUs are to be entered into with enough number of companies, firms and other institutions so as to avail part time employment oppurtunities for students
  - ✓ Availability of adequate, qualified and dedicated faculty members.

- ✓ Implementation of skill development programmes for students. In this regard the college has initiated an aptitude test training software which enables the students to enhance their aptitude skills through online test practise.

- **Contact Details**:

Name of the Principal : Rev.Fr.Pradeep Vazhatharamalayil
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Mobile:9947281827

PART III - EVALUATIVE REPORT OF THE DEPARTMENTS

DEPARTMENT OF COMPUTER APPLICATIONS

The information technology revolution and the consequent shift in the demand pattern of human capital were well understood by MACFAST and pioneered the MCA programme to nurture the talents required for this sector. Being the most literate state in India, Kerala has an edge in software development and a sizeable portion of our revenue is derived from this sector. For exploring the local and overseas employment- market, it is imperative to equip our youths with required knowledge and skills in this direction. In fact, MCA is the first academic programme of MACFAST commenced in the year 2001. Since then much emphasis was given to the proper conduct of this programme and over the years the college has emerged as a top institution in this field among the affiliated colleges of M. G. University.

Evaluative Report

1. Name of the Department : **Department of Computer Applications**
2. Year of Establishment: **2001**
3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

Programme	Discipline
PG	Master of Computer Applications (3 Year)
	Master of Computer Applications (2 Year)

4. Names of Interdisciplinary courses and the departments/units involved: **Nil**
5. Annual/ semester/choice based credit system (programme wise): **Semester**
6. Participation of the department in the courses offered by other departments :

The faculties of the department are engaging classes of other departments

Subject	Departments
Fundamentals of Mathematics	School of Biosciences
Biostatistics	
Fundamentals of Computer Applications	

Management Information System	Department of Management Studies
Telecommunication for Business	

7. Courses in collaboration with other universities, industries, foreign institutions, etc.: **Nil**

8. Details of courses/programmes discontinued (if any) with reasons : **Nil**

9. Number of teaching posts

Teaching Post	Sanctioned	Filled
Professors	1	1
Associate Professors	2	2
Assistant Professors	9	9

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

Sl. No.	Name	Qualification	Designation	Specialization	No. of Years of Experience	No of Ph. D Students guided for the last 4 years
1.	Dr. M. S. Samuel	M.Sc.(Maths), M.Phil, Ph.D	Director and Professor	Mathematics	46	6
2.	Mr. Tiji Thomas	MCA, M. Tech	HOD& Associate Professor	Computer Applications	13	0
3.	Mr. Ashokraj R	MCA, QAI Certification in project management	Associate Professor	Computer Applications	14	0
4.	Mrs. Phijo J. Cherickal	M.Sc (CS), M.Phil	Assistant Professor	Computer Science	11	0

5.	Mr. Deepesh Ayirathi	M. Tech (CS)	Assistant Professor	Computer Science	6	0
6.	Mr. Stephen James	M.Sc., MCA, M. Tech., UGC Net(CS)	Assistant Professor	Computer Applications	9	0
7.	Ms. Ranjini Mariam Philipose	MCA	Assistant Professor	Computer Applications	4	0
8.	Mr. Thomas Mathew	MCA, M. Tech(CS)	Assistant Professor	Computer Applications	3	0
9.	Mr. Terry Jacob Mathew	MCA, M. Phil	Assistant Professor	Computer Applications	3	0
10.	Mr. Sumith P.S.	MCA	Assistant Professor	Computer Applications	3	0
11.	Ms. Sreelekshmi C. Warrier	M. Sc(Maths), M. Phil	Assistant Professor	Mathematics	3	0
12.	Ms. Ashly Ashik	MCA	Assistant Professor	Computer Applications	1	0

11. List of senior visiting faculty: **Nil**

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty : **Nil**

13. Student -Teacher Ratio (programme wise) : **15:1**

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled**:**

Sl. No	Nature of Staff	Sanctioned	Filled

1	Administrative Staff	1	1

15. Qualifications of teaching faculty with D. Sc/ D. Litt/ Ph. D/ M. Phil/PG.

SL. No.	Name	Qualification
1.	Dr. M. S. Samuel	M. Sc.(Math), Ph. D.(Math) M. Phil.(Math)
2.	Mr. Tiji Thomas	MCA, M. Tech
3.	Mr. Ashokraj R	MCA, QAI Cerification in project management
4.	Mrs. Phijo J. Cherickal	M. Sc.(CS), M. Phil
5.	Mr. Deepesh Ayirathi	M. Tech(CS)
6.	Mr. Stephen James	M.Sc., MCA, M. Tech., UGC Net(CS)
7.	Ms. Ranjini Mariam Philipose	MCA
8.	Mr. Terry Jacob Mathew	MCA, M. Phil
9.	Mr. Sumith P.S.	MCA
10.	Ms. Sreelekshmi C. Warrier	M. Phil & M. Sc.(Math)
11.	Mr. Thomas Mathew	MCA, M. Tech
12.	Ms. Ashly Ashik	MCA

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received : **Nil**

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received : **Nil**

18. Research Centre /facility recognized by the University :

Applied for MGU Research Centre

19. Publications:

a) Publication per Faculty:

- **Name of the faculty:** Dr. M.S Samuel

National/ International Journal:

- "Fuzzy Vector Lattices". *The Journal of Fuzzy Mathematics, Los Angeles*. ; 1995, 3: 405 – 409.
- "Fuzzy Sets and Systems". *Elsevier Science BV, Amsterdam*; 1996, 81:379 – 382.
- "Fuzzy Daniell Integral I. Fuzzy Sets and Sytems". *Elsevier Science BV, Amsterdam*; 1996, 81:379 – 382.
- "Fuzzy Daniell Integral III. Fuzzy Sets and Systems". The Journal of Fuzzy mathematics, Los Angeles: 1997, 5(4):781-791.
- "Fuzzy Daniell Integral II. Fuzzy Sets and Systems". *Elsevier Science BV, Amsterdam*; 1998, 96:367 – 371.
- "On some results in Fuzzy Subspace of Cc(X)". *The Journal of Fuzzy Mathematics; 2008*, NJ 08107.
- "Length of fuzzy interval and Lebesgue measure". *The Journal of Fuzzy Mathematic;*2009,17:415 – 420
- "Fuzzy measures, fuzzy Bourbaki and fuzzy Daniell Integrals". *Fuzzy. Bulletin of Kerala Mathematics Association, India; 2009*, 6(2).
- "Properties of Digital Homotopy". *Bulletin of Kerala Mathematics Association, India;* 2011, 8(1):53 – 56
- "Frequent Pattern Mining Using Dynamic Programming". *International Journal of Research in Commerce, IT and Management*; 2011, 1(2).
- "Some results on graphs of semi rings". *Bulletin of Kerala Mathematics Association, India;* 2013, 9(1).
- "Non homogeneous poisson model for mining frequency of an item from data stream". *Technology Operational Management, Springer*; 2013.
- "A model for finding frequent pattern from transactional Database". *Bulletin of Kerala Mathematics Association, India;* 2013,9(2):53 – 56
- "Bounded solution for second order fuzzy initial value problem". *Journal of Science Technology and Management* ; 2012,4

- "Properties of Digital Homology". *Bulletin of Kerala Mathematics Association*; 2011,8(1):53 – 56
- "On Fractional Helmholtz Equation". *Fractional Calculus & Applied Analysis; 2010*, 13(3)

National/International Conference proceedings:

- "Fuzzy Riesz Convergence". *U.G.C. sponsored national level conference on Mathematics*, 1999. Dept. of Mathematics, Gobi Arts & Science College, Gobichetti Palayam, Tamil Nadu
- "Fuzzy Analogue of Stone's Theorem in the context of Fuzzy Vector Valued Integrals", *International conference on "Recent Developments in Mathematical Analysis with Applications to Industrial Problems*, 1998. Dept. of Mathematics, Banaras Hindu University, Varanasi.
- "Fuzzy Vector Valued Integrals and Convergence Theorems". *National symposium on Fuzzy Sets and their Applications*, 1997. Indian Institute of Technology, Madras
- "Measurability and Fuzzy Measure of a Fuzzy Point". *National conference sponsored by U.G.C.*, 1997. N.G.M. College, Pollachi, Tamil Nadu.
- "Fuzzy Vector Valued Integrals" *National seminar on Fuzzy Mathematics and its Applications in Engineering*, held at Govt. Engineering College, Jabalpur, 1996. Madhya Pradesh

- **Name of the faculty:** Ms. Phijo J. Cherickal

  National & International Journal:

  - "Pattern Mining Based On Utility Functions". *International Journal of Engineering Research &Technology (IJERT)*; 2013, 2(6). ISSN: 2278-0181
- **Name of the faculty:** Ms. Ranjini Mariam Philipose

  National /International Journal:

  - "Pattern Mining Based On Utility Functions". International Journal of Engineering Research &Technology (IJERT); 2013, 2(6). ISSN: 2278-0181
- **Name of the faculty:** Mr. Tiji Thomas

Book/Chapters in Books:

- "Database Management System for Business". *Prakash Publications*, Changanacherry, 2011.
- "IT for Office". Prakash Publications, Changanacherry, 2012.

- **Name of the faculty:** Mr. Stephen James

  Book/Chapters in Books:

  - Database Management System for Business". *Prakash Publications*, Changanacherry, 2011.
  - "IT for Office". Prakash Publications, Changanacherry, 2012.
- **Name of the faculty:** Mr. Terry Jacob Mathew

  Book/Chapters in Books:

  - "Database Management System for Business". *Prakash Publications*, Changanacherry, 2011.
  - "IT for Office". Prakash Publications, Changanacherry, 2012.

  National / International Conference Proceedings:

  - "A Case Study on Medical Costs Vs. Adherence Cost". Proceedings, *ICMCMM*: 2013, MACFAST, Tiruvalla

  National/International Journal:

  - "Insinuations of Adherence calculations on Indian Healthcare sector". Journal of Science Technology and Management; 2013, 6(4) 2013: 29-35, ISSN: 0974 - 8334

b) No of Publications per Faculty:

Name	Total No. of Publication	No. of publication in journals	Publications listed in international	Chapters in books	edited books	books with ISBN/ISS	International Conference Proceedi	Impact factor

		National	International						
Dr. M.S. Samuel	21	3	13	13	-	-	-	5	-
Mr. Tiji Thomas	2	-	-	-	-	-	2	-	-
Mr. Terry Jacob	3	-	-	-	-	-	2	1	-
Mr. Stephen James	2	-	-	-	-	-	2	-	-
Ms. Phijo J. Cherickal	1	-	1	1	-	-	-	-	-
Ms. Ranjini Philipose	1	-	1	1	-	-	-	-	-

20. Areas of consultancy and income generated :

Sl. No.	Name of Company	Type of Consultancy	Income
1.	MACFAST Technologies	IT and IT enabled services in Healthcare, Infrastructure, Web enabled services for Administration and Educational ERP	Free Consultancy

21. Faculty as members in

a) National committees **b)** International Committees **c)** Editorial Boards

Sl. No	Name	Editorial Boards & Committees
1.	Dr. M. S. Samuel	Member in Professional Bodies - ORSI, AMTI Editor, Journal of Science, Technology and Management Executive Editor, Bulletin of Kerala Mathematics Association

22. **Student projects :**

a) Percentage of students who have done in-house projects including inter departmental/programme : **Nil**

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies :**100%**

23. Awards/ Recognitions received by faculty and students:

Faculty:

Dr. M. S. Samuel:

- Dr. M. S. Samuel is an approved guide of Mahatma Gandhi University, Kottayam
- No. of Ph.D.'s produced: 7
- Presently supervising 8 research scholars leading to Ph.D.
- Member & Chairman, Post Graduate Board of Studies (Mathematics), Mahatma Gandhi University, Kottayam from November 2000 to October 2003
- Member, Academic Council from April 2001 to April 2005, Mahatma Gandhi University
- Member, Doctoral Committee in Mathematics, Mahatma Gandhi University, Kottayam Since June 1999
- Examiner for Ph. D. thesis evaluation Mahatma Gandhi University
- Examiner for Ph. D. thesis evaluation Bharathiyar University
- Examiner for evaluation of Ph. D. thesis(Computer Science) Mother Theresa University
- Member, Board of Studies , St. Thomas College (Autonomous) , Thrissur since 2014

Resource person of the following National/International Conference:

- **"**On Soft Sets". *National Seminar on New Perspectives in Mathematical Theory of Computer Science*. 2012. Sacred Heart College, Thevara, Kochi, Kerala.
- "Mathematical Modelling in Computer Science with special Reference to Association Mining". *State Level Seminar on Recent Trends in Mathematics*, in association with Kerala Mathematics Association, 2011. Dept. of Mathematics, Little Flower College, Guruvayoor

- "Mathematical Applications to Computer Science" in the National Seminar on New Vistas in Fuzzy Mathematics & Applications (UGC, NBHM sponsored), 2010. Kannur University, Kannur.
- "Mathematical Modelling in Computer Science'. *UGC Sponsored National Seminar, 2009*. K. E. College, Mannanam, Kottayam
- "Data mining, Data farming and Association mining". *National Seminar (UGC Sponsored)*, 2009. S. N. College, Cherthala
- "Fuzzy Information Retrieval". *National symposium on Computational Biology (Sponsored by the Department of Biotechnology, Govt. India)*, 2006. Kristu Jyothy College, Changanacherry.
- "An Application of Fuzzy Measures and Fuzzy Integrals in Human Evaluation Process". *National Conference on Recent Trends in Discrete and Fuzzy Mathematics sponsored jointly by DST, NBHM, CSIR and Kerala Mathematical Association*,2005.Bharatha Matha College, Kochi, Kerala.
- "Fuzzy Sets and Its Applications in Computer Science. *National Seminar on Discrete Mathematics and Fuzzy sets jointly sponsored by UGC and Kerala Mathematical Association, 2005.* Mar Athanasius College, Kothamangalam.
- "Applications of Fuzzy Measures and Fuzzy Integrals". *Graph Theory and Fuzzy Mathematics*, 2003. Catholicate College, Pathanamthitta
- "Some results related to Fuzzy Measures and Fuzzy Integrals". *National Seminar on Mathematics and its Applications, 2001*. Burdwan University, West Bengal.
- "Fuzzy Measures". *National seminar on Fuzzy Mathematics sponsored by U.G.C.*, 1999. U.C. College, Alwaye, Kerala

Mr. Ashokraj R.

- Nominated as Best Manager, Kerala Management Association in 2010.
- Certified TBI Manager , T-TBI, Technopark, Trivandrum in 2012

Mr. Tiji Thomas

- Member, Computer Society of India (CSI) & Indian Society for Technical Education (ISTE).

Recognitions received by students

- Won 1st prize in Treasure hunt competition by Nirmala College (Cameo) – 2011
- Won Best Personality Award, IT Fest , Kristu Jyothi College, Changanassery – 2011
- Won 1st prize for Best Project at Marian College, Kuttikanam (ignite) – 2012
- Won 3rd prize in State level Elocution by Energy Conservation Society, 2012,
- Won 1st Prize in paper presentation, in Technical fest - 'Eximius 12' held in St.Joseph's College of Engineering – 2012
- Won 1st prize in project presentation in Technical fest 'Navigator' held in Marian College, Kuttikanam - 2012
- Won Best Marketing Team , Technical fest 'Eximius 12' held in St. Joseph's College of Engineering – 2012
- Won Best Marketing Team, IT fest conducted by SJCET College (Eximious) - 2012
- Won 2nd place in Concept presentation, IT fest conducted by AJCE College (AZURE) - 2012
- Won 2nd place in Code Cracking, IT fest conducted by SNGIST College (INZIO) - 2012
- Won 1st place in Treasure hunt, IT fest conducted by Santhigiri College (Detecknista) - 2013
- Won 2nd place in Word hunt , IT fest conducted by Depaul College, 2013
- Won 2nd prizes in concept ppt,word hunt, theme show AMALJYOTHY COLLEGE FEST-AZURE, 2011

24. List of eminent academicians and scientists/ visitors to the department

1) Prof. Ajit Kembhavi, Director, IUCCA, Pune

2) Dr. Pushpa Khare, Professor, IUCCA, Pune

3) Prof. R. Srianand, Professor, IUCCA, Pune

4) Prof. A.N. Ramaprakash, Professor, IUCCA, Pune

5) Mr.N.Vinayakumaran Nair, Assistant Commissioner of Police, Hitech cell, Trivandrum

6) Dr. Achuthsankar S. Nair, Director, State Inter University Centre of Excellence in Bioinformatics, University of Kerala

7) Mr. Sunil Balakrishnan, Centre Head, UST Global, Cochin

8) Mr. Anil. K. Jose, Director and Chief Executive Officer of Logic Manse Solutions Inc.

9) Mr. Sreejay Kurup, Senior Architect, UST Global

10) Mr. Umesh Kammath, HR Director, UST Global

11) Mr. Jayan P, Head of Global Human Resources, IBS Software Servicing Private Limited, Trivandrum

12) Dr. Julian Teicher, Professor, Department of Management, Monash University, Australia

13) Dr. Bernadine Van Gramberg, Dean, Swinburne Business School, Australia

14) Dr. Thavanayagom Gnanavinthan, Research Scholar, School of Engineering, University of Waikato, New Zealand

15) Dr. Anusooya Gnanavinthan, Professional Teaching Fellow, The University of Auckland, New Zealand

16) Dr. Ealasukunthan Thavanayagom, Associate Professor, School of Mathematics and Statistics, University of Canterbury, New Zealand

17) Dr. Shams Khwaja, Advocate/Adjunct Professor of Law, Constitutional Law Laboratory, California, USA

18) Dr. S. C. Joag, Associate Professor, Marketing, St. John's University, New York, USA

19) Dr. K. G Subramanian, Professor, Department of Mathematics, Uiversiti Sains Malaysia, Penang, Malaysia

20) Dr. T. Thrivikraman, Professor Emeritus, Department of Mathematics, Kannur University

21) Dr. V. Kannan, Professor of Mathematics & Pro Vice Chancellor, HCU, Hyderabad

22) Dr. N. Jayasankaran, Director General, BIM, and former VC, Kanchi Kamakodi Vidyapeedom, Bangalore

23) Dr. P. Nagabhushan, Professor, Department of Studies in Computer Science, University of Mysore, Mysore

25. Seminars/ Conferences/Workshops organized and the source of funding:

(a) National

Sl. No	Title	Category	Faculty	Date	Funding Agency
1.	AICTE Sponsored Advanced Level intensive training programme in I.T and Management	FDP	Experts from IIMs, XLRI, XIMES	11th -25th February 2009	AICTE
2.	SSC 2011	Conference	Dr. Achuthsankar S. Nair, Shri. N. Vinaya Kumaran Nair	16th -17th September 2011	CSI
3.	A Day with an Astronomer	Workshop	Dr. Pushpa Khare , Prof . Emeritus, IUCAA, Pune	7thSeptember 2012	IUCCA
4.	LIGO – A Giant Gravitational Wave Detector for India	Public Talk	Prof. Ajit Kembhavi, Director, IUCAA , Pune	8th September 2012	IUCCA
5.	Successful career in IT	Seminar	Mr. Jayan P Head of Global Human Resources, IBS Software Servicing Pvt. Ltd.	3rd October 2012	MACFAST
6.	Careers in IT	Seminar	Rajeev Mukundan , TCS	28th January 2013	MACFAST
7.	Cloud Computing	Seminar	Mr. Sreejay Kurup, Senior Architect UST Global	14th March 2013	MACFAST
8.	Seminar on Opportunities And Challenges In The Field Of Astronomy Instrumentation And Engineering	Seminar	Prof. A. N. Ramaprakash (IUCAA)	12th - 14th August 2013	IUCCA
9.	Ramanujan's Life and Work	Seminar	Dr. Jacob Thomas IAS.	14th December 2013	MACFAST

b) International

Sl. No	Title	Category	Date & Year	Funding Agency
1.	International Conference on Mathematical Computing and Management (ICMCM)	International Conference	17th -19th June 2010	AICTE, DST, DAE
2.	IUCCA Workshop on Science with Optical Spectra	Workshop	6th-8th September 2012	IUCCA
3.	ICMCMM	International Conference	13th -15th June 2013	AICTE, DST, DAE
4.	IUCCA Workshop on Astronomy Research: Opportunities and Challenges	Workshop	12th - 14th August 2013	IUCCA
5.	Workshop on Variability of Astronomical Sources	Workshop	20th – 24th January 2014	IUCCA

c) Seminars/Workshop given to Students

Sl. No	Year	Category	Title	Faculty	Date	Funding Agency
1.	2011 - 2012	Seminar	An Introduction to Photoshop	Ms. Chinnu Chandran and Mr. Deepak D. Kurian	22nd July 2011	MACFAST
2.	2011 - 2012	Seminar	Seminar on Cyber Crimes	Mr. N. Vinayakumaran Nair, Asst. Commissioner of Police, Hi-tech cell, TVM	27th July2011	MACFAST
3.	2011 - 2012	Workshop	2 Day Workshop on PHP and MySQL	Mr. Tiji Thomas	4th& 5thAugust 2011	MACFAST
4.	2011- 2012	Workshop	ASP.Net Technologies	Logic Solutions, Kottayam	30th January 2012	MACFAST
5.	2011-	Workshop	Linux	Faculty, IIT	7th March	MACFAST

	2012			Mumbai	2012	
6.	2011-2012	Workshop	Android Technologies	Kites Softwares, Ernakulam	14th March 2012	MACFAST
7.	2012-2013	Workshop	Aptitude Training for Students	Smart Technologies, Coimbatore	7th - 9th February 2013	MACFAST
8.	2013-2014	Workshop	PHP-MySQL	Mr. Tiji Thomas	2nd - 3rd September 2013	MACFAST
9.	2013-2014	Seminar	Change your Script	Adv. Prakash P. Thomas	27th August 2013	MACFAST

26. Student profile programme/course wise: N/A

Year	Name of the Programme	Applications received	Selected	Enrolled		Pass Percentage (%)
				M	F	
2010-2013	MCA(3 year)	97	60	27	33	76.11
2011-2014		95	60	17	43	85.34 (Till 5thsemester)
2012-2015		82	57	14	43	50.2 (Till 3rd semester)
2013-2016		60	37	11	26	Results Awaiting
2014-2016	MCA (Lateral)	66	50	7	36	Results Awaiting
2014-2017	MCA (3 year)	62	44	17	32	Results Awaiting

*M=Male F=Female

27. Diversity of Students

Year	Programme	% of students from the same state	% of students from other States	% of students from abroad
2011	MCA (3 year)	99.09	0.01	0.00
2012		100	0.00	0.00

2013		100	0.00	0.00
2014	MCA(Lateral)	100	0.00	0.00
	MCA(3 year)	100	0.00	0.00

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc. : **NIL**

29. Student progression

Student progression		**Against % enrolled**			
		2008-2011	**2009-2012**	**2010-2013**	**2011-2014**
UG to PG		NA	NA	NA	NA
PG to M. Phil.		2	Nil	Nil	Nil
PG to Ph.D.		Nil	Nil	Nil	Nil
Ph.D. to Post-Doctoral		Nil	Nil	Nil	Nil
Employed	**Campus selection**	20	10	5	10
	Other than campus recruitment	35	40	30	20
Entrepreneurship/Self-employment		2	1	2	1

30. Details of Infrastructural facilities

a) Library

The MLIC is the centralized library of the college with a large number of titles and volume of books, journals and e-resources. Every year additional collections are made and are added to the common pool of the library. The books and journals pertaining to different disciplines are arranged separately and access to the books, journals etc. of any discipline can be done in a user-friendly manner.

The year-wise details of the total Library Collections for the Department of Computer Applications are given below:

Year	Title	Volume	Journal	E-Journals
2010-2011	1610	6745	33	Nil
2011-2012	2034	7399	33	IEEE
2012-2013	2100	7688	28	
2013-2014	2465	8286	28	

b) Internet facilities for Staff & Students :

Two leased line connections of 10 and 2 Mbps each made available for staff and students via LAN & Wi-Fi facility which is firewalled and all the students and faculty members are given username and password to access the internet**.**

c) Class rooms with ICT facility :

All the class rooms are equipped with audio visual equipments which includes LCD projectors, microphones, speakers etc.

d) Laboratories :

Computer lab is equipped with around 240 computers via two LAN connections.

31. Number of students receiving financial assistance from college, university, government or other agencies : **25**

Sl. No	**Name of Scholarship**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**
1	Merit Cum Means Scholarship	1	1	NIL	NIL
2	Scholarship for SC/ST Students	NIL	3	3	5
3	MACFAST Scholarship for Malankara Catholic Students	3	5	2	3
4	MACFAST Scholarship for economically weaker sections	Nil	Nil	Nil	1
5	MACFAST Merit Scholarship	7	7	2	NIL

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

No	Subject	Category	Faculty – Resource Persons	Date
1.	Cloud Computing	Seminar	Mr. Sreejay Kurup, Senior Architect UST Global	14th March 2013
2.	Computational Projects in Astrophysics	Seminar	Prof. Ishwar Chandra National Center for Radio Astrophysics	26th February 2013
3.	Careers in IT	Seminar	Rajeev Mukundan , TCS	28th January 2013
4.	Ramanujan's Life and Work	Seminar	Dr. Jacob Thomas IAS.	14th December 2013
5.	A day with an Astronomer	Seminar	Dr. Pushpa Khare, Prof. Emeritus, IUCAA, Pune	6th September 2013
6.	Successful career in IT	Seminar	Mr. Jayan P Head of Global Human Resources, IBS Software Servicing Pvt. Ltd.	3rd October 2012
7.	LIGO – A Giant Gravitational Wave Detector for India	Special Lectures	Prof. Ajit Kembhavi, Director, IUCAA, Pune	7th September 2012
8.	Careers in IT	Seminar	Rajeev Mukundan , TCS	28th January 2013
9.	Computational Projects in Astrophysics	Seminar	Prof. Ishwar Chandra National Center for Radio Astrophysics	26th February 2013
10	Cloud Computing	Seminar	Mr. Sreejay Kurup, Senior Architect UST Global	14th March 2013

11	International Conference on Mathematical Modelling in Computer Science, Management & Medical Sciences – ICMCMM 2014	International Conference	**Julian Teicher, Monash University, Victoria, Australia**	13th June 2013
			D. S. Sankar, VIT, Chennai.	13th June 2013
			Shams Khwaja, Advocate/Adjunct Professor of Law, Constitutional Law Laboratory, California, USA	13th June 2013
			Bernadine Van Gramberg ,Swinburne University, Melbourne, Australia	13th June 2013
			Baldev Banerjee, Formerly Dibrugarh University, Assam	13th June 2013
			Thavanayagam Gnanavinthan, New Zealand	14th June 2013
			Ealasukhandhan Thavanayagam, University of Canterbury, New Zealand	14th June 2013
			Anusooya Gnanavinthan, Auckland University, New Zealand	14th June 2013
			K. G. Subramanian, Universiti Sains Malaysia, Penang, Malaysia	14th June 2013
			M. Sethumadavan , Amritha Vidhyapeetam, Coimbatore	14th June 2013

			V. Sundarapandian, Vel Tech University, Chennai	14th June 2013
			Nagabhushan P., Professor, Department of Studies in Computer, University of Mysore, Mysore	15th June 2013
			S. G. Joag, St. John's University, New York, USA	15th June 2013
			T. Thrivikraman, Professor Emeritus, Kannur University,	15th June 2013
			Anantha Desik, Head, Insurance & Actuarial Practice, TCS, Hyderabad	15th June 2013
12.	Special Training for Aptitude skills	Special Lecture series	**Smart Technologies, Chennai**	13th – 18th June 2014
13.	ASP. Net Training (1 month)	Special Lecture series	**APTECH, Tiruvalla**	1st – 31st, July 2014
14.	Communication Skills Training (1 week)	Special Lecture series	**Speak Perfect, Maanjoorans Group, Kottayam**	3rd - 12th March 2014

33. Teaching methods adopted to improve student learning

- Lecture method of teaching is supplemented by use of audio visuals, group discussions, presentations, discussions on case studies, industrial visits, project work, field surveys, visit to research centers, etc
- Students are allowed to participate in various seminars and workshops, organized by other

colleges and universities for better exposure and interactions.

- The class contains a mix of intelligent and average students. Considering the difference in capacities of students, the following measures are taken to bridge the gap.
- Study Archive
- Compulsory attendance
- Test series and follow up
- Project / Presentation
- Student Mentoring
- News analysis Sessions
- MII-MACFAST Industry Interface (1 week programmes at Technopark, Trivandrum exclusive for MCA)
- Add-on courses in ASP. Net, Photoshop and Flash
- Special Aptitude training by external experts
- 60 hour intensive communication skills training

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- **Extension Activities:**

  The Department has initiated various outreach programmes with the objective of extending the expertise of the department to the neighboring colleges.

Particulars of the Outreach Programs Organized by the Department in 2013- 2014

Sl No:	Date	College	Location	Course	No: of students	Topics covered
1	6-7, December	BAM College Thurithicadu	MACFAST	BSc - Physcis	39	PHP/MySql
2	9-10 December	Mar Thoma College , Tiruvalla	MACFAST	BSc - Physcis	35	C, C++

3	11-12 December	MarThoma College , Tiruvalla	MACFAST	BSc - Mathematics	32	C, C++
4	2-3 December	Bishop Speechly College, Pallom	Bishop Speechly College, Pallom	BCA	14	PHP/MySql
5	6 January	St. Gregorious College, Parumala	MACFAST	BCA	30	PHP/MySql
6	7-8 January	SreeAyyapa College, Eramallikara	MACFAST	BCA	35	PHP/MySql
7	11-12 January	BAM College, Thurithicadu	MACFAST	BSc - Mathematics	32	Problem Solving using 'C'
8	4-5 February	St. Thomas College Kozenchery	St. Thomas College Kozhenchery	B.Sc - Computer Science	58	PHP/MySql
9	28, February	Viswa Brahmana College , Vechoochira	Viswa Brahmana College, Vechoochira	B.Sc - Computer Science	35	PHP/MySql
10	22-23	St. Joseph College	MACFAST	BCA	15	PHP/MySql

	February	Mallappally				

Particulars of the Outreach Programs Organized by the Department in 2014- 2015

Sl No:	Date	College	Location	Course	No: of students	Topic covered
1	10-Nov June	Mar Thoma College	MACFAST	B.Sc. Physics	21	C ++ , JAVA , HTML , JAVA Script
2	18-19 June	M. E. S. College	Nedumkandam	B. Sc. Mathematics & BCA	80	PHP & MySQL, LATEX , Career Orientation Program
3	24-25 July	JPM College	Kattappana	BCA	55	PHP & MySQL
4	18-19 August	NSS College	Konni	BCA	50	PHP & MySQL
5	17, September	PMG College , Parumala	MACFAST	BCA	23	PHP & MySQL
6	09-Oct October	St. Joseph College Devagiry	Devagiry , Calicut	BCA	28	PHP & MySQL
7	20-21 October	Sree Ayyappa College , Erammallikkara	Erammallikkara and MACFAST	BCA	25	PHP & MySQL
8	17-18 November	St. Thomas College Kozhencherry	Kozhencherry	B.Sc. Computer Science	58	PHP & MySQL

35. SWOC analysis of the department and Future plans

1. SWOC analysis:

Strengths:	**Weaknesses:**
• Need based Live projects and internships • Extension service of MACFAST Technologies and InNEXCOM Solutions	• Prolonged admission process due to the centralization of allotment process • Delay in declaration of results due to overlapping of academic semesters
• Project training support in collaboration with IUCAA • Industrial Training at Technopark Trivandrum • MORP (MACFAST Outreach Programme). • Exposure to National and International Conferences • Special training on NET Technologies and Android • Institutional Membership in professional bodies CSI and ISTE with active student chapter • First non technical institute with ISTE student chapter.	• Delay in updating syllabus by the affiliated university

• A complete programme integrated with curriculum in soft skill development with hired experts. • Book bank scheme enables students to have all prescribed text books at no cost. • Excellent placement support for the students • Strong Alumni network • Wi-Fi enabled campus • Strong management support • Well qualified and experienced faculty • Well-equipped Infrastructure	
Opportunities: • Tie-ups with corporates institutions, IT & IT-enabled firms • Entrepreneurial development in the fields of e-marketing & e-commerce • Developing innovative software solutions to suit changing global requirements • Potential for establishment of Technological Research Centre	**Challenges:** • To keep pace with the fast moving technological environment • Students are reluctant to select MCA as it is the only PG course with three year duration

• The presence of in-campus software development companies enhances training and career building.		

2. Future plans of the Department:

- **To upgrade the department as an approved research centre**
- **Outreach programmes for increasing IT related knowledge in society.**
- MoU with other educational local, national and global institutions.
- Long term and short time project tie-ups with Government and other agencies
- Management related courses in various emerging technologies
- Strengthening of extension and consultancy Services.
- Enhance global competency among students.
- Widening Industry-Institution linkage.
- Starting new multidisciplinary programmes with Mathematics and Management.
- Technology incubation centre for encouraging student start-ups.

DEPARTMENT OF MANAGEMENT STUDIES

The economic liberalization initiated in India in the early 1990s has brought about a paradigm shift in the corporate world along with the privatization and globalization impacts. In order to meet the rapidly growing needs of managerial manpower for industries, agriculture and the service sectors and to function as participative agents of innovation in economic development, the visionaries of MACFAST initiated the MBA Progamme. Although the country has achieved significant progress since the introduction of LPG, the fruits of economic growth are not trickling down to the rural poor who are struggling with poverty, unemployment, malnutrition, illiteracy and other problems. Economic growth will be inclusive only if the living conditions of the rural poor are improved. Co-operatives, Regional Rural Banks, Local Self Governments, NGOs and Micro Finance Institutions are agencies created for the development of the villages. To extend the frontiers of knowledge of rural development and management through research is needed for their coordination towards economic development and there still exists a gap in the need and availability of trained managerial talents. The present mission of the college is therefore is to grow as a premier management institution to foster the managerial and entrepreneurial need of the corporate as well as rural community and dispense best-in-class management technology and human capital.

Evaluative Report

1. Name of the department **:Department of Management Studies**
2. Year of Establishment **:**2002
3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)** **:** PG – Master of Business Administration (MBA)
4. Names of Interdisciplinary courses and the departments/units involved: Nil
5. **Annual/ semester/choice based credit system (programme wise):** Semester

6. **Participation of the department in the courses offered by other departments:**

   The faculty members of the department are engaging classes of the Department Computer Applications and School of Biosciences as given below.

Subject	Departments
Soft Skills Development	Department of Computer Applications, *School of Biosciences*
Cost Accounting	School of Biosciences
Principles of Management & Accounting	Department of Computer Applications
Principles of Management	School of Biosciences
Financial Management	School of Biosciences

7. **Courses in collaboration with other universities, industries, foreign institutions, etc.**: Nil
8. **Details of courses/programmes discontinued (if any) with reasons:** Nil
9. **Number of Teaching posts:**

Sl. No	Designation	Sanctioned	Filled
1	Professor	2	2
2	Associate Professor	5	5
3	Assistant Professor	12	12

10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of Years of Experience	No of Ph. D Students guided for the last 4 years
1	Fr. Pradeep Vazhatharamalayil	MBA	Principal &Associate Professor	Human Resource Management	7	Nil
2	Dr. K. M George	M. Com, Ph. D	Professor	Finance	27	Nil
3	Dr. K. R. Sukumaran Nair	M. Com, M. Phil, Ph. D	Professor	Finance	33	2
4	Mr. Sanesh P. Varghese	MBA, PGDFT, PGDRM, UGC-NET	Associate Professor	Finance & Strategic Management	14	Nil
5	Mr. Varghese Abraham	M. Com ,M. Phil., MBA	Associate Professor	Finance	33	Nil
6	Dr. Jeemon Joseph	M. Sc, MBA, M.A.(Eco), M.Com, Ph. D	Associate Professor	Marketing & Human Resource	13	Nil
7	Dr. Ashalakshmi R. K.	MBA, Ph. D	Associate Professor	Finance & Human Resource	5	Nil
8	Fr. Josey Philip	MBA, M. Phil, PGDBE	Assistant Professor	HR, Entrepreneurship	2	Nil
9	Mr. Christy Bastian	MBA, M.A., M.A.(Hist), M.A.(Eng), M.A.(Soci), L.L. B.	Assistant Professor	Management	10	Nil
10	Mr. Ligo Koshy	B. Tech, MBA, UGC-NET	Assistant Professor & HOD	Human Resource & Marketing	7	Nil
11	Mr. Sudeep Chandramana	B. Tech., MBA, M. Phil	Assistant Professor	Marketing & Strategic Management	17	Nil

12	Mr. V. P. Vijayamohan	M.A.(Eco), M. Phil., MBA, Ph. D.(thesis submitted)	Assistant Professor	Economics & Finance	24	Nil
13	Mr. Shibu Itty Mathew	MBA, UGC-NET	Assistant Professor	Marketing & Human Resource	7	Nil
14	Mr. Ajai Krishnan G	M. Sc.(CS), PGDM-Marketing	Assistant Professor	Marketing & Finance	8	Nil
15	Mr. Arun Prem	PGDM-Marketing	Assistant Professor	Systems & Marketing	8	Nil
16	Ms. Tintu Joseph	M. Sc., MBA	Assistant Professor	Human Resource Management	7	Nil
17	Ms. Preetha G Paniker	B. Tech., MBA, UGC-NET	Assistant Professor	Marketing & HR	4	Nil
18	Fr. Sajan Thomas	MBA	Assistant Professor	HR	2	Nil
19	Mr. Joseph Varkey	MA(Eng)	Assistant Professor	Communication	15	Nil

11. List of senior visiting faculty:

Sl. No	Name	Qualification	Specialization
1	Mr. C. K. Koshy	B. Tech, MBA, M. Phil	Operations Management
2	Dr. P. K Shaji	Ph. D	Environment Management

12. Percentage of lectures delivered and practical classes handled(programme wise) by temporary faculty : 5%

13. Student -Teacher Ratio (programme wise) : 15:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

Sl. No	Name of Post	Sanctioned	Filled
1	Administrative support	1	1

15. Qualifications of teaching faculty with DSc/ D. Litt/ Ph. D/ M. Phil/PG.

Sl.No	Name	Qualification
1	Rev. Fr. Pradeep Vazhatharamalayil	MBA
2	Dr. K. M George	M.Com, Ph. D
3	Dr. K. R. Sukumaran Nair	M. Com, M. Phil, Ph. D
4	Mr. Sanesh P Varghese	MBA, PGDFT, PGDRM, UGC-NET
5	Mr. Varghese Abraham	M. Com ,M. Phil., MBA
6	Dr. Jeemon Joseph	M. Sc, MBA, Ph. D, M.A.(Eco), M.Com
7	Dr. Ashalakshmi R. K.	MBA, Ph. D
8	Fr. Josey Philip	MBA, M. Phil, PGDBE
9	Mr. Christy Bastian	MBA, M.A.(His), M.A.(Eng), M.A.(Soci), L.L. B.
10	Mr. Ligo Koshy	B. Tech ,MBA, UGC-NET
11	Mr. Sudeep Chandramana	B. Tech., MBA, M. Phil.

12	Mr. V. P. Vijayamohan	M.A.(Eco) ,M. Phil., MBA, Ph. D. (thesis submitted)
13	Mr. Shibu Itty Mathew	MBA, UGC-NET
14	Mr. Ajai Krishnan G	M. Sc.(SC), PGDM-Marketing
15	Mr. Arun Prem	PGDM-Marketing
16	Mrs. Tintu Joseph	MBA, M. Sc.(HR)
17	Mrs. Preetha G Paniker	B. Tech, MBA, UGC-NET
18	Fr. Sajan Thomas	MBA
19	Mr. Joseph Varkey	M.A(Eng)

16. **Number of faculty with ongoing projects from agencies and grants received** **a) National b) International funding :** Nil
17. **Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received :** Nil
18. **Research Centre /facility recognized by the University:** Nil
19. Publications:

a) Publications per faculty:

- **Name of the faculty**: Prof. (Dr). K. M. George

Books/ chapters in books:

- "Financial Inclusion Initiatives of Private Sector Banks in Palakkad District of Kerala". *Hand Book of Management & Behaivoural Studies*: 2012; 77. ISBN 978-93-81505-37-3.
- "Investor Preference TowardsUTI Mutual Fund". *Emerging Issues in management & Behaivoural Sciences*: 2012; ISBN9789381212-17-2

- "Employee Satisfactionin Cooperative Entreprises, A case Study of Cannoore Cooperative Spinning Mills Ltd,".*Hand Book of Finance& Business Management:*2012. ISBN978-93-81212-28-8.
- *Contemporary Issues of Finance, Business& Management* (Book Edited); Bharathi Publications, Delhi; 2013.ISBN 978-93- 81212-39-4
- "Dignity and Social Security of Women Through Self-Help Groups". *Contemporay Issues of Finance &Business Management*; 2013. Bharathi Publications, Delhi. ISBN978-93- 81212-39-4

National/ International Journal:

- "Impact of Credit Risk Management on Profitability of South Indian bank". IJMBS: 2012; 1(4), ISBN2278-1285.

National/International Conference proceedings

- "Investor Preference towards UTI Mutual Funds". International Conference on Management & Behaivoural Sciences: 2012, STMP, New Delhi;.
- "Financial Inclusion Initiatives of Private Sector Banks in Palakkad District, Kerala". 5th International Conference on Management and Behaivoural Sciences. The Society of Management & Behaivoural Sciences: 2012, Uttarakhand, India.
- "Employee Satisfaction in Cooperative Enterprises-A Study of Cannanoore Cooperative Spining Mills Ltd". International Conference on Finance& Business Mangement 2013 Society of Technical and Mangement Professionals; 2012, New Delhi, India.
- "Entrepuneurial Innovatoion for Agri-Business,A study on the Impact of Nadukkara Agro Processing Company Ltd".UGC sponsored National Seminar on Impact of Globalization on Rural Entrepreneurship Development in India: 2013, Gandhigram Rural Institute-Deemed University, Dindigul, Tamilnadu, India

- ”Impact of Credit Risk Management on Profitability of South Indian Bank Ltd.”. International Conference on Finance& Business Mangement- Society of Technical and Mangement Professionals:2013, Jaipur, India
- “Dignity and Social Security of Women Through Self-Help Groups”4th International Conference on Finance& Business Mangement organised by Society of Technical and Mangement Professionals: 2013, Haridwar,India,
- “Entrepreneurial Innovation for Agri-Business”. 4th International Conference on Finance& Business Mangement organised by Society of Technical and Mangement Professionals: 2013, Haridwar,India.

➢ **Name of the faculty**: Dr. Jeemon Joseph

National/ International Journal:

- “Students’ Criteria in Selecting A Business School”. International Journal for Research in Commerce and Management: 2013; 3(4). ISSN 2231-5756.
- “Privatization - Is It A Solution to Prioritization?” International Journal for Research in Commerce and Management: 2013;3(10). ISSN 2231-4245.

National/International Conference proceedings:

- “Impact of Research Methodology in Management. National Seminar - ICFAI, 2009, Chennai.
- “Leadership Qualities”. International Seminar- ICFAI, 2010, Hyderabad.
- “Tourism in Rural Areas”. National Seminar – ICFAI, 2010, Calicut.
- “Tourism – A Fast Growing Sector”. National Seminar –IIPS, 2010, Kochi.

➢ **Name of the faculty**: V. P. Vijayamohan

Books/ Chapters in books:

- "Impact of Lbp on Millennium Development Goals of India". Research Management A Contemporary Approach. ISBN 98-81-9104-720-2, Laser Park, Coimbatore.
- "Green Banking: An Initiative of Banks to Sustainable Development". Recent Trends in Banking and Finance, ISBN: 978-93-82062-05-9, Excel India.

National/ International Journal:

- "Customer Perception on Service Quality of Retail Banking In Pathanamthitta District of Kerala". An Empirical Study, ISSN: 2249-264x, Volume2.
- "Perception of the Unemployed Youths' Towards the Unemployed Youth EmploymentGeneration Programme (Uyegp), In Theni District of Tamilnadu". Global J. Of Arts & Mgmt., 2013: 3 (3)ISSN: 2249-2658 (Online): 2249-264x (Print)

National/International Conference proceedings

- Environmental Responsibility of Indian Banks". International Seminar, SJCET: 2011, Pala, Kerala.
- "Impact of Blp on Millinium Development Goals of India". International SeminarVIMS: 2011, Erode, Tamilnadu.
- "Are Indian Banks Gradually Moving From A Cluster Of 'Large Number Of Small Banks' To 'Small Number Of Large Banks"? International Seminar, Kristu Jayanti College-Bangalore.
- "Consolidation of Indian Banks: An Opportunity for Inorganic Growth". BMIM: 2013, Kochi, Kerala.
- "Technological Challenges Of Indian Banking Operations": International Seminar: 2013, MACFAST, Tiruvalla, Kerala.
- "Efforts Of NABARD On Micro Finance And Financial Inclusion In Rural India". International Seminar: 2010, SD College, Kerala.

- "Green Banking: An Initiative of Banks to Sustainable Development". National Seminar: 2011, Saintgits Institute Of Management-Kottayam.Kerala.
- "Sustainable Banking: An Indian Perspective". National Seminar; 2012, Marthoma Institute of Management, Ayoor, Kerala.

➢ **Name of the faculty:** Mr. Sudeep B Chandramana

Books/ Chapters in Book:

- "Management Megatrends - Twenty-first Century Perspectives": 2010, Allied Publishers, Bangalore,
- "Human Resource Management: An Anthology of Contemporary Research": 2009, Excel India Publishers, New Delhi

National/International Conference proceedings:

- "A Paradigm Shift in the Role of HRin Corporate Governance", *National Summit on Human Resource Practices and Management*:2009, Saint Gitts Institute of Management, Kottayam, Kerala
- "Creating Responsible Business Leaders for Global Sustainability", *International Conference on Excellence in Management Practices (ICEMP)*; 2011, Kristu Jayanti College of Management and Technology, Bangalore, Karnataka
- "Inclusive Growth and Youth Empowerment: A Development Model for Aspirational India". *International Conference on* ***Evolving Frontiers in Business-Society-Nation Interfaces*****:** 2011, Indus Business Academy, Bangalore, Karnataka
- "Sustainable Development through Empowerment at the Base of Pyramid – The IAHV Example". *International Conference on* ***Management of Emerging Paradigm Conflicts in a Globalising World*****:** 2010, PES Institute of Technology, Bangalore, Karnataka
- "Towards a Knowledge Economy: Spirituality and Sustainable Development". *International Conference on* ***Emergent Business Models and Strategies for the Knowledge Economy: Impact on Business, Government and Society:*** 2009. Indian Business Academy, Bangalore, Karnataka
- "Taking the Lead towards Sustainable Development". *15th World Forum of the International Association of Jesuit Business Schools (IAJBS):*2009, XLRI, Jamshedpur, Jharkhand
- "Shaping Leaders for Global Sustainability", National Conference on Shaping the Future Leadership Challenges and Business Strategies in Emerging *Markets*:2009, Mount Carmel Institute Of Management, Bangalore, Karnataka

➢ Name of the faculty**: Mr. Ligo Koshy**

Books/Chapters in Books:

- "Customer satisfaction towards mobile phone operators, India Inc. Innovative Management Strategies". *Excel Publication, New Delhi, 2012. ISBN No:978-93-81361-67-2*
- "Editor for the compendium of the International conference India Inc. Innovative Management Strategies". *Excel Publication*: 2012. ISBN No: 978-93-81361-67-2
- "Effect of celebrity endorsement on customer buying behaviour towards gold ornaments, Marketing Dynamics". *Aruna Publications Chennai*: 2013. ISBN: 978-93-81790-93-9.
- "E-Learning-A Pedagogy, India Inc. Challenges and Opportunities". Excel Publication, New Delhi: 2011 ISBN No: 978-93-80697-43-0.

National/ International Journal:

- "Retention Strategy for talented faculty: A study on private management institutions in Bangalore". *Caarmel Journal of Management Research*: 2013, 1(2). ISSN: 2320-1088.
- "Factors affecting the purchasing behaviour of customers towards male grooming products, Zenith". *International Journal of multidisciplinary research*: 2013, 3(7). ISSN 2231-5780.
- "Impact of celebrity advertisement on Gold Jewellary purchasing behavior of customers". *Excel International Journal of multidisciplinary management studies*: 2013. ISSN 2249-8834
- "Role of campus community radio as a channel for improving effectiveness of social marketing: A case study with special reference to Radio MACFAST 90.4".Management innovator: , 7(1). ISSN 0974-6749,
- "Determinants of retail customer satisfaction: A study of organised Retail Outlets in Ernakulum, Kerala". EXCEL International Journal of Multidisciplinary Management Studies: 2014, 4 (8). ISSN 2249- 8834 EIJMMS.

- **Name of the faculty:** Mr. Ajai Krishnan G

Book/Chapters in Books:

- "Effect of Celebrity Endorsement on Customers' Buying Behaviour Towards Gold Ornaments - A Descriptive Study Conducted at Kottayam, Kerala". *Marketing Dynamics*. ISBN: 978-93-81790-93-9

National/ International Journal:

- "Factors Affecting the Purchasing Behaviour of Customers Towards Male Grooming Products", *ZENITH International Journal of Multidisciplinary Research* (ZIJMR); 2013, 3 (**7**). ISSN: 2231-5780.
- "Impact of Celebrity Advertisement on Gold Jewellery Purchasing Behaviour of Customers". *EXCEL International Journal of Multidisciplinary Management Studies (EIJMMS)*; 2013, 3 (6). ISSN: 2249-8834.
- "Consumers Buying Behaviour from Traditional Mom and Pop Stores to Large Format Retail Outlets". *ZENITH International Journal of Multidisciplinary Research (ZIJMR); 2014*, 4 (6). ISSN: 2231-5780.

National/International Conference proceedings:

- "Effect of celebrity endorsement on customers buying behaviour towards gold ornaments: A descriptive study conducted at Kottayam, kerala. *National Conference* "*Recent Trends in Marketing*: 2013. National Institute of Technology, Tiruchirapalli, Tamilnadu.

➢ **Name of the faculty:** Dr. Ashalakshmi R K

National/ International Journal:

- "Work place ethics: Issues and challenges –A Framework to overcome". Journal of Management'-Managing the Future: 2011, 1(2). ISSN 0975-0045-BAM College, Thurithicadu
- "A Study on Creating Cultural Compatibility through Performance Culture". Global Journal of Arts and Management:- 1(3), 1SSN 2249-264X.
- "A Study on Creating Cultural Compatibility through employee interest and workplace morale in IT industry in Kerala". IFRSA Business Review (IBR), 2 (3). ISSN 22498162.

National/International Conference proceedings:

- "Ethical practices in Workplace". International seminar, MSN Institute of Management and Technology, Chavara.
- "A Study on Creating Cultural Compatibility through Performance Culture". National Seminar: 2011. St. Berchman's College, Changanacherry,
- "A Study on Creating Cultural Compatibility through employee interest and workplace morale in IT industry in Kerala". National Seminar conducted, St. Berchman's College, Changanacherry, 2013.

➢ **Name of the faculty:**Mr. Shibu Itty Mathew
National/ International Journal**:**

- "Privatization – Is It a Solution to Prioritization". *International Journal of Research in Commerce, Economics & Management; 2013, 3(10).* ISSN 2231-4245.

➢ **Name of the faculty:** Mr. Arun Prem

National & International Journal:

- "Solar Energy Program Management – Introspection into Educational Institutions with special reference to MACFAST, Kerala". *Forum of Researchers Students and Academician*; 2013, 3(1). ISSN No.: 2249-5444, ISSN No: 2249-8168.
- "Role of campus community radio as a channel for improving effectiveness of social marketing": A case study with special reference to Radio MACFAST 90.4, Management innovator, 7(1). ISSN 0974-6749

b) No of Publications per Faculty**:**

Name	Total No. of Publication	No. of publication in journals	Publication listed in	Chaptersin book	Books edited	No. of books with ISBN/ISSN	National/ International	Impact factor

		National	International						
Mr. Ligo Koshy	9	-	5				4		
Dr. K. M. George	13		1	1	5	1	1	7	2.55
Dr. Jeemon Joseph	6	-	2	2	-	-	2	4	1
Dr. Ashalakshmi R. K.	6	2	1	1	-	-	3	3	-
Mr. V. P. Vijayamohan	12	-	2	2	2	-	4	8	-
Mr. Sudeep Chandramana	11	2	-	-	2	2	4	7	
Mr. Ajai Krishnan G	4	-	3	3	1	-	4	1	4
Mr. Arun Prem	2	1	1	1	-	-	2	-	-
Mr. Shibu Itty Mathew	1		1	1	-	-	1	-	-

20. Areas of consultancy and income generated : Nil

21. Faculty as members in

a) **National committees** b) **International Committees** c) **Editorial Boards….**

Sl. No	Name	Editorial Boards
1	Dr. K. R. Sukumaran Nair	Journal of Science Technology And Management

22. Student projects :

a) **Percentage of students who have done in-house projects including inter departmental/programme** : Nil

b) **Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies** : 100 %

23. Awards/ Recognitions received by faculty and students

a) Faculty members:

Dr. K. R Sukumaran Nair

- Member, Board of Studies in Commerce (Pass), University of Kerala, reconstituted in February 1998
- Member, Faculty of Commerce , University of Kerala, reconstituted in May, 1998
- Member, Board of Studies in Commerce (PG), University of Kerala, reconstituted in November 2004
- Chairman, Board of Studies in Commerce (Pass), University of Kerala, reconstituted in march 2008
- Member, Sub-Committee constituted for drafting 'University of Kerala Regulations for First Degree Programmes under the Choice Based Credit and Semester System (CBCS) in Affiliated Colleges, 2009.
- Approved research guide of University of Kerala.
- Membership in All India Commerce Association
- Membership in Indian Accounting Association
- Acted as member of different interview boards of the Kerala State Public Service Commission as subject expert and nominee of the government.
- Honoured by Ahimsa Samvaay Kendra(a unit of Jain Viswa Bharathi Ladun), on the occasion of the Teachers Day celebrations at Gandhi Bhavan, Thiruvananthapuram, Kerala on 5th September 2008 for the meritorious service as a teacher of repute.

Prof. Varghese Abraham

- Appointed as Additional Chief superintendent for the conduct of MG university Off-campus Examination of Apr 2009 in the international centre of Ajman (Sharjah)
- Appointed as Additional Chief superintendent for the conduct of MG university Off-campus Examination of April/May 2011 in the international centre of Zenith Training Institute, Oman
- Acted as member of different interview boards of the Kerala State Public Service

Commission as subject expert.

- Visiting faculty, School of Biosciences, M. G. University, Kottayam

Mr. V. P. Vijayamohan

- Admitted as Fellow of International Association of Accounting Professionals (IAAP), UK.

Mr. Sanesh P Varughese

- Recognized by AIMA as an Accredited Management Teacher.

Mr. Sudeep B Chandramana

- Recognized as a certified faculty of Vyakti Vikas Kendra India(VVKI)

b) Students:

- Won the 1st Prize in the HR Game at Management fest conducted at SB College, Changanacherry , 2014
- Won the 3rd Prize in the Marketing Game at Management fest conducted at SB College, Changanassery , 2014
- Won the 1st Prize in the HR Game at Management fest conducted at Amity Business School ,Cochin, 2014
- Won the 2nd prize in the zonal competition of the Maria Philip Memorial debate competition at XIME, Kochi, 2014
- Won the best manager price at All India Mangement Fest concuted by DC School of Mangement Studies, Vagamon, Idukki, 2013
- Won the overall championship at Musliar College, Pathanamthitta, Management fest 2013
- Won the overall championship at DC School Vagamon, Management fest 2013
- Won 2nd prize for Business Plan and Marketing Game at Marian College Kuttikkanam, Fest 2014
- Won 2nd Prize for Marketing Game at SB College Changanacherry, Fest 2013
- Won 2nd prize in Business plan completion in Marian college Kuttikkanam, Fest 2012
- Won 3rd prize in the Marketing Game in Marian College Kuttikkanam, Fest 2012
- Won 2nd prize in the Marketing Game in Management Fest, SB College, Changanacherry, 2012
- Won 1st Prize in the Best Management Team in Saintgist, Changanacherry, Management Fest 2012
- Won the Best Manager in Saintgist Changanacherry, Management Fest 2012

- Won the Best Manager in Lourde Matha College of Science & Technology, Trivandrum, Business Fest 2012
- Won 1st prize in Best Management team in Lourde Matha College of Science & Technology, Trivandrum, Business Fest 2012
- Won 2nd prize in the Best Marketing Team in Rajagiri College, Ernakulam, Fest 2012

24. List of eminent academicians and scientists/ visitors to the department

- Prof TC Alexander, Former Dean, XIME, Bangalore, Former GM, TISCO
- Dr. George Sleeba, M.Tech Ph.D, Former Chairman & MD, FACT Ltd
- Mr. T. T Thomas, Former Chairman & Managing Director, FACT, Past President AIMA
- Dr. M. Sivaraman, PhD, Director, Centre for development, Thiruvananthapuram
- Mr. R.P Lalaji, Chairman and MD, Seaview Support Systems Pvt Ltd, Technopark, Thiruvanathapuram
- Mr. Deepak L Aswani, CEO, Prestige Lanhmandas Group
- Mr. John Joseph, Former President, IAC; Vice President Marketing, Reliance Petroleum Company, Reliance Industries Ltd.
- Mr. C.J Mathews, Development Commissioner, Cochin Special Economic Zone.
- Dr. Jose Paul, Former Chairman, Murmagoa Port trust; Visiting Professor, Manipal Academy of Higher Education.
- Mr. S. Ramnath, MD, KINFRA, Thiruvanthapuram.
- Mr. Gail Roussos, International HR Trainer, Virginia, USA.
- Dr. Constantine Roussos, Fullbright Scholor, University of Virginia, USA.
- Mr. G Mohan, Director, Operations, TASC International (Malaysia) SDN.BHD.
- Dr. S. Sreekumar, Ph.D, Scientist, Central Sericultureal Research and Training Institute, Mysore.
- Prof. P.R. Poduval, Dean, Bhavans Royal Institute of Management, Tiruvankulam, Former Director , School of Management Studies, CUSAT.
- Mr. K. George Jacob, Development Manager (Rtd.) ITC Ltd. Hotels Division, Cochin.
- Mr. Thomas Thomas, Former Executive Manager, Ernst & Young.
- Mr. Renji Zachariah, Project Coordinator, Dubai Port World, UAE.
- Dr. Dimple Tresa Abraham, Asst Professor, IILM Delhi.
- Mr. Dilip Koshy Koshy, MD, Redletters Business Solutions Pvt. Ltd., Kerala.
- Prof. Dr. K.K John, Professor of economics, St. Thomas College, Palai.
- Dr. Ninan Sajeeth Philip, PhD, Department of Physics, St. Thomas College, Kozhencherry.
- Dr. Sara Cherian, Department of Bioinformatics, University of Pune.
- Dr. JamesJoseph, PhD, Director, Institute of Psychotherapy, HRD Career Guidance, Kottayam.
- Dr. B. Harikumar, BAMS, Medical Superintendent, KNM NSS Ayurvedic Hospital, Vallamkulam, Thiruvalla.
- Dr. T.R. Sathyakeerthy, Ph.D, Assistant Director, Govt. of India Field Testing Station, Changanassery.
- Dr. Venkittaraman Subbiah, Former HOD, Department of Food Science & Technology, MACFAST.

- Mr. C.K Koshy, Former Engineer, Department of Port & Customs, Dubai.
- Adv. Rajashekaran Nair, Practicing Lawyer.
- Mr. Suncy Varghese, former Associate (Ernst & Young).
- Mr. Abraham Stephen, International Trainer, JAYCEES.
- Mr. Manu Mohan Das, Trainer, International Association for Human Values (IAHV), Bangalore.
- Dr. Jacob Thomas, IAS (Rtd.), Former Chairman, Cochin Port Trust & Petronet LNG, Cochin.
- Mr. Deepak L Aswani, CEO, Prestige Lachmandas .
- Dr. V K Vijayakumar, Strategic Analyst, Geojit BNP Paribas.
- Mr. Joe Thomas, CEO, AVG Motors.
- Dr. George Neelankavil, (Doctoral Specializations: Management/Organizational Leadership/HRD)
- Ms. Asha Fenn, HR Consultant.
- Mr. Ben Kurien, Talent Manager.
- Mr. Sabu Mohammed, Executive, Ernst & Young.
- Mr. P.L Prakash James, President, ICCI.
- Mr. Rajesh Nair, Vice President-Markets, Ernst & Young.

25. Seminars/ Conferences/Workshops organized & the source of funding

a) **National** : Nil

b) **International** : Nil

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
2010-2011	350	113	50	63	95
2011-2012	300	114	51	63	85
2012-2013	280	107	57	50	90
2013-2014	100	61	22	39	Results awaiting
2014-2015	150	114	52	62	Results awaiting

*M=Male F=Female

27. Diversity of Students

Year	% of students from the same state	% of students from other States	% of students from abroad
2010-2011	100%	Nil	Nil
2011-2012	100%	Nil	Nil
2012-2013	100%	Nil	Nil
2013-2014	100%	Nil	Nil
2014-2015	100%	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc. ? Nil

29. Student progression

Student progression		Against % Enrolled			
		2009-2011	2010-2012	2011-2013	2011-2014
UG to PG		NA	NA	NA	NA
PG to M. Phil.		Nil	Nil	Nil	Nil
PG to Ph.D.		Nil	Nil	Nil	Nil
Ph.D. to Post-Doctoral		Nil	Nil	Nil	Nil
Employed	Campus Selection	32	36	25	35
	Other than Campus Recruitment	40	42	68	62
	Entrepreneurship /Self Employment	2	3	2	1

30. Details of Infrastructural facilities

a) Library

The library of the college is equipped with a large number of books and journals for references. The facility of Book Bank Scheme is offered to the students. The digital library functioning as part of the general library is useful for the students in doing their project work and for the faculty members in up dating the curriculum content and also for undertaking research programmes. The year-wise details of the total Library Collections for the Department of Management Studies are given below:

Year	Title	Volume	Journal	E-Journals
2010-2011	1817	7700	83	Nil
2011-2012	2716	9080	83	ProQuest & Jgate Management (Infotainment)
2012-2013	3200	10064	70	
2013-2014	3555	11036	70	

b) Internet facilities for Staff & Students

The entire college is Wi-Fi enabled and all the students and faculty members are given username and password to access the internet. Computer, printer& Scanner is provided in the staffroom for the faculties

c) **Class rooms with ICT facility:** All the class rooms are equipped with audio visual equipments which includes LCD projectors, Microphones, speakers etc.

d) **Laboratories:** Nil

31. Number of students receiving financial assistance from college, university, government or other agencies.

Sl.No	Name of Scholarship	2010-2011	2011-2012	2012-2013	2013-2014
1	Merit Cum Means Scholarship	Nil	Nil	Nil	4
2	Scholarship for SC/ ST Students	Nil	8	6	5
3	MACFAST Scholarship for Malankara Catholic Students	7	11	10	12
4	MACFAST Merit Scholarship	Nil	1	Nil	Nil

32. Details on student enrichment programmes (special lectures / workshops / seminar) with

external experts

Details on students' enrichment programmes with external experts:

- MD & CEO of South Indian Bank interacted with the students during the inauguration of MACFAST Entrepreneurship Development Programme
- Rev. Fr. Jose Thottakara, Director of Naipunya International Kochi on "Overseas Education"
- Mr. Thomas Chacko, Company Secretary on A Profession (KAP)
- Mr. Rajeev Mukundan, Group Head, TCS Kochi Visited the Campus & took a presentation on Careers in IT
- Mr. Johny Joseph, Chief Manager, IDBI Life insurance & Ms. Mini P Raphel, Senior Team Manager HR
- Dr. Ani. S Das, MD of Kerala Feeds on "Attitudinal Expectation of Industry about MBA Graduates"
- Mr. Sanjith Ravi , Regional Manager, ICICI Bank on scope of MBA in modern Scenario
- Dr. Rajan Perunna, GM Lifeline, MCS INDIA Ltd on bridging the GAP between Industry and Academia
- Hisham Kabir, CEO Ideal Food And Catering, Cochin on Modern Era management Techniques
- Dr. Ashok Cherian Koshy, UAE Exchange and Financial Services on Corporate communication.
- Rajesh Nair, Ernst & Young Pvt. Ltd. on Emerging Opportunities for young Management professionals in Kerala
- Mr. Shyam Srinivasam MD, CEO, Federal Bank on Leadership
- Mr. Ramappa T, Former secretary General, Bangalore chamber of Industry and Commerce interacted with the students
- MD and CEO of South Indian bank inaugurated the MACFAST entrepreneurship Development Programme
- Mr. Wonder Joky, Regional Business head, Randstad addressed the students on placement issues and writing of quality CV's
- Mr. Rajeev Mukundan, Group Head , TCS Kochi interacted with the students on the topic career

- MBA students attended a session on relevance of GM crops in food security in connection with National Science day celebration
- "Analysis of Union Budget 2013" by Dr. Martin Patric, Visiting Prof. CUSAT
- Dr. Mani Paul, Management Consultant on " Indian Financial Environment"
- Inaugurated MACTIC (MACFAST Trading & Investment Club)
- Mr. K G Gireesh Kumar, CEO Technopark
- "Goal Setting" by Mr. Sashikanth R. Prabhu for the First Semester
- Dr. Jose Paul, Dr.Jacob Thomas & Mr. James Pothen conducted a session on "Devaluation of Rupee, Remedial Measures taken by RBI & the Future of Indian Economy" for the First Semester students
- "Leadership and Communication Skills" by Dr.Jose Paul, "Goal Oriented Behavior" by Dr. Jacob Thomas & "Motivation" by Mr. James Pothen.
- Mr. Shyam Srinivasan MD& CEO, Federal Bank
- Mr. Rajan George, RG Consultancy
- **Mr. Sashikanth R Praphu, CRBC Training**
- Dr. Ashok Cherian Koshy, UAE Exachange And Financil Services
- Mr. Rajesh Nair, Ernst & Young Private Ltd
- Post Budget Analysis of Union Budget 2014 by Dr. K.K John, Former HOD St. Thomas College Pala

33. Teaching methods adopted to improve student learning

- The teaching- learning method adopted in this college supplemented by use of audio visuals, group discussions, presentations, discussions on case studies, industrial visits, project works, field surveys, visit to research centers, etc. Group discussions and analysis on case studies are organized in the classroom to enhance interpersonal skills.
- Industrial visits are organized for the students to gain practical knowledge about the functioning of various firms and industries. Students are allowed to participate in various seminars and workshops, organized by other college and universities, which gives them exposure and opportunity for interaction. The class contains a mix of intelligent and average students. Considering the diversity in capacities of students, the following measures are taken to bridge the gap.
- Online Study Archive
- Compulsory Attendance.
  - Test Series and Follow up.
  - Organisation study/ Main project.

- Student Mentoring
- Seminar on Contemporary Issues
- MII-MACFAST Industry Interface
- Global Industrial Visit (Malaysia)
- OEL –Outbound Experiential Learning
- PGL – Personal Growth Lab
- Yes+ Programme
- Continuous Soft Skill Training.
- Pre placement training
- Add on courses on various domain like Excel, ERP, FSA, logistics, strategic management etc
- Student's progress is continuously monitored through class tests and the result is communicated to the students and their parents.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- **Clean and Green Tiruvalla-** The students and faculty members of the department of management studies actively participated in propagating the idea of proper waste management for a clean environment.
- **Rays of Love:**'Rays of Love' is a social service initiative from the students andstaff of MACFAST. Initially it was a noon meal distribution programme for the poor patients admitted in the Pushpagiri Medical College general ward. Gradually with the active participation of all sections of the college through generous contributions, this programme was expanded and later-on undertook the distribution of school kits including school bags, umbrellas and the like to 26 needy children in the neighboring Government schools. Rays of Love also contributed to "fifty Free Heart Surgery" programme initiated by Radio MACFAST 90.4. Efforts are also being made to form a blood donation club for the people in need.
- **War against Drugs:** The College is declared as a smoke free and alcohol free campus from the very inception. Later wide awareness campaigns are initiated against the use of addictive drugs. Faculty members and students participated in the Cycle rally organized by Radio MACFAST on 10th February 2012, to create awareness about the ill-effects of alcohol, drugs and other dangerous substance abuse.

- **MACFAST Knowledge Scheme (MAKS):** Prof. Varghese Abraham, Senior Faculty member of the department is acting as the coordinator of the scheme. Many faculty members of the Department of Management Studies are among the faculty who take classes for MAKS programme. MAKS is a skill development programme designed to develop overall personality of school children and to prepare them for all competitive examinations starting with PSC exams upto IAS, IPS IFS exams. It is usually arranged during vacation periods.
- Students are actively participating in various initiatives of NSS programmes of the college.
- **MORP (MACFAST Outreach Programme):** This is an extension programme of MACFAST to build up cordial relationship with traditional college students and to guide them towards professional education and employment.

Objectives of MORP:

The Programme is organized with the following specific objectives**.**

- Orientation on expectations companies from a job applicant
- Understanding the success mantra - Best Choice demonstration
- Basic understanding of personality development and team building as required to perform better at workplace
- Dealing with initial rounds of job interview
- How companies filter job applications and how to utilize the available possibilities to build up an impressive resume.
- Workshop on Group Discussion process. (Session based on evaluation criteria of recruiters)
- Specialized modules on improving spontaneity in speaking English or vernacular language, Stress free learning, personality development, team building and soft skill requirements

List of colleges in which MORP programmes are conducted

Sl No:	Date	Name of College	Location	Course	No: of studentsattended	Topics covered
1	25th September 2013	Assumption College, Changanasserry	Assumption College, Changanasserry	B.Com	71	Training on Group Discussion, Resume Writing & GD
2	22nd November 2013	Govt. College Nattakom	Govt.College Nattakom	Placement Cell	65	Training on Personality Development, Resume Writing & G.D
3	25th November 2013	Bishop Speechly College,Pallom	Bishop Speechly College,Pallom	Bcom,M.Com	61	Training on Personality Development, Resume Writing & G.D
4	6th December 2013	St.Marys College Thiruvalla	St.Marys College Thiruvalla	BBA	46	Training on Personality Development, Resume Writing &G.D
5	7th December 2013	St.Marys College Thiruvalla	St.Marys College Thiruvalla	BCom	60	Training on Personality Development, Resume Writing & G.D
6	9th December 2013	St.Marys College Thiruvalla	St.Marys College Thiruvalla	BCA	52	Training on Personality Development, Resume Writing & G.D
7	16th January 2014	St. Alosyus College,Edathua	St.Alosyus College Edathua	B.Com	58	Best Choice Demonstration, Resume Writing & G.D
8	17th January 2014	St. Alosyus College,Edathua	St.Alosyus College Edathua	BA Economics	55	Best Choice Demonstration, Resume Writing & G.D

9	18th January 2014	St. Alosyus College,Edathua	St.Alosyus College Edathua	BA English	52	Best Choice Demonstration, Resume Writing & G.D
10	4th February 2014	MES College,Erumeli	MES College,Erumeli	BBA	55	Best Choice Demonstration, Resume Writing & G.D
11	12th February 2014	NSS College Konni	NSS College Konni	B. B.A	60	Best Choice Demonstration, Resume Writing & G.D
12	14th February 2014	JPM College Lubbakkada	JPM College Lubbakkada	B.Com	56	Best Choice Demonstration, Resume Writing &G.D
13	15th February 2014	Jyothis Pastrol Centre,Kattappana	Jyothis Pastrol Centre	BA,B.COm	45	Best Choice Demonstration, Resume Writing & G.D
14	19th February 2014	NSS College Konni	NSS College Konni	B.Com	50	Best Choice Demonstration, Resume Writing &GD
15	3rd March 2014	Bishop Moor College Mavelikkara	Bishop Moor College Mavelikkara	B.Com	58	Best Choice Demonstration, Resume Writing&GD
16	2nd September 2014	Kristhujyothi College Changanasserry	Kristhujyothi College Changanasserry	B.Com	60	Best Choice Demonstration, Resume Writing&GD

17	9th September 2014 & 10th September 2014	Pazhassiraja College,Pulpally	Pulpally	Bcom,BBA,BA	130	Best Choice Demonstration, Resume Writing&GD
18	20th September 2014	Kristhu Jyothi College, Chanaganaserry	Changanasserry	B.Com,BCA	120	Best Choice Demonstration, Resume Writing&GD
19	26th September 2014	Mar Gregorious College,Pulikeezhu	Pulikeezhu	B.Com	60	Best Choice Demonstration, Resume Writing&GD
20	24-10-2014	BAM College,Thuruthicadu	BAM Thuruthicadu	B.Com,M.Com	65	Best Choice Demonstration, Resume Writing&GD

35. SWOC analysis of the department and future plans

SWOC analysis:

Strength:	**Opportunities:**
• Qualified and experienced faculty members • State of- the –art infrastructure facilities • Wi-Fi enabled campus • Commitment & support of top management • Strong alumni network • Placement support for the students • Strong support and association of KMA & CTMA • Linkages with various NGOs and developmental agencies • Student centric learning process • Frequent MACFAST Industry Interface • Personality & Skill Development	• Growing demand for management oriented courses • Twinning programs with other universities in and outside India • Leadership for rural development programmes • Potential for a Research Centre • Excellent opportunities for Earn While You Learn programmes • Innovative business projects • Scope for entrepreneurship development • Consultancy for SME units • Marketing support for Agro-based products

programmes • Business Incubation centre and EDP Club • Multi-disciplinary knowledge transfer • Successful conduct of 'TANTRA' the annual mega management meet by students • Brand management for rural industries and values added products products • Formation of business projects/plans on behalf of businessman for submission to banks	• Technical and managerial support to SHGs and micro finance units. • Feasibility studies and market research for localized business organizations.
Weakness: • Industrial backwardness of the locality • Undue delay in the declaration of the results by the University • Lack of proximity to major industries. • Delayed updation of curriculum by the university • Lack of University- Industry linkages	**Challenges:** • Proliferation of similar institutions • Limited opportunities in the local job market • Brain drain to other countries • Lack of flexibility in the curriculum content of the University • Dearth in the availability of well qualified and trained experts

1. Future plans of the Department:

- Conduct feasibility studies in different areas of business and management.
- Initiating steps for granting permission from the affiliated university to establish a full-fledged and approved research center.
- Focus on rural development programmes through involvement in supply chain management, plantation management, agro processing and marketing.
- Developing competency to do consultancy services in areas like wealth management, investment management etc.
- Establishment of business incubation hub within the campus.
- To upgrade the department as a center for excellence in management studies.
- Establish effective link between development agencies for promoting inclusive economic growth.
- Brand building and marketing of products developed by other departments of MACFAST.

SCHOOL OF BIOSCIENCES

The School of Biosciences at MACFAST was established with a view to support and partake in the vision of seeing India as an economically powerful developed nation. In the early years of the 21st century, there was an acute shortage of new generation courses in Biosciences throughout the state of Kerala. Biosciences are a rapidly growing vibrant field, which covers a wide spectrum such as Biochemistry, Molecular Genetics, and Bioinformatics etc. Considering the global demand due to accelerated growth and advancement in the field of Biotechnology and the successful implementation of scientific and research activities in health and agricultural sectors, MACFAST introduced relevant programmes in Bioscience. For integrating mathematical, statistical and computational methods to learn, manage, analyze and explore biological data, a M.Sc. multidisciplinary programme, in Bioinformatics was introduced in 2002. In order to meet the growing demands for scientists and technologists in food processing and preservation, the M.Sc. course in Food Science and Technology was started in 2003. It was followed by the M.Sc. courses in Biochemistry and Plant Biotechnology in 2004. In order to conserve the rich bio-diversity of Kerala (which is one among the 34 bio diversity hotspots in the world), and to have a sustainable development, MACFAST introduced Phytomedical Science and Technology – the latest discovery in alternate medicine, in 2005. The Dept. of Biosciences has been recognized as a Centre for Research by the Mahatma Gandhi University, Kottayam, and Ph. D programmes in Biosciences were initiated.

Evaluative Report

1. **Name of the department :** School of Biosciences
2. **Year of Establishment:** 2002
3. **Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):**

S.No.	Programmes/ Courses offered (PG)
1	M.Sc. Biochemistry
2	M.Sc. Bioinformatics
3	M.Sc. Biotechnology
4	M.Sc. Food Science and Technology
5	M.Sc. Plant Biotechnology
6	M.Sc. Phytomedical Science and Technology

4. **Names of Interdisciplinary courses and the departments/units involved:**
   All the courses in the School of Biosciences are interdisciplinary

5. **Annual/ semester/choice based credit system (programme wise):**
   All M.Sc. programmes are based on Credit Semester System (CSS)

6. **Participation of the department in the courses offered by other departments:**
   The faculty of Bioscience undertakes classes for various streams of M.Sc. programmes under the School of Biosciences.

7. **Courses in collaboration with other universities, industries, foreign institutions, etc.** : Nil
8. **Details of courses/programmes discontinued (if any) with reasons:** Nil
9. **Number of Teaching posts :**

Post	**Sanctioned**	**Filled**
Professor	2	2
Associate Professor	1	1
Asst. Professor	12	12

10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.)**

Sl. No.	Name	Qualification	Designation	Specialization	No. of years of experience	No. of Ph.D. students guided for the last 4 years
1.	Dr. C. Balagopalan	M.Sc., Ph.D.	Director of Research	Microbiology	35	Nil
2.	Mr. Biju Dharmapalan	M.Sc., M.Phil., GATE- NET	Head, School of Biosciences	Plant Biotechnology	14	Nil
3.	Dr. Maya Subramoni	M.Sc., Ph.D.	Professor and Research guide	Phycology	20	Nil
4.	Dr. Sanu Jacob	M.Sc., Ph.D.	Associate Professor	Food Science	13	Nil
5.	Mr. Harish R	M.Sc., UGC-NET	Asst. Professor	Microbiology	12	Nil
6.	Dr. Madhu Shankar	M.Sc., Ph.D.	Asst. Professor	Biotechnology	2	Nil
7.	Dr. Gincy Marina Mathew	M.Sc., Ph.D.	Asst. Professor	Biotechnology	2	Nil
8.	Ms. Betsy M. Baby	M.Sc.	Asst. Professor	Bioinformatics	7	Nil
9.	Ms. Pinchu Elizabeth Thomas	M.Sc.	Asst. Professor	Food Science	7	Nil
10.	Ms. Treesa Varghese	M. Sc.	Asst. Professor	Biochemistry	7	Nil
11.	Ms. Sini Kurien	M.Sc.	Asst. Professor	Biochemistry	6	Nil
12.	Ms. Syama S	M.Sc.	Asst. Professor	Biochemistry	1	Nil
13.	Ms. Sherry M. Varghese	M.Sc.	Asst. Professor	Food Science	2	Nil
14.	Ms. Gipthi Mohan	M.Sc.	Asst. Professor	Food Science	1	Nil

11. List of senior visiting faculty :

Sl. No	Name	Qualification	Specialization
1	Dr. C. K. K. Nair	Ph. D	Biochemistry
2	Dr. P. K Shaji	Ph. D	Environment Science
3	Dr. Manish	Ph.D.	Cell culture
4	Dr. Venkataraman	Ph. D.	Food Science & Technology
5	Dr Reghurajan	Ph.D.	Plant Biotechnology
6	Mr. Winson Sam	M. Pharm	Pharmacology

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty: 10%

13. Student - Teacher Ratio (programme wise): 8:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled: 2

Sl. No	Post	Sanctioned	Filled
1	Technical Staff	2	2

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil/PG.

Name	Qualification
Dr. C. Balagopalan	M.Sc., Ph.D.
Dr. Maya Subramoni	M.Sc., Ph.D.
Mr. Biju Dharmapalan	M.Sc., M.Phil., GATE-NET
Mr. Harish R	M.Sc., UGC-NET
Dr. Madhu Shankar	M.Sc., Ph.D.
Dr. Gincy Marina Mathew	M.Sc., Ph.D.

Dr. Sanu Jacob	M.Sc., Ph.D.
Ms. Betsy M. Baby	M.Sc.
Ms. Pinchu Elizabath Thomas	M.Sc.
Ms. Treesa Varghese	M.Sc.
Ms. Sini Kurien	M.Sc.
Ms. Sherry M. Varghese	M.Sc.
Ms. Syama S	M.Sc.
Ms .Gipthi Mohan	M.Sc.

16. **Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:** 5
17. **Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received:**

Details of the Research Projects, Funding Agencies and Amount of the Grant

(Rs. in Lakhs)

Nature of the project	Duration of year (from –to)	Title of project	Name of funding agency	Total Grant		Total grant received (Rs.)
				Sanctioned (Rs.)	Received (Rs.)	
Major Project	2007 – till date	Pilot plant and Incubation centre	Food Processing Industry, Govt. of India	14.00	14.00	14.00

	2007 –2010	Algal Resources of South- West Coast of India –Systematic Study and Evaluation as Food and Nutritional supplements	Department of science and technology, Govt. of India	15.00	15.00	15.00
	2008-2012	**Development of Optical fiber Biosensors Based on ATP-Bioluminanscence assay for rapid hygine monitoring in hospitals for effective deterrence of nosocomial infections**	DST, Govt. of India	21.3	21.3	21.3
	2009-2012	Integrated Technology for the Production of Reinforced Bio plastic using Celluloses of Plant Origin.	Department of biotechnology Govt. of India	29.00	25.00	25.00
	2012-2015	Bio diversity of Medicinal Macrofungi: Their Nutritional & Therapeutical Values.	Department of science & technology Govt. of India	25.00	20.00	20.00
Minor Project	2004-2007	Micropropagation of *Myristica sp.*	KSCSTE, Govt. of Kerala	6.00	6.00	6.00
Minor Project	2014-2019	**Establishment of a Herbal Garden for Mass Education and Wide Spread Cultivation by Raising Herbal Nursery**	Medicinal Plant Board,Govt. of India	2.5	0.00	0.00
	2010-2011	**Development of an *in vitro* protocol for Rapid Multiplication of *Rhizophora mucronata*, a Vulnerable Plant**	KSCSTE, Govt. of Kerala	0.10	0.10	0.10
	2012-2013	**Callus Initiation from the Immature Flower Buds of *Ensete superbum* Roxb**	KSCSTE, Govt. of Kerala	0.10	0.10	0.10
	2012-2013	Developing a Protocol for in vitro Propagation of Screw pines	KSCSTE, Govt. of Kerala	0.10	0.10	0.10

	2012-2013	**Studies on pigments of marine algae of south-west coast of India**	KSCSTE, Govt. of Kerala	0.10	0.10	0.10
	2014-2015	**In *vitro* Regeneration from the nodes of Inflorescence peduncle of *Eryngium foetidum* L.**	KSCSTE, Govt. of Kerala	0.13	0.00	0.00
	2014-2015	*In vitro* Culture of *Gloriosa superba* L., anendangered Medicinal Plant	KSCSTE, Govt. of Kerala	0.11	0.00	0.00

18. Research Centre /facility recognized by the University:

The School of Biosciences is a recognized research centre of M. G. University

19. Publications:

a)Publications per faculty:

- **Name of the faculty**: Dr. Balagopalan. C

National/ International Journal:

- **"Functional Properties Of Cellulose – Reinforced Bioplastics and Their Potential Usage As Food Packaging Material". *Journal of Science Technology and Managemen*t; 2014, 7(1): 31-34.ISSN No: 0974 – 8334.**

- **Name of the faculty:** Betsy M Baby

National /International Conference proceedings:

- "DoR-The complete Receptome Database" presented in the 17th ADNAT symposium held at CCMB, Hyderabad
- "Domain Designer"-Designer protein development tool for synthetic systems biology experiments". 17th ADNAT symposium held at CCMB, Hyderabad
- "Computational Analysis of Putative Calmodulin Binding Protein SUN". International Symposium Biospectrum,; 2009, RGCB, Thiruvananthapuram
- "Biofortification: A valuable ingredient in high quality cereals production". International Symposium Biospectrum; 2009, RGCB, Thiruvananthapuram
- "Database on Imprinted Genes;' GeneiMprint(GEMDb)' ". International Symposium on Computationl Biology and Drug Design; 2013 Mar Athanasios College for Advanced Studies, Tiruvalla
- "Computaional Studies on Proteolytic Activity of Papain to Increase the Platelet Count". International Symposium on Computationl Biology and Drug Design ;2013, Mar Athanasios College for Advanced Studies, Tiruvalla

➢ **Name of the faculty:** Dr. Gincy Marina Mathew

National & International Journal:

- "Highly glucose tolerant β-glucosidase from Aspergillus unguis - NII 08123 for enhanced hydrolysis of biomass". Journal of Industrial Microbiology andBiotechnology ; 2013, 40: 967-975.
- "Synergistic collaboration of gut symbionts in Odontotermes formosanus for lignocellulosic degradation and biohydrogen production". Bioresource Technology; 2013, 145: 337-344.
- "Microbial community analysis in the termite gut and fungus comb of Odontotermes formosanus: The implication of Bacillus as mutualists. FEMS". Microbiology Ecology; 2012, 79(2): 504-517.
- "Antioxidant and antihemolytic activities of common Nilgiri barberry (Berberis tinctoria Lesch.) from South India". International Food Research Journal; 2012, 19(4): 1601-1607.
- "DGGE detection and screening of lignocellulolytic bacteria from the termite gut of Coptotermes formosanus". Malaysian Journal of Microbiology; 2011, 7(4): 201-209.
- "Establishment of Functional Rumen Bacterial Consortia (FRBC) for simultaneous biohydrogen and bioethanol production from lignocelluloses". International Journal of Hydrogen Energy; 2011, 36(19): 12168-12176.
- "Anti-inflammatory, analgesic and anti-lipid peroxidative effects of Rhaphidophora pertusa (Roxb.) Schott. and Epipremnum pinnatum (Linn.) Engl. aerial parts". Indian journal of Natural Products and Resources; 2010, 1(1): 5-10

- "Comparative study on antioxidant activity of methanol extract and flavonoid –rich fraction of Nyctanthes arbor-tristis leaves". Electronic journal of Environmental, agricultural and Food chemistry; 2010, 9 (1): 227-233.
- "Cellulase production using biomass feed stock and its application in lignocelluloses saccharification for bio-ethanol production". Renewable energy; 2009, 34: 421-424.
- "Progress in research on fungal cellulases for lignocellulose degradation". Journal of Scientific & Industrial Research; 2008, 67: 898-907.
- "Antioxidant activity of Pseudarthria viscid". Indian Journal of Pharmaceutical Sciences; 2007 69: 581-582.

National/International Conference proceedings:

- "Synergistic collaboration of gut symbionts in Odontotermes formosanus for lignocellulosic degradation and biohydrogen production". 5th International conference on Industrial Bioprocesses (IFIB -2012); 2012, Taipei,
- "In vitro free radical scavenging potential of Nyctanthes arbor-tristis". In- National Conference on Bioxplore, Vivekananda College of engineering for Women; 2006, Tiruchengode, Tamil Nadu.
- "Exploring the lignocellulose degrading bacterial community in the fungus-growing termite gut". American Society for Microbiology, 112th General meeting, San Francisco; 2012.
- "Identification and characterization of a glucose tolerant Beta–glucosidase from a novel fungus Aspergillus unguis NII-08123". In- International conference on New horizons in Biotechnology; 2011, Trivandrum.
- "The function and optimization conditions of Termitomyces isolated from the termite gut of Odontotermes formosanus (Taiwan)". In-Asian Mycological Congress 2011 and 12th International Marine and Fresh Water Mycology Symposium; 2011, University of Incheon, Incheon, Korea.
- "The occurrence of Bacillus species and their potential roles in fungus comb of Odontotermes formosanus (Fungus growing black subterranean termite)". In-Ecology of Soil Microorganisms ; 2001, Prague, Czech Republic
- "Termitomyces species and other microbes associated with the fungus comb of Odontotermes formosanus from Taiwan". In- International Mycological conference (IMC); 2001), Edinburgh, United Kingdom.
- "Comparative study on antioxidant activity of methanol extract and flavonoid–rich fraction of Nyctanthes arbor-tristis leaves". 3rd Indo Korean Joint Seminar on Medicinal Plant Research (IKMPR-2010); 2010, Coimbatore, Tamil Nadu.
- "Studies on the fungal microbial communities of the fungus comb of Odontotermes formosanus". In-Asian Mycology Congress (AMC 2009) and the 11th International Marine and Fresh water Mycology Symposium (IMFMS); 2009, Taichung, Taiwan.
- "Bioethanol from lignocellulosic biomass: Indian scenario and perspectives". In-International Conference on Technologies and Strategic Management of Sustainable Biosystems; 2008, Western Australia.

- "Optimization of enzyme cocktails for lignocellulose saccharification. International conference and exhibition on Renewable energy in BEXCO and Nurimaru; 2008, Busan, Korea.
- "Bioethanol from water hyacinth biomass; An evaluation of distributed bio-fuel production strategy". International conference and exhibition on Renewable energy in BEXCO and Nurimaru; 2008, Busan, Korea.
- "Bioethanol from lignocellulosic biomass-Concept of biorefinery". International conference on New horizons in Biotechnology; 2007, Trivandrum.

➢ **Name of the faculty:** Dr. Madhu Shankar

National & International Journal

- "Catalysis product captured in lumazine synthase from the fungal pathogen Candida glabrata". Acta Crystallographica Section D: Biological Crystallography; 2013, D69: 1580-1586.
- "Product complex of Lumazine Synthase from Candida glabrata". ; 2012, (PDB code-4KQ6) http://www.rcsb.org
- "[Fe2L3]4+ Cylinders Derived from Bis(bidentate) 2-Pyridyl-1,2,3-triazole "Click" Ligands: Synthesis, Structures and Biological Activity"; Molecules; 2013.

➢ **Name of the faculty**: Dr. Sanu Jacob

National & International Journal:

- "Ready to eat nectarines - assuring quality in the chain". Acta Horticulturae; 2010, 880:99-103. ISSN: 05677572
- "Optical absorption and scattering phenomena in 'Jubileum' plums in relation to their colour properties". Acta Horticulturae; 2010, 858: 381-386. ISSN: 05677572
- "TRS-measurements as a nondestructive method assessing stage of maturity and ripening in plum (Prunus domestica L.)". Acta Horticulturae; 2010, 858: 443-448. ISSN: 05677572
- "Water loss in horticultural products -Modelling, data analysis and theoretical considerations". Acta Horticulturae; 2010, 858: 465- 471. ISSN: 05677572
- "Prediction ability of firmness decay models of nectarines based on the biological shift factor measured by time-resolved reflectance spectroscopy". Postharvest Biology and Technology; 2009, 54 (3): 131-140
- "Time-resolved reflectance spectroscopy as a management tool in the fruit supply chain: an export trial with nectarines". Biosystems Engineering; 2009, 102(3):360-363.
- "Time-resolved reflectance spectroscopy as a tool for selecting at harvest 'Ambra' nectarines for aroma quality". Acta Horticulturae; 2009, 796: 231-235. ISSN: 05677572

- "Assessing harvest maturity innectarines". Postharvest Biology and Technology; 2007, 45(2):204-213. ISSN: 09255214
- "Ethylene production in nectarine fruit of different maturity as measured by time-resolved reflectance spectroscopy. In: Ramina, A". Advances in Plant Ethylene Research; 2007, 219-221. ISBN: 9781402060137
- "Effects of maturity on chlorophyll related absorption in nectarines, measured by non-destructive time-resolved reflectance spectroscopy". International Journal of Postharvest Technology and Innovation; 2006, 1 (2): 178-188. ISSN: 17447550
- "Changes in sugar and acid composition of 'Ambra' nectarines during shelf life based on non-destructive assessment of maturity by time-resolved reflectance spectroscopy". Journal of Fruit and Ornamental Plant Research; 2006, 14 (2): 183-194. ISSN: 12310948
- "The post-harvest control of Alternaria fruit rots of brinjal using different fungicides and plant extracts". Orissa Journal of Horticulture; 2006, 34 (1): 113-116. ISSN: 09732160
- "Postharvest use of organic coating for maintaining bio-organic avocado and mango quality". Acta Horticulturae:2005; 682 (1): 507-512 ISSN: 05677572
- "Crop Improvement in Guava: An Overview". Indian Journal of Plant Genetic Resources; 2001, 14 (3): 325-330. ISSN: 09718184
- "Studies on the success of softwood grafting in some commercial hybrid mango (Mangifera indica L.)". Orissa Journal of Horticulture; 2001, 29 (2): 6-9. ISSN: 09732160

➢ **Name of the faculty**: Ms. Pinchu Elizabeth Thomas

National/International Journal:

- Functional Properties Of Cellulose – Reinforced Bioplastics And Their Potential Usage As Food Packaging Material. Journal of Science Technology and Management; 2014, 7(1):31-34.ISSN No: 0974 – 8334.
- "Preparation and Characterization of Micro Cellulose and its Cellulose Acetate from Cotton TextileWaste". Biomass and Bioenergy, Communicated (JBB-D-11-00028)

National/International Conference Proceedings:

- "Rapport between Bioinformatics and Food Technology". International Symposium on Computational Biology and Drug Design; 2013, MACFAST, Thiruvalla, India

➢ **Name of the faculty:** Mr. Biju Dharmapalan

National /International Journal

- "Establishment of Fast-Growing Normal Root Culture from the Leaves of Coleus vettiveroidesJacob". Advanced Biotech;2011,11 (3):16-18

- "An Efficient Protocol for Multiple Shoot Initiation in Coleus vettiveroides Jacob, medicinally important plant". Advanced Biotech.; 2011, 10,(9):34 – 36.
- "Isolation and characterization of essential from the leaves of Cymbopogon flexuosus (Steud.) Wats. Growing in Aryanad". Journal of Science Technology and Management;2011, 3 (4), 5-8

National /International Conference proceedings:

- "Evaluation of antioxidant activity of Musa cultivars using TBARS assay". Proceedings National seminar on Nutritional phytochemicals;2010, Christain College, Kattakada
- "In vitro initiation of roots from leaves of Alangium salvifolium (Linn.f.) Wang". Proceedings 7th National Seminar on Medicinal Plants; 2008, Govt. Ayurveda College, Thiruvananthapuram
- "Chemical composition and antimicrobial activity of essential oil from the leaves of Cymbopogon flexuosus (Steud.) Wats". Proceedings 6th National seminar on medicinal plants; 2007, Govt. Ayurveda College, Thiruvananthapuram.
- "Effect of media strength in the multiple shoot production of Bacopa monnieri (L.)Pennell, an important medicinal plant". Proceedings 6th National seminar on medicinal plants; 2007, Govt. Ayurveda College, Thiruvananthapuram.
- "Phytochemical investigation and antibacterial activity of Gymnema sylvestre (retz.) r.br. ex roem.& schult. and andrographis paniculata (burm.f.) wall. ex nees". Proceedings of the nineteenth Kerala science congress; 2007.
- "Multiple shoot production and biochemical analyses in Bacopa monnieri, an important medicinal plant". Proceedings of the ninety fourth annual session of the Indian science congress association; 2007.
- "Micropropagation of Gymnemma sylvestre, a vulnerable medicinal plant". Proceedings of the ninety third annual session of the Indian science congress association, Part IV p242; 2006.
- "In vitro culture and biochemical studies of Cymbopon flexuosus (steud.)Wats". Proceedings 5th National seminar on medicinal plants; 2006, Govt. Ayurveda College, Thiruvananthapuram.
- "Micropropagation of Syzygium samarangense, a medicinal plant". Proceedings National Symposium on recent trends in biotechnology; 2005, Sree Buddha College of Engineering, Alapuzha.
- "A brief study of effect of various PGRs in the micropropagation of Santalum album L., an endangered plant". 4th National seminar on Medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram.
- "Analyzing and characterization of p53 gene (in silico)". Proceedings National Symposium on recent trends in biotechnology; 2005, Sree Buddha College of Engineering,Alapuzha.
- "Induction of callus in endangered medicinal plant Gymnemma sylvestre". Proceedings 4th National seminar on medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram."Bioinformatics a valuable tool in biomedical research".

Proceedings 4th National seminar on medicinal plants; 2005. Govt Ayurveda College, Thiruvananthapuram.

- "Study of genetic polymorphism in GSTT1 and GSTM1 Genes". 4th National seminar on medicinal plants; 2005, Govt Ayurveda College, Thiruvananthapuram.
- "Conservation of plants in changing world". Proceedings National Environment Awareness Campaign; 2000, Centre for Interdisciplinary studies, Trivandrum.
- "Conservation of rare medicinal plant Aristolochia bracteata". Proceedings 9th Swadeshi science Congress; 1999.
- "Taxonomy as tool in Biodiversity conservation". Proceedings International conference on Conservation of Tropical species, communities and ecosystems;1999, TBGRI, Palode
- "Need for tree planting and protection". Proceedings NationalEnvironment Awareness Campaign; 1998, Centre for Interdisciplinary studies, Trivandrum.

Books/Chapters in Books

- "Scientific Research Methodology"; 2012, Narosa, Delhi.
- "Methodology of Plant Science", 1st edition, Academica,Thiruvananthapuram; 2012.
- "Methodology and perspectives of Science-Botany". Academica, Thiruvananthapuram; 2011.
- "Methodology and perspectives of Science-Zoology". Academica, Thiruvananthapuram; 2010.
- "Botany for plus one", 9th edition. New Jyothi Publications, Thiruvananthapuram; 2011.
- "Initiation of multiple shoot Buds in Clerodendron inerme, a mangrove associate. In Non-Timber Forest Products and Medicinal Plants-Conservation, improvement and sustainable utilization"; 2012. eds Sanjay Singh and Rameshwar Das. ICFRE, Dehradun. pp 28-32
- "Fermented Products from Mango. In Mango Production and Processing Technology"; 2012. Vol. 1, eds. Sudha G Valavi et al. Studium Press LLC, USA. pp 648-654.

- **Name of the faculty:** Mr. Harish R

National/International Journal:

- "Clinical Association and Resistance Pattern of Bacterial Pathogens Causing Nosocomical Infections". Journal of Science Technology and Management; 2014, 7(1): 21-30, ISSN No: 0974 – 8334.

- "Standardization of ATP-Bioluminescence assay for rapid detection of nosocomial infective agents". Journal of Science, Technology and Management; 2013), 6(2): 7-12.
- "In vitro pre-selection of Lactobacillus strains isolated from fermented dairy products for their probiotic potential". Indian Journal of Microbiology; 2007.
- "Production of Heat-stable Proteases by Bacillus sp. Isolated from Alkaline soils receiving dairy waste drainage".Indian Journal of Microbiology; 2005.
- "Prevalence and persistence of pathogenic vibrios in shellfishes and shellfish growing waters in Cochin estuary". Asian J. of Microbiol. Biotech. Env. Sc.; 2006.
- "Prevalence of opportunistic pathogens in paddy-cum-shrimp farms adjoining Vembanadu Lake, Kerala". Asian Fisheries Science; 2003.16: 185-194.
- "Studies on extracellular alkaline proteases from soil Bacillus sp". Asian J. of Microbiol. Biotech. Env. Sc; 2005.
- "Growth characteristics of enteropathogenic Escherichia coli and Salmonellatyphimurium on shrimp muscle at different temperatures". J. Food. Science and Technology; 2005, 48(2): 175-179

National/ International Conference Proceedings:

- Bacteriology of Cole lands used for fish farming in Malappuram District. Kerala". In: Proceedings of the National Symposium on Riverine and Reservoir Fisheries of India; 2001: 231-236.
- "Prevalence and antibiotic resistance of E. coli in extensive brackish water aquaculture ponds". Fishery Technology; 2003, 40 (1): 8-12.
- "Prevalence of opportunistic pathogens in paddy-cum-shrimp farms adjoining Vembanadu lake, Kerala". Asian Fisheries Science; 2003, 16: 185-194.
- Growth characteristics of enteropathogenic Escherichia coli and Salmonellatyphimurium on shrimp muscle at different temperatures. J. Food. Sci. Technol; 2005, 48(2): 175-179.
- "Production of Heat-stable Proteases by Bacillus sp. Isolated from Alkaline soils receiving dairy waste drainage". Proceedings of the National Symposium on Recent Trends in Biotechnology; 2005:117-120.
- "Studies on extracellular alkaline proteases from soil Bacillus sp". Asian J. of Microbiol. Biotech. Env.Sc.; 2005.
- "Prevalence and persistence of pathogenic vibrios in shellfishes and shellfish growing waters in Cochin estuary". Asian J. of Microbiol. Biotech. Env. Sc.; 2006.
- (2007). "In vitro pre-selection of Lactobacillus strains isolated from fermented dairy products for their probiotic potential". Proceedings, International Symposium on Advances in Food Biotechnology and Nutrition; 2007, 50.

- **Name of the faculty:** Dr. Maya Subramoni

  National & International Journal:

  - "A study on the algal diversity of Vamanapuram River of South Kerala, in relation to certain water quality parameters". Indian Hydrobiology; 2007, 10 (1): 157 – 163.
  - "Ethnobotany of marine algae of south-west coast of India". Seaweed Res.Utln.; 2008, 30 :269-271.
  - "Cutivation of Kappaphycusalvarezii Doty (Doty) in India – Prospects and perspectives". J.ScienceTech.Management; 2009, 2(1):7 – 10.
  - "Studies on Extraction, Isolation and Characterization of Bioactive Compounds from the Aquatic weed Cabomba caroliniana A. Gray". Journal of Agricultural Science & Technology A (Accepted); 2014

  National /International Conference proceedings:

  - "A study on the inhibitory effect of some marine algal extracts on matrix metalloproteinase activity". Proceedings of theInternational conference on Algal Biomass, Resources and Utilization; 2010, 153-156.
  - "Studies on seasonal variation in biochemical and elemental composition of Kappaphycus alvarezii Doty (Doty) cultivated in Kerala coast". Proceedings of the International conference on Algal Biomass, Resources and Utilization; 2010, 55-57. Areas of consultancy and income generated : Microbial analysis of food products and water; phytochemical analysis
  - b) No. of Publications per faculty:

Name	Total No. of Publication	No. of Publication in journals		Publication Listed in International Database	Chapters in Book	Books Editted	No. of books with ISBN/ISSN	National/ International conference/proceedings	Impact factor
		National	International						
	School of Biosciences								
Dr. C. Balagopal	1	1	-	-	-	-	1	-	-
Mr. Biju Dharmapalan	27	3	-	-	7	1	24	17	-
Mr. Hareesh R.	16	4	4	-	-	-	-	8	-
Dr. Sanu Jacob	15	5	10	-	-	-	15	-	7
Dr. Madhu Sankar	3	-	3	3	-	-	3	-	19
Dr. Gincy Mariam	24	4	7	11	-	-	11	13	18
Ms. Pinchu Elizabath Thomas	3	2	-	-	-	-	1	1	-
Ms. Betsy M. Baby	-	-	-	-	-	-	-	6	-
Ms. Maya Subramoni	6	4	-	-	-	-	-	2	-

20. Areas of consultancy and income generated : **Microbial analysis of food products and water; phytochemical analysis ; Rs. 50,000/-**

21. Faculty as members in

b) National committees b) International Committees c) Editorial Boards….

Sl. No	Name	Editorial Boards	National Committees
1	Dr. C. Balagopalan	Journal of Science Technology And Management	
2	Mr Biju Dharmapalan	Journal of Science Technology And Management; SAS Publishers, New Delhi	Menor, DST-INSPIRE, Govt. of India, Listed in the Data Base of Science Communicators in

			India, published by Vignan Prasar, DST, Govt. of India

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme : **10%**

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies : **100 %**

23. Awards/ Recognitions received by faculty and students

Recognitions received by faculty members

Faculty:

- Dr C. Balagopalan
  Filed a patent for the *Reinforced Bioplastics*
- Mr Biju Dharmapalan

  Invited teacher fellow of 73rd and 74th Indian Academy of Sciences Annual Meeting.

  Listed in the Data Base of Science Communicators in India, published by Vignan Prasar, DST, Govt. of India, 2013

  Listed in the Mentors/Resource persons for Summer/Winter Camps and other INSPIRE initiatives, DST

  Recognized in Marquis Who's Who Recognitions received by students

Students:

- Rixon Raj (M.Sc. Biochemistry 2011-2013) got 58th all India Rank in CSIR –UGC JRF june 2014
- Ajith Ashokan (M.Sc.Plant Biotechnology 2009-2011) got 40th all India Rank in the GATE Examination 2014.
- Ms Sumi,T.N and Mr Somy Varghese of M.Sc. Plant Biotechnology received grant from KSCSTE Student project scheme ,2014.

- Ajith Ashokan (M.Sc.Plant Biotechnology 2009-2011) got 38th all India Rank in csir –ugc jrf December 2013
- Five Students got selection for the PG Student Interaction Programme organized as part of 26th Kerala Science Congress held on the 28th- 31st January 2014 at Kalpetta, Wayanad organized by the *Kerala State Council for Science Technology and Environment, Govt. of Kerala.*
- Mr. Ratheesh of M.Sc. Bioinformatics received DBT studentship under the adhoc scheme on establishment of sub DIC at CPCRI Kasargod,2014
- Five Students got selection for the PG Student Interaction Programme organized as part of 25th Kerala Science Congress held on the 29th Jan -1st Feb 2013 at Trivandrum organized by the *Kerala State Council for Science Technology and Environment, Govt. of Kerala.*
- Ms. Janani Anukamba Jnana Thapaswini of M. Sc. Phytomedical Science and Technology got first Rank in the M.G University Examination 2013
- Ms.Roopa Nampoothiri of M.Sc. Bioinformatics received DBT studentship under the ad hoc scheme on establishment of sub DIC at CPCRI Kasargod-2013
- Harinandanan P V (M.Sc.Plant Biotechnology 2009-11) qualified GATE Examination 2012.
- Mr Jyothish M S of M.Sc. Plant Biotechnology received National Science Academies Summer Research Fellowship during the year 2010.
- Four students-(Sreekala, Meghan, Juby, Jyothish) attended the Second Science Conclave with Nobel Laureates sponsored by MHRD, DST, Govt. of India at IIIT Allahabad as Invited Teacher Nominee, 8th December to 14th December 2009.
- Six Students- (Minu M, Renuka Sasi, Aswin Raj, Vijay MAthen ,Ajoe, Sherin)attended the first Science Conclave with Nobel Laureates sponsored by MHRD,DST, Govt. of India at IIIT Allahabad as Invited Teacher Nominee,14th December to 21st December 2008
- Satheesh (M. Sc. Plant Biotechnology 2005-2007) qualified GATE Examination 2008.

24. List of eminent academicians and scientists/ visitors to the department

- **Prof. N. Mukunda, Indian Institute of Sciences, Bangalore**
- **Prof. Rangarajan, Indian Institute of Sciences, Bangalore**
- **Prof. Nagaraja, Indian Institute of Sciences, Bangalore**
- **Prof. Renee Borges, Indian Institute of Sciences, Bangalore**
- **Prof. Nanjundiah, Indian Institute of Sciences, Bangalore**
- **Prof. Praveen Karanth, Indian Institute of Sciences, Bangalore**
- **Dr Debnath Pal, Indian Institute of Sciences, Bangalore**
- **Prof. Ajay Ghosh, National Institute for Interdisciplinary Sciences and Technology, Trivandrum**
- **Prof. Ashok Pandey, National Institute for Interdisciplinary Sciences and Technology, Trivandrum**

- **Dr Manilal, V .B., National Institute for Interdisciplinary Sciences and Technology, Trivandrum**
- **Dr Mahesh Kumar, Central Tuber Crops Research Institute, Trivandrum**
- **Dr Anoopkumar T, Sree Chitra Thirunal Institute of Medical Sciences and Technology, Trivandrum**

25. Seminars/ Conferences/Workshops organized & the source of funding

a)National : 7

b)International : 4

Year	Name of Programme/ Title of Lecture	Date	Source of Funding
	Dr C. S. P. Iyer Memorial Lecture Series	29th September 2014	Management
	Importance of interdisciplinary learning	22nd September 2014	Management
	Importance of Food Auditing	17th June 2014	Management
	World Environmental Day Celebrations	5th June 2014	Management

2013-2014	National Technology Day Celebration	9th and 13th May 2014	Kerala State Council for Science Technology and Environment,Govt.of India
	Two day Lecture Workshop on 'Molecular Biology in 21st Century '	28th -29th March 2014	Indian Academy of Science, Bangalore, Indian National Science Academy, New Delhi, The National Academy of Sciences, India, Allahabad
	Training on HACCP and FSMS(Level 3)	25th -27th March 2014	College Management
	Three Day Training programme on Baking Technology	3-5th March 2014	College Management

	Seminar on "Fostering Scientific Temper for the Upliftment of Society" organized as part of National Science Day Celebrations 2014	28th February 2014	Kerala State Council for Science Technology and Environment.
	InternationalSymposium onComputational Biology and Drug Design	10th -12th July 2013	A*STAR, Singapore, ICMR, Govt. of India KSCSTE, Govt. of Kerala
	EDP programme on food processing	July-August 2013	DIC(District Industries Commission) , Pathanamthitta
	Microbial Growth Kinetics	20th June 2012	Management

	Workshop on Renewable Energy for a Brighter Tomorrow as part of National Science Day 2012 Celebration	29th February 2012	Kerala State Council for Science Technology and Environment.
2011-2012	The environmental awareness programme	4th June 2012	Ministry of Environment, Govt. of India.
	Bioscience for the people Various programmes like Ethinic food festival, medical camp including dental care, free Water quality Analysis.	Nov-11	Management
	International symposium and congress on `Advances in herbal science and technology'	25-27th Nov 2011	National Medicinal Plant Board, KSCSTE, DST, ICMR
2010-2011	National Symposium on Algal Biotechnology	3rd -5th August 2010	Department of Science and Technology, Ministry Of Earth Sciences, Govt. of India

2009-2010	International Symposium on Second Green Revolution: Ethics And Issues	2nd to 4th July 2009	Coconut board, Spices board, CSIR, BARC, AYUSH, KSCSTE
2008-2009	Two day lecture workshop "Evolution and Natural Selection"	29th and 30th January 2009	Indian Academy of Science, Bangalore, Indian National Science Academy, New Delhi, The National Academy of Sciences, India, Allahabad.
	Changing weather and changes required for cultivation	Oct-08	*Management*

2007-2008	Two day Lecture Workshop on 'Gene Structure and Function – Concepts to New Developments'	31st January to 1st February 2008	Indian Academy of Science, Bangalore, Indian National Science Academy, New Delhi, The National Academy of Sciences, India, Allahabad.
	International Conference on Advances in food technology and nutrition	30th November to 1st December 2007	DST, ICMR, NABARD, National Horticultural Board, New Delhi, Catholic Archdiocese of Tiruvalla

26. Student profile programme/course wise:

Name of the Course/ Programme		YEAR	No. of applications	No. of students admitted	Enrolled		Pass %
					M	F	
	Food Science & Technology	2011-2012	30	20	7	13	100
		2012-2013	40	29	9	20	100
		2013-2014	30	24	10	14	Result awaiting

		2014-2015	50	32	11	21	-
	Bioinformatics	2011-2012	5	2		2	100
		2012-2013	8	5	2	3	100
		2013-2014	10	7	2	5	Result awaiting
		2014-2015	15	8	1	7	-
M. Sc.	Plant Biotechnology	2011-2012	6	4	-	4	100
		2012-2013	3	1	1		100
		2013-2014	3	1		1	Result awaiting
		2014-2015	4	2	1	1	-
	Biochemistry	2011-2012	5	3	0	3	66.6
		2012-2013	8	5	0	5	100
		2013-2014	8	5	5	1	Result awaiting
		2014-2015	20	13	3	10	-
	Phytomedical Science & Technology	2011-2012	Nil	Nil	-		
		2012-2013	4	4	1		100
		2013-2014	Nil	Nil	-		-
		2014-2015	Nil	Nil	Nil	Nil	Nil
	Biotechnology	2013-2014	10	7	1	6	-
		2014-2015	12	7	2	5	-
Research Scholars		2013-2014	7	7	3	4	

***M=Male F=Female**

27. Diversity of Students

Year	% of students from the same state	% of students from other States	% of students from abroad
2010-2011	85	15	Nil

2011-2012	80	20	Nil
2012-2013	100	Nil	Nil
2013-2014	100	Nil	Nil
2014-2015	100	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc. ? :

Five

29. Student progression

Student progression		**Against % Enrolled**			
		2009-2011	**2010-2012**	**2011-2013**	**2012-2014**
UG to PG		NA	NA	NA	NA
PG to M. Phil.		2.5	Nil	2.5	Nil
PG to Ph.D.		7.5	7.5	2.5	2.5
Ph.D. to Post-Doctoral		Nil	Nil	Nil	Nil
Employed	Campus Selection	2.5	2.5	2.5	2.5
	Other than Campus Recruitment	47.5	60	62.5	68
	Enterprenurship /Self Employment	Nil	NIL	NIL	NIL

30. Details of Infrastructural facilities

a) Library :

The college provides the facility of a well equipped Library. Students and faculty members can get access to the library resources through the online software. The bound volumes of previous journals are also available for reference to the students, faculty members and research scholars. The year-wise details of the total Library Collections for the School of Biosciences are given below:

Year	Title	Volume	Journal
2010-2011	825	1241	36
2011-2012	936	1361	36
2012-2013	948	1378	54
2013-2014	1236	1691	54

b) Internet facilities for Staff & Students: Free Wi-Fi connection available to all students and staff.

c) Class rooms with ICT facility: **The class rooms are equipped with audio visual equipments which includes LCD projectors and Wi-fi.**

d) Laboratories

Biochemistry laboratory, Molecular Biology laboratory, Plant Tissue Culture Laboratory, Food Processing laboratory, Bioinformatics laboratory.

31. Number of students receiving financial assistance from college, university, government or other agencies.

Sl. No		2010-2011	2011-2012	2012-2013	2013-2014
1	Merit Cum Means Scholarship	Nil	Nil	Nil	Nil
2	Scholarship for SC/ ST Students	Nil	2	Nil	9
3	MACFAST Scholarship for Malankara Catholic Students	NIL	2	4	Nil
4	MACFAST Merit Scholarship	1	1	Nil	Nil
5.	MACFAST Scholarship for economically weaker section	1	1	Nil	Nil

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

Year	Name of Programme/ Title of Lecture	Date	Name of Speaker/(s)
2013-2014	Dr C. S. P. Iyer Memorial Lecture Series	29th September 2014	Dr. M. K. Mathew Professor NCBS,Bangalore
	Importance of interdisciplinary learning	22nd September 2014	Prof. V. N. Rajasekharan Pillai Executive Vice President KSCSTE, Govt. of Kerala
	Importance of Food Auditing	17th June 2014	Mr. Bobby Issac ,Director, Laccon on Food

			Auditing,
	World Environmental Day Celebrations	June 5th 2014	Mr. Gopakumar, RDO, Tiruvalla
	National Technology Day Celebration	9th -13th May 2014	Mr. T. K Jose, IAS, Coconut Development Board Chairman and Dr. B. Jacob, Managing Dirctor, Food Safety Academy, Cochin.
	Two day Lecture Workshop on 'Molecular Biology in 21st Century '	28th -29th March 2014	Prof. Mahadeven, Prof. D. N. Rao, Prof. Umesh Varshney, Prof.P.N.Rangarajan, Indian Institute of Sciences,Bangalore
	Training on HACCP and FSMS(Level 3)	25th -27th March 2014	Food Safety Academy Cochin.
	Three Day Training programme on Baking Technology	3-5th March 2014	Dr C.Balagopalan and Ms Pinchu Elizabeth Thomas
	Seminar on "Fostering Scientific Temper for the Upliftment of Society" organized as part of National Science Day Celebrations 2014	28th February 2014	Prof. Rev.Dr Ignachumuthu, Director,Entomology Research Institute,Loyola College Chennai
	International Symposium on "Computational Biology and Drug Design	10th - 12th July 2013	Dr. Chandra Verma Head of Division & senior principal investigator Bioinformatics Institute (BII) A*STAR, Singapore Dr. Eisenhaber Frank Head of Division Bioinformatics Institute (BII) A*STAR, Singapore Dr Achuthsankar S Nair heads the Centre for Bioinformatics, University of Kerala Dr. Eisenhaber Birgit, Principal Investigator, Bioinformatics Institute (BII) A*STAR, Singapore Dr Vivek Tanavde. Principal Investigator Bioinformatics Institute (BII) A*STAR, Singapore Dr. Anoop Kumar T. ScientistSree Chitra Tirunal

			Institute for Medical Sciences & Technology, Trivandrum Dr. Rakesh K Mishra Senior Scientist Centre for Cellular and Molecular Biology Hyderabad
	EDP programme on food processing	July-August 2013	Dr C.Balagoplan
2011-2012	Microbial Growth Kinetics	20th June 2012.	Dr. P.Pushpangadan, Director General Amity Institute Of Herbal And Biotech Products Development, Trivandrum. Dr. N. C. shah, ex – scientist CIAMP, (CSIR) & Founder Director, Herbal Research And Development Institute. Dr. S. Rajasekharan & Dr. P. G. Latha Scientist Head Division of Ethnomedicine And Ethnopharmacology Tropical Botanic Garden And Research Institute (TBGRI) Palode Thiruvananthapuram Dr. Bala Nambisan principal scientist (CTCRI) Dr. Yamini B. Tripathi (Dept. of Medicinal Chemistry, BHU) Dr. Rajavashisth Tripathi (PI), Molecular Biology Unit, Institute of Medical Sciences,. Banaras Hindu University, Varanasi Dr. S. H. Ansari. Dean. Designation. Professor. Department. Pharmacognosy & Phytochemistry Faculty of Pharmacy, Jamia Hamdard Dr.Adam Wheeler Elsevier UK. Dr.M.D.Nair Consultant Health Care Industry Chennai.
	Workshop on Renewable Energy for a Brighter Tomorrow as part of National Science Day 2012 Celebration	29th February 2012	Scientists from Cochin University of Science and Technology, ANERT Thiruvananthapuram, Dr Manilal, Indian Institute of Interdisciplinary Sciences and Technology Thiruvananthapuram.
	The environmental awareness programme	4th June 2012	Dr P.K.Shaji, ERRC Trivandrum

	Bioscience for the people Various programmes like Ethinic food festival, medical camp including dental care, free Water quality Analysis.	November 2011	Dr. K R Viswambaran, IAS, Vice Chancellor, Kerala Agricultural University
	International symposium and congress on `Advances in herbal science and technology'	25-27th Nov 2011	Dr. P. Pushpangadan, Director General Amity Institute Of Herbal And Biotech Products Development, Trivandrum. Dr. N. C. shah, ex – scientist CIAMP, (CSIR) & Founder Director, Herbal Research And Development Institute. Dr. S. Rajasekharan & Dr. P. G. Latha Scientist Head Division of Ethnomedicine And Ethnopharmacology Tropical Botanic Garden And Research Institute (TBGRI) Palode Thiruvananthapuram Dr. Bala Nambisan principal scientist (CTCRI) Dr. Yamini B. Tripathi (Dept. of Medicinal Chemistry, BHU) Dr. Rajavashisth Tripathi (PI), Molecular Biology Unit, Institute of Medical Sciences,. Banaras Hindu University, Varanasi Dr. S. H. Ansari. Dean. Designation. Professor. Department. Pharmacognosy & Phytochemistry Faculty of Pharmacy, Jamia Hamdard Dr. Adam Wheeler Elsevier UK. Dr. M. D. Nair Consultant Health Care Industry Chennai.
2010-2011	National Symposium on Algal Biotechnology	3rd -5th August 2010	Dr. P. Pushpangadan, Director General Amity Institute Of Herbal And Biotech Products Development, Trivandrum. C. S. PIyer, Indian Institute Of Information Technology & Management Kerala P. Sampath Kumar Centre For Advanced Study In Marine Biology

			Annamalai University V. Krishnamurthy, Krishnamurthy Institute Of Algology Suman keerthi Dept. of Botany, School of Chemistry V. Sivasubramanian Vivekananda Institute of Algal Technology, RKM Vivekananda,College Chennai
2009-2010	International Symposium on Second Green Revolution: Ethics And Issues	2nd to 4th July 2009	Dr. Claude M. Fauquet Director ILTAB, USA Christian Larroche, France Dr. Stephan Winter, Germany Dr. Madan Thankavelu, UK Dr. Y.D.M. Gumedzoe, Togo Dr. Sankakara, Sree Lanka Dr. AE Aboulata, Egypt Dr. Poonam Nigam, UK Dr. Prem Nath, PNASF, Bangalore Dr. Radhakrishna Pillai, Director, RGCB, Thiruvananthapuram Dr. P. K. K. Nair, Director, ERRC, Thiruvananthapuram Dr. R. H. Kulkarni, V.C, Dharwar University Dr. Satheesh Mundayoor, RGCB, Thiruvananthapuram Dr. Ashok Pandey, NIIST, Thiruvananthapuram Dr. George Thottappilly, Formerly with IITA, Nigeria Dr. Babu Philip, Cochin University Dr. E. V. Sonia, RGCB, Thiruvananthapuram Dr. V. P. Potty, CEPC, Quilon Dr. Rajmohan,Agricultural College, KAU, Thiruvananthapuram

			Dr. S. K. Nanda, CIPHET, Ludhiana Dr. Balasubramanyam, TNAU, Coimbatore
2008-2009	Two day lecture workshop "Evolution and Natural Selection"	29th and 30th January 2009	Prof. Nangundiah, IISc Prof. Mahadevan, Prof. ReneBorgues, Prof Praveen Karanth
2007-2008	Changing weather and changes required for cultivation	October 2008	
	Two day Lecture Workshop on 'Gene Structure and Function – Concepts to New Developments'	31st January to 1st February 2008	Convenor-Prof.Nagaraja,IISc Prof.Mahadevan,Prof.D.N.Rao,Prof.Umesh Varshney
	International Conference on Advances in food technology and nutrition	30th Nov to 1st December 2007	Dr. Premnath, FormerADG, ICAR. Dr. P. Balasubramanyam Director Center For Plant Molecular Biology, Tamil Nadu Agricultural University Coimbatore. Dr. C. K. Rao Foundation Of Biotechnology Awareness And Education, Bangalore. Dr. Ignatius Konnikkara university of Calicut. Dr. P. Costas, University of Patras, Greece. Dr. Stephan Janecek, Institute of Molecular Biology, Slovakia Dr. Poonam Nigam University of Ulster Coleraine, N.Ireland, U.K. Dr. E.M. Papamichael University of Loannina, Greece. Dr. Christian Larroche, University of Blaise Pascal, France. Prof. Suresh. D. Pillai, Texas, A&M University. Dr. Jagatheeshan, James Cook University.

			Dr. Philomina George, Prof. And Head Biotechnology Karunya University India. Dr. M.D. Nair, biotechnologist, Chennai, india. Prof. Sundra Furlan, Campus Universitario, Jinoville, Brazil.

33. Teaching methods adopted to improve student learning

- **ICT enabled teaching process**
- **Daily Research paper reading and discussion for developing aptitude in research**
- **Interactive teaching session**

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Students participate in the social activities of:

- **National Service Scheme(NSS),**
- **Red Ribbon Club,**
- **Rays of Love and**
- **Social activities of Radio MACFAST.**
- **Students and teachers take remedial classes for weaker students in Govt. High School Kuttoor as part of their social responsibility.**
-

35. SWOC analysis of the department and Future plans

1. **SWOC analysis:**

Strengths:	Weaknesses:
• **Approved Research Centre of MG University with eminent research guide** • **Separate well furnished bioscience campus** • **Modern, well equipped, analytical**	• **Inadequate marketing outlets for the new products and technologies developed by the Departments** • **Undue delay in the declaration of the results by the University** • **Lack of proximity to major**

laboratories in tissue culture, molecular biology, biochemistry, food processing and microbiology. • **Up keep of a well-established Herbal Garden** • **Well qualified teaching faculty** • **Association with Pushpagiri Medical College for various research works** • **Ongoing projects funded by the state and central Govt. and semi Govt. agencies** • **Earn While You Learn programme** • **Encouragement and financial support to students to participate in National and International seminars** • **'Bioscience for the People' Programme undertaken by the department** • **Hands – on training in Bioinformatics.** • **MACFAST Bioinformatics and Computational Biology Group** • **Entrepreneurship Development Programmes in Food processing/tissue culture/ mushroom production** • **Pilot Plant and Incubation Centre supported by the Ministry of food processing industries, Govt. of India** • **MACFAST Biosciences consultancy services, technology outsourcing and linkage with various NGOs and Developmental agencies** • **Value added products from ethnic foods** • **Micro biological quality testing of food and drinking water** • **Own Bakery unit and full-fledged tissue culture lab** • **Research publications by the faculty& students** • **Development of Biosensor for detecting microorganisms and the**	**industries.** • **Delay in admission due to the lag in centralized allotment process by the affiliating University** • **Lack of updated syllabus by the university** • **Delay in completion of semester and examination by M.G. University**

development of reinforced Bio plastics • **MACFAST Industry Interface** • **Placement support for industries both in India and abroad** • **Public awareness programmes through Radio MACFAST** • **Digital library and documentation Centre** • **Well placed alumni network across the globe**	
Opportunities: • **innovative projects of students** • **Entrepreneurial development activities** • **Excellent job opportunities for Bioscience students in MNCs** • **Well established training in Bioinformatics tool development, biological database management, Structural bioinformatics, web interactive development, programming, algorithm development, macro molecular modeling etc. in bioinformatics** • **Potential to provide special training to talented graduated students to take up jobs in food industries, research institutes, quality control, R&D laboratories etc.** • **Scope for application of advanced knowledge in food, biotechnology nutrition, pharmaceutical industries etc.** • **Interventions in social and ethical issues related to food and beverages.** • **Take up analysis in plant extracts, micro propagation of commercially valuable cultivation of banana** • **Mass production of collagen from waste fish** • **Development of medicine from**	**Challenges:** • **Challenge in obtaining patents for products and mass production of patented products developed by MACFAST** • **Challenge in updating the syllabus according to changing industrial needs** • **Development of adequate local industrial establishments for job opportunities** • **Finding well qualified and trained experts due to brain drain to other countries** • **WTO quality standards and trade related intellectual property right**

macro fungi • **Product oriented research in the field of Food Science and Technology** • **Quality control facilities for small scale food industrial units in the state** • **Developing professional knowledge, skills and competencies among the local entrepreneurs to compete in the global market** • **Rural entrepreneurship development and technology transfer in food processing focusing on women and self – help groups** • **Conducting pilot studies and suggesting methods for improvement of post harvest handling system right from the farm to retail outlet**	

2. Future plans of Department:

- **Develop Bioscience Department to a world class research centre.**
- **MOUs for collaboration with reputed National & International Research centers, Institutes and Companies.**
- **To widen the Quality Control system for the entire Food Industry.**
- **To develop Bioscience department as a world class testing center for Genome and proteome studies in Bioinformatics.**
- **To conduct pilot studies in various areas of herbal science research.**
- **To develop a world class tissue culture faculty in the campus to preserve endangered species and to conduct research.**
- **To strengthen MACFAST consultancy services to meet the requirements of the society with updated novel technologies.**

ANNEXURE

ANNEXURE I
Minority Status Certificate

भारत सरकार

राष्ट्रीय अल्पसंख्यक शैक्षणिक संस्था आयोग

GOVERNMENT OF INDIA
NATIONAL COMMISSION FOR MINORITY EDUCATIONAL INSTITUTIONS

प्रथम तल, जीवन तारा भवन, 5, संसद
पटेल चौक, नई दिल्ली - 11
1st Floor, Jeevan Tara Building, 5, Sansad
Patel Chowk, New Delhi - 1

F. NO. 323, 325 & 328 OF 2010 /16621

Dated.....

ON CONSIDERATION OF THE DOCUMENTARY EVIDENCE PRODUCED BEFORE THE COMMISSION, THE COMMISSION IS SATISFIED THAT FOLLOWING INSTITUTIONS NAMELY:-

Sl. No.	File No.	Name of the Institutions
1.	F. No. 323 of 2010	M.D.L.P.S., Thirumoolapuram P.O., Tiruvalla, Pathanamthitta Dist., Kerala.
2.	F. No. 325 of 2010	Mar Athanasios College for Advanced Studies, Tiruvalla, Pathanamthitta, Kerala.
3.	F. No. 328 of 2010	Mar Severios College of Teacher Education, Chengaroor P.O., Mallappally, Pathanamthitta Dist., Kerala.

MANAGED BY THE CORPORATE EDUCATIONAL AGENCY OF THE CATHOLIC DIOCESE OF TIRUVALLA, ARE MINORITY EDUCATIONAL INSTITUTIONS WITHIN THE MEANING OF SECTION 2(g) OF THE NATIONAL COMMISSION FOR MINORITY EDUCATIONAL INSTITUTIONS ACT 2004. CONSEQUENTLY, IT IS HEREBY DECLARED THAT THE AFORESAID INSTITUTIONS ARE MINORITY EDUCATIONAL INSTITUTIONS COVERED UNDER ARTICLE 30 OF THE CONSTITUTION OF INDIA.

GIVEN UNDER MY HAND AND THE SEAL OF THE COMMISSION ON THIS 7TH DAY OF OCTOBER, 2010.

(R. RENGANATH)
SECRETARY

Commission For Minority Educational Institutions

ANNEXURE II
RECOGNITION CERTIFICATE

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)
7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

Date: 04-Jun-2014

F.No. South-West/1-2011150066/2014/EOA

To,
The Principal Secretary,
Deptt. Of education, Govt. of Kerala,
Govt. Sectt. Annexe,
Thiruvananthapuram-695001

Sub: Extension of approval for the academic year 2014-15

Ref: Application of the Institution for Extension of approval for the academic year 2014-15

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

Regional Office	South-West	Application Id	1-2011150066
		Permanent Id	1-8644106
Name of the Institute	MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA (MACFAST)	Institute Address	TIRUVALLA, PATHANAMTHITTA (DIST), KERALA, INDIA, TIRUVALLA, PATHANAMTHITTA, Kerala, 689101
Name of the Society/Trust	THE CORPORATE EDUCATIONAL AGENCY OF THE CATHOLIC DIOCESE OF TIRUVALLA	Society/Trust Address	THE CATHOLIC BISHOPS HOUSE. MARIGIRI. TIRUVALLA-689101,TIRUVALLA,PATHANAMTHITTA,Kerala,689101
Institute Type	Unaided - Private		

Opted for change from Women to Co-ed	No	Opted for change of name	No	Opted for change of site	No
Change from Women to Co-ed approved	Not Applicable	Change of name Approved	Not Applicable	Change of site Approved	Not Applicable

to conduct following courses with the intake indicated below for the academic year 2014-15

Application Number: 1-2011150066*

Letter Printed On:10 June 2014

Note: This is a Computer generated Letter of Approval.No signature is required.

Printed By : AE4036731

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)
7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-india.org

Application Id: 1-2011150066			Course	Full/Part Time	Affiliating Body	Intake 2013-14	Intake Approved for 14-15	NRI Approval status	PIO Approval status	Foreign Collaboration Approval status
Program	Shift	Level								
MANAGEMENT	1st Shift	POST GRADUATE	BUSINESS ADMINISTRATION	FULL TIME	Mahatma Gandhi Unversity , Kottayam	120	180	NA	NA	N
MCA	1st Shift	MCA 2nd Year Direct	MASTERS IN COMPUTER APPLICATIONS	FULL TIME	1Mahatma Gandhi University, Kottayam	0	60	NA	NA	N
MCA	1st Shift	POST GRADUATE	MASTER OF COMPUTER APPLICATIONS	FULL TIME	Mahatma Gandhi Unversity , Kottayam	60	60	NA	NA	N

- Validity of the course details may be verified at www.aicte-india.org>departments>approvals

The above mentioned approval is subject to the condition that MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA (MACFAST) shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal and subsequently upload and update the student/ faculty/ other data on portal as per the time schedule which will be intimated by AICTE.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

(Dr. Kuncheria P. Isaac)
Member Secretary, AICTE

Application Number: 1-2011150066*

Note: This is a Computer generated Letter of Approval.No signature is required.

Letter Printed On:10 June 2014

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All India Council for Technical Education
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7th Floor, Chandralok Building, Janpath, New Delhi- 110 001
PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

Copy to:

1. **The Regional Officer,**
   All India Council for Technical Education
   Health Centre Building
   Bangalore University Campus
   Bangalore - 560 009, Karnataka
2. **The Director Of Technical Education,**
   Kerala
3. **The Registrar,**
   1Mahatma Gandhi University, Kottayam
4. **The Principal / Director,**
   MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA (MACFAST)
   TIRUVALLA, PATHANAMTHITTA (DIST), KERALA, INDIA,
   TIRUVALLA,PATHANAMTHITTA,
   Kerala,689101
5. **The Secretary / Chairman,**
   THE CORPORATE EDUCATIONAL AGENCY OF THE CATHOLIC DIOCESE OF TIRUVALLA
   THE CATHOLIC BISHOPS HOUSE, MARIGIRI, TIRUVALLA-689101,
   TIRUVALLA,PATHANAMTHITTA,
   Kerala,689101
6. **Guard File(AICTE)**

Application Number: 1-2011150066*

Letter Printed On:10 June 2014

Note: This is a Computer generated Letter of Approval.No signature is required.

Printed By : AE4036731

ANNEXURE III AFILLIATION CERTIFICATE

Mahatma Gandhi University

PRIYADARSINI HILLS P.O., KOTTAYAM - 686 560

(Established by Kerala State Legislature by Notification
No. 3431/Leg. CI/85/Law, dated 17th April 1985)

3141/1/14/Ac AVII

12.06.2014

CERTIFICATE

Certified that Mar Athanasios College of Advanced Studies, Tholassery, Thiruvalla is an Unaided Self financing Arts & Science College, affiliated to Mahatma Gandhi University and is conducting the following courses under self financing stream.

1.	MCA	:	60 seats
2.	MBA	:	120 Seats
3.	M Sc Bio-informatics	:	20 seats
4.	M Sc Plant Biotechnology	:	20 seats
5.	M Sc Food Science & Technology	:	30 seats
6.	M Sc Biochemistry	:	20 seats
7.	M Sc Phyto Medical Science & Technology	:	20 seats
8.	M Sc Biotechnology	:	12 seats

This Certificate is issued as per the request of the Principal, Mar Athanasios College of Advanced Studies, Tholassery, Thiruvalla for producing before the Office of the Regional Director, NAAC, Bangalore.

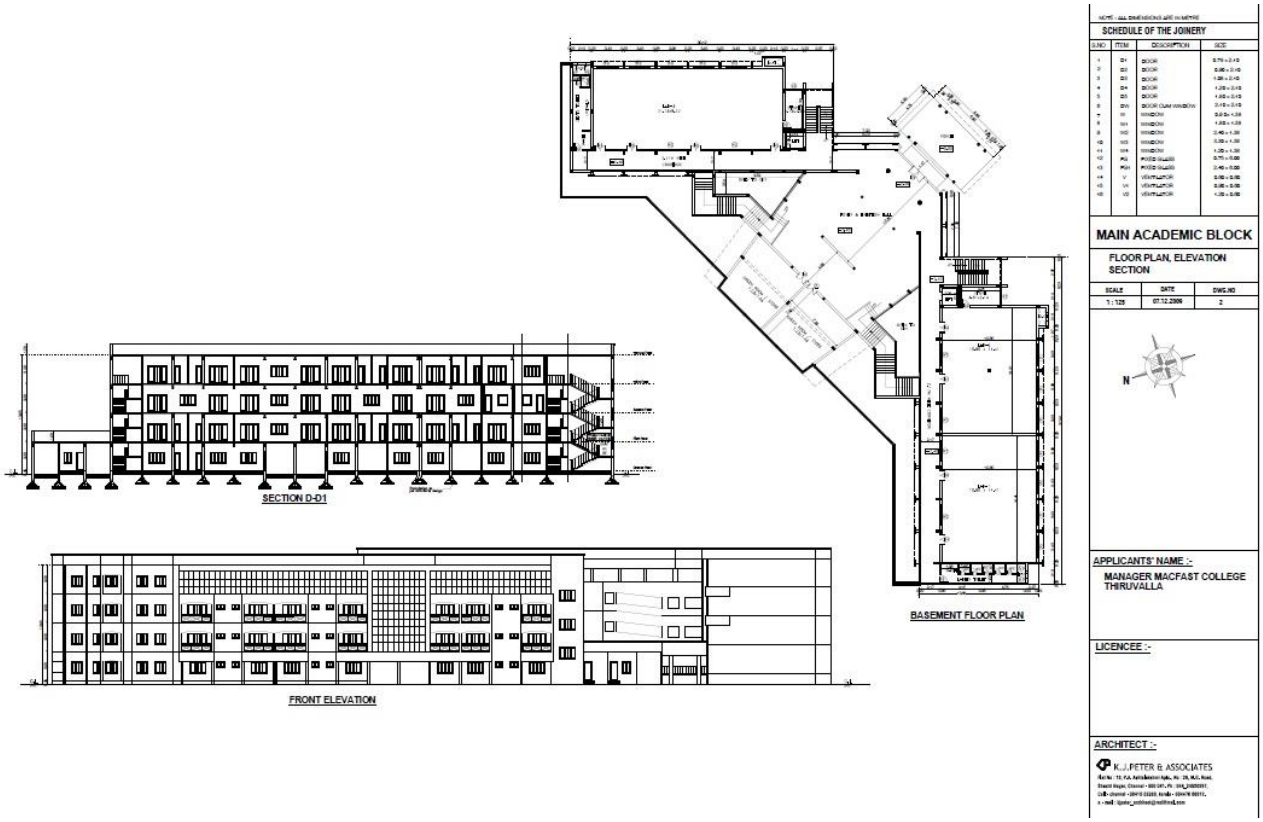
DEPUTY REGISTRAR I (ACAD)
For REGISTRAR

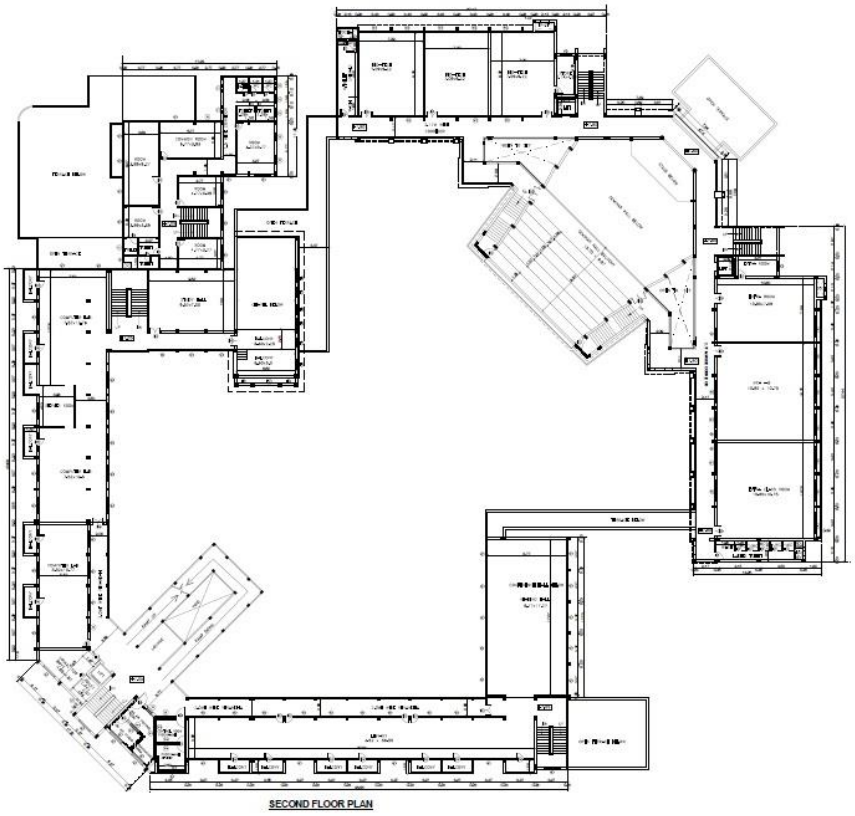
Exchange : EPABX : 0481-2731050 to 2731068 Enquiry : 0481-2731050 - Extn. 1199, 1300, 1378, 1274
Fax : 91-481-2731002, 2731009, 2731011 Website : www.mguniversity.edn E-mail : mgu@md2.vsnl.net.in

ANNEXURE IV

MACFAST MASTER PLAN

- MAIN CAMPUS





SECOND FLOOR PLAN

SCHEDULE OF THE JOINERY

SLNO	ITEM	DESCRIPTION	SIZE
1	D1	DOOR	0.75 x 2.10
2	D2	DOOR	0.90 x 2.10
3	D3	DOOR	1.00 x 2.10
4	D4	DOOR	1.20 x 2.10
5	D5	DOOR	1.80 x 2.10
6	D6	DOOR CUM WINDOW	0.90 x 2.10
7	W	WINDOW	0.9 0x 1.20
8	W1	WINDOW	1.20 x 1.20
9	W2	WINDOW	2.40 x 1.20
10	W3	WINDOW	3.00 x 1.20
11	W4	WINDOW	1.20 x 1.20
12	FG	FIXED GLASS	0.75 x 0.00
13	FG1	FIXED GLASS	2.40 x 0.00
14	V	VENTILATOR	0.60 x 0.60
15	V1	VENTILATOR	0.60 x 0.60
16	V2	VENTILATOR	1.20 x 0.60

MAIN ACADEMIC BLOCK

FLOOR PLAN

SCALE	DATE	DWG.NO
1:125	07.12.2009	5

N

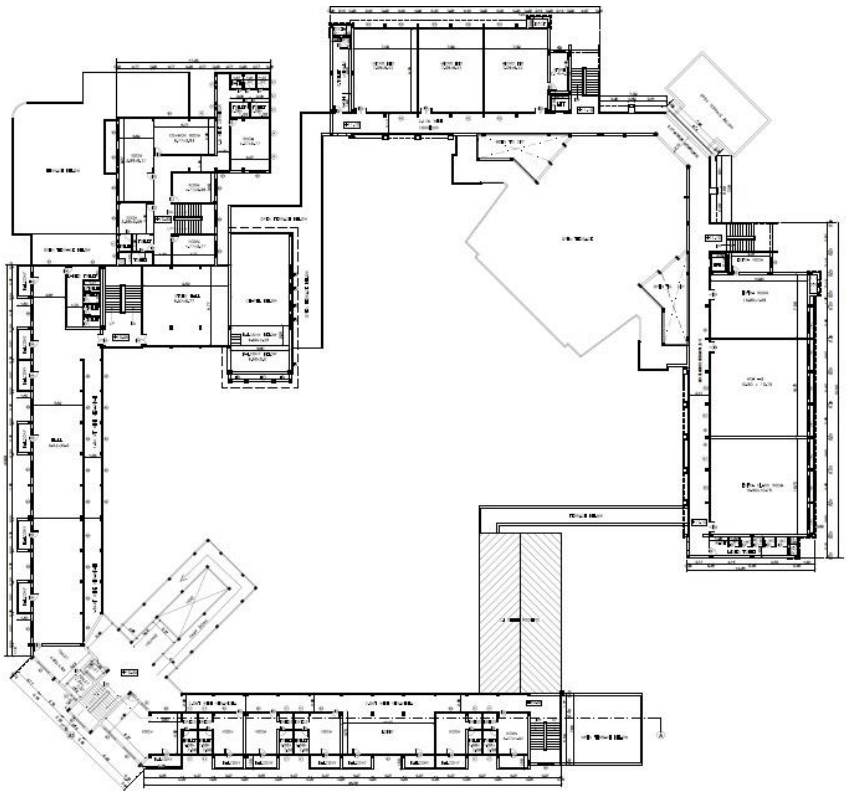
APPLICANTS' NAME :-

MANAGER MACFAST COLLEGE THIRUVALLA

LICENCEE :-

ARCHITECT :-

K.J.PETER & ASSOCIATES



THIRD FLOOR PLAN

SCHEDULE OF THE JOINERY

SLNO	ITEM	DESCRIPTION	SIZE
1	D1	DOOR	0.75 x 2.10
2	D2	DOOR	0.90 x 2.10
3	D3	DOOR	1.00 x 2.10
4	D4	DOOR	1.20 x 2.10
5	D5	DOOR	1.80 x 2.10
6	D6	DOOR CUM WINDOW	2.10 x 2.10
7	W	WINDOW	0.9 0x 1.20
8	W1	WINDOW	1.80 x 1.20
9	W2	WINDOW	2.40 x 1.20
10	W3	WINDOW	3.00 x 1.20
11	W4	WINDOW	1.20 x 1.20
12	WG	WIRE GUARD	0.75 x 0.90
13	WGH	WIRE GUARD	2.40 x 0.90
14	V	VENTILATOR	0.60 x 0.60
15	V1	VENTILATOR	0.90 x 0.60
16	V2	VENTILATOR	1.20 x 0.60

MAIN ACADEMIC BLOCK

FLOOR PLAN

SCALE	DATE	DWG.NO
1:125	07.12.2009	6

N

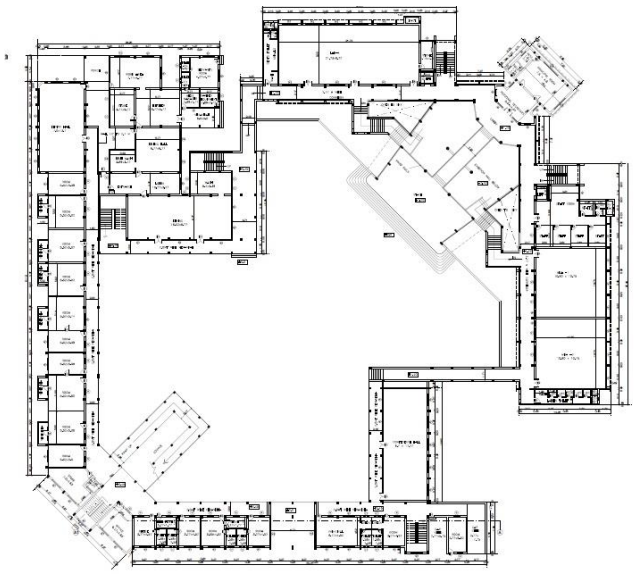
APPLICANTS' NAME :-

MANAGER MACFAST COLLEGE
THIRUVALLA

LICENCEE :-

ARCHITECT :-

K.J.PETER & ASSOCIATES



GROUND FLOOR PLAN

SCHEDULE OF THE JOINERY

SLNO	ITEM	DESCRIPTION	SIZE
1	D1	DOOR	0.75 × 2.10
2	D2	DOOR	0.90 × 2.10
3	D3	DOOR	1.00 × 2.10
4	D4	DOOR	1.20 × 2.10
5	D5	DOOR	1.50 × 2.10
6	D6	DOOR CUM WINDOW	2.10 × 2.10
7	W	WINDOW	0.9 m × 1.20
8	W1	WINDOW	1.00 × 1.20
9	W2	WINDOW	0.60 × 1.20
10	W3	WINDOW	0.90 × 1.20
11	W4	WINDOW	1.20 × 1.20
12	W5	WINDOW	0.75 × 0.90
13	W6	WINDOW	0.45 × 0.90
14	LP	LOUVRE+LATCH	0.60 × 0.90
15	LP	LOUVRE+LATCH	0.60 × 0.90
16	LP	LOUVRE+LATCH	1.00 × 0.90

MAIN ACADEMIC BLOCK

FLOOR PLAN

SCALE	DATE	DWG.NO
1 : 125	07.12.2009	3

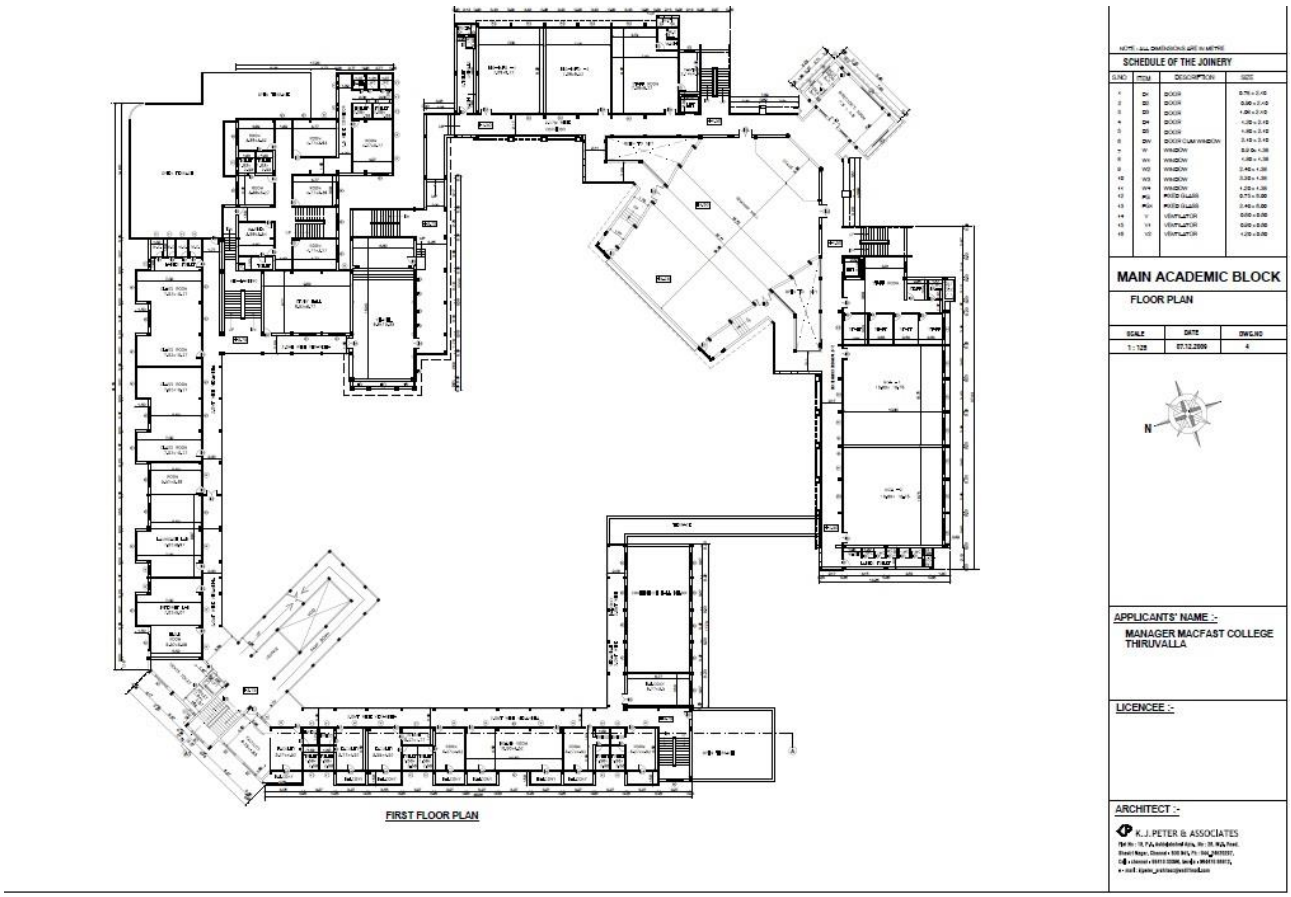
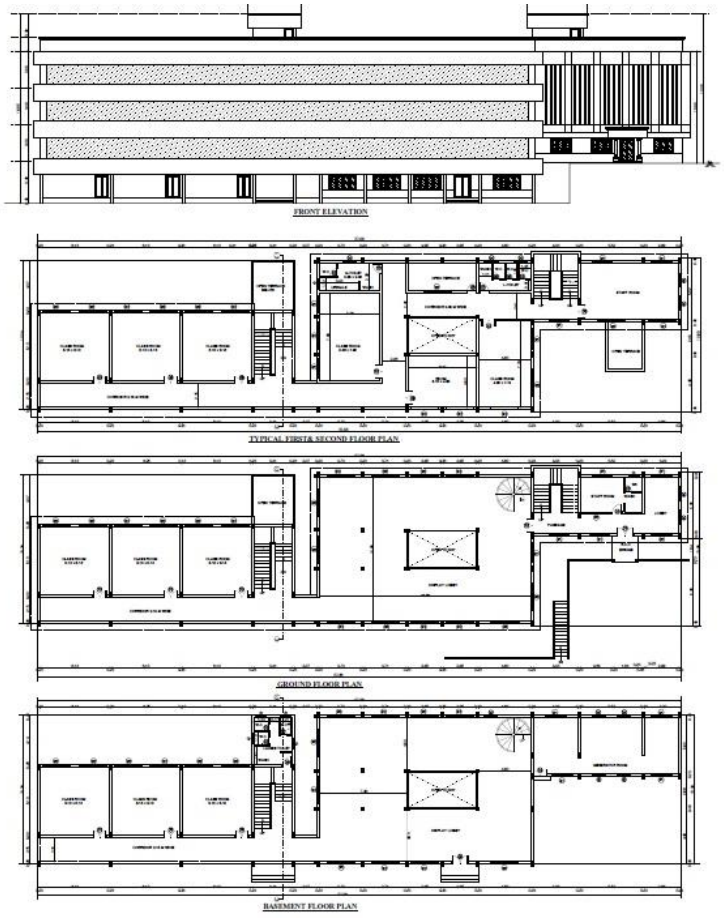
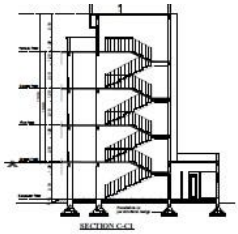
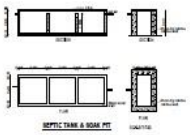
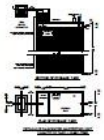
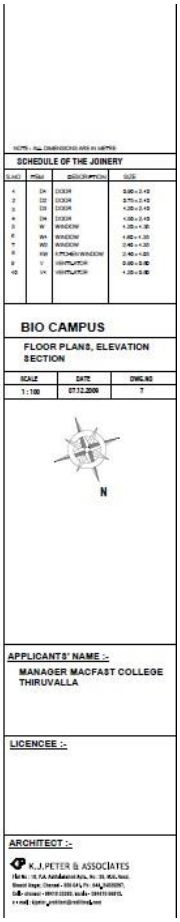
APPLICANTS' NAME :-

MANAGER MACFAST COLLEGE THIRUVALLA

LICENCEE :-

ARCHITECT :-

K.J.PETER & ASSOCIATES


FIRST FLOOR PLAN
SCHEDULE OF THE JOINERY
MAIN ACADEMIC BLOCK
FLOOR PLAN
APPLICANTS' NAME :-
MANAGER MACFAST COLLEGE THIRUVALLA
LICENCEE :-
ARCHITECT :-
K.J.PETER & ASSOCIATES

- BIOSCIENCE CAMPUS