**MAHATMA‌ ‌GANDHI‌ ‌UNIVERSITY**

**KOTTAYAM‌ ‌ ‌**

 **‌**

 **‌**

**MASTER‌ ‌OF‌ ‌COMPUTER‌ APPLICATIONS‌ ‌**

**REGULAR‌ ‌(2‌ ‌YEARS)‌ ‌**

**REGULATIONS‌ ‌&‌ ‌SCHEME‌ ‌**

**FOR‌ ‌**

**AFFILIATED‌ ‌COLLEGES‌ ‌**

**(FROM‌ ‌2020‌ ‌ADMISSION‌ ‌ONWARDS)‌**

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### NOMENCLATURE OF THE PROGRAMME: Master of Computer Applications (MCA)

### NATURE OF THE PROGRAMME :

 Master of Computer Applications (MCA) is a two year full time Post Graduate programme offered under credit semester system. The revised curriculum of MCA will come into effect from the Academic Year 2020-21 onwards. Utmost importance has been given to the learning outcomes and development of managerial acumen among the participants. `

###  OBJECTIVES OF MCA PROGRAMME

**3.1.Programme Educational Objectives (PEOs)**

 ***The graduate will:***

**3.2 Programme Outcomes (POs)**

***At the end of the Programme, graduating students/graduates will be able to:***

**3.3. Programme Specific Outcomes (PSOs)**

* Solidify foundation of mathematics, computer science and problem solving methodologies for effective implementation in real life applications.
* Familiarize students about principles of Software Engineering and Project Management With appropriate data modeling concepts and latest technologies.
* Inculcate employability and entrepreneurship skills among students who can contribute innovative and advanced solutions for the important life problems.
* Understand the concepts of Network and communication technologies, social network and other related aspects.

###  ELIGIBILITY FOR ADMISSION

 **Qualifications**

1. A candidate seeking admission to MCA course must have

A pass with not less than 50% marks in any recognized Regular Bachelors Degree of minimum three years duration in any discipline with Mathematics at plus two level OR at Graduation level with Mathematical Science (Mathematics /Statistics /Computer Science / Operation Research /Quantitative Techniques) as one of the Subjects.

OR

A pass with not less than 50% marks in BCA/BSc. Computer Science/ BSc.Information Technology/ B.Tech in Computer Science from a recognized University.

1. Subject to the regulation relating to the prescribed minimum of the respective qualifying examination, the minimum marks of admission to the course of studies shall be a pass in the case of SC/ST candidates.
2. Candidates belonging to Socially and Educationally Backward Classes (SEBC) referred to GO(P)208/66/Edn dated 2-5-96 and subsequent amendments to orders issued by the Government and University shall be given a relaxation of 3% marks in the prescribed minimum for admission.

iv) A relaxation of 5% marks from the prescribed minimum shall be allowed in the case of OEC Candidates.

1. A relaxation of 5% marks from the prescribed minimum shall be allowed in the case of physically handicapped persons.
2. Candidates who have passed the qualifying examination in more than one chance in the subject (excluding languages) will have their percentage marks derated at the rate of 5% for every additional appearance for the purpose of ranking.

Candidates with such degrees awarded by the Mahatma Gandhi University or any other degree recognized as equivalent to degrees in(i)by the Mahatma Gandhi University also are eligible to apply. Reservation of seats shall be as per rules prescribed in the relevant rules by the Directorate of Technical Education, Government of Kerala from time to time.

###  ADMISSION PROCEDURE

The admission procedure in the affiliated colleges should be based on the norms stipulated by the Admission Supervisory Committee (ASC) and approved by Mahatma Gandhi University. All affiliated colleges are required to prepare the prospectus in accordance with the approved norms of Mahatma Gandhi University. The total seats are divided into two categories : 50% of the total seats come under Government Quota & 50% under Management Quota.

Admission to Government Quota is through the allotment process arranged by the Government of Kerala . It is based on the Kerala MCA Entrance rank list.

The affiliated college can make admission to seats under Management Quota stipulating to the norms by ASC and the University. It is strictly on the basis of merit as determined by the entrance examination (conducted by ASC) and Personal Interview conducted at the institution level. The rank list shall be prepared by affiliated colleges on the basis of sum of following components:

|  |  |
| --- | --- |
| Component | Weight  |
| Entrance Examination Score |  70% |
| Academic Qualifications | 20% |
| Personal Interview  | 10%  |
| Total  | 100% |

*Note:* *The Reservation Rules are applicable as per the Government and University norms in all the affiliated Colleges.*

### PROGRAMME STRUCTURE

As per National Policy and academic practices, the University has adopted a Credit Semester system for MCA programme with effect from Academic Year 2020-21. The number of credits earned by the students reflects their level of proficiency attained in the intended outcomes of the course. The curriculum comprises of courses at different levels:

▪ Bridge Courses (for students from non-IT background) (No Credits)

▪ Core Courses

▪ Employability Training Course

▪ Courses of Independent Study

The curriculum offers 26 courses with a total credit of 90.

**Bridge Course:** It is imperative to provide a bridge course for the MCA aspirants from streams other than BSc CS and BCA. For the Bridging Programme, a maximum of 40 hours is allotted. Seven courses with a specific number of hours allotted for completion are given in the detailed syllabus. All affiliated colleges are required to complete the course within the stipulated time and conduct the exam. The Principal / Director/Head of the Department shall ensure the completion of the bridge course before the candidate applies for the first semester exam.

**Core Courses :** Core courses comprises 13 theory papers, 7 practical papers, Mini Project , Seminar, Main Project & Course Viva. Two courses in Semester 3 are elective each having 4 options.

**Employability Skill Training Course:** Two courses of one credit each are included for Employability Skill Training with an aim to enhance aptitude and reasoning ability of students that will make them capable of securing a job with any recruiter. Since these papers have only sessional assessments, the Head of the Institution should ensure that the ***class average does not exceed 80%.***

**Seminar:** The Seminar paper included in Semester 4 is intended to make students aware of the Current /Future trends related to Information Technology/ Computer Science/ Computer Application. Students should do a detailed study on the topic approved by the guide and present it before the evaluation committee. The Seminar is evaluated internally by the College and hence the class average marks collectively should not exceed 80%.

**Project:** As part of the curriculum, all students will have to carry out a Mini Project in the third semester and a Main Project in the fourth semester. Plagiarism would not be accepted under any circumstances.

A faculty will be assigned as a guide for each student. The Guide should be a person having at ***least 3 years of Academic / Industry experience and should be from the Computer Science or IT background.***

**Course Viva:** A Viva-Voce Examination will be conducted in the 4th Semester which is a comprehensive evaluation of what has been learned through the entire MCA programme. Students will be evaluated through all core subjects of the MCA programme.

**Courses of Independent study:** Students will have to complete an online certification course related to IT and approved by AICTE/UGC/ MG University by the end of semester 3. The purpose of the course is to encourage self-learning among students. The certificate should be presented before the examiners during the Course Viva and 25 % mark of Course Viva is set apart for the same.

### SCHEME OF THE PROGRAMME

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Semester** | **Course Code** | **Course Type** | **No of hours / week**  | **No. of****Credits** | **Total Credit** |
| **L** |  **P** |
| **I** | **MCA 101** | Core Course -Theory | **4** |  **-** | **4** | **25** |
| **MCA 102** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 103** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 104** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 105** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 106** | Core Course -Practical |  | **4** | **2** |
| **MCA 107** | Core Course - Practical |  **-** | **4** | **2** |
| **MCA 108** | Employability Skill Training-Phase 1 | **2** |  **-** | **1** |
| **II** | **MCA 201** | Core Course -Theory | **4** |  **-** | **4** | **23** |
| **MCA 202** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 203** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 204** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 205** | Core Course -Practical | **-** |  **6** | **3** |
| **MCA 206** | Core Course - Practical |  | **4** | **2** |
| **MCA 207** | Core Course -Practical |  **-** | **4** | **2** |
| **III** | **MCA 301** | Core Course -Theory | **4** |  **-** | **4** | **23** |
| **MCA 302** | Core Course -Theory | **4** |  **-** | **4** |
| **MCA 303** | Core Course (Elective )- Theory | **4** |  **-** | **4** |
| **MCA 304** | Core Course (Elective )- Theory | **4** |  **-** | **4** |
| **MCA 305** | Core Course -Practical |  |  **4** | **2** |
| **MCA 306** | Core Course - Practical |  | **4** | **2** |
| **MCA 307** | Core Course -Mini Project |  **-** | **4** | **2** |
| **MCA 308** | Employability Skill Training-Phase 2 |  **2** |  **-** | **1** |
| **IV** | **MCA 401** | Core Course - Seminar |  **3** |  | **2** | **19** |
| **MCA 402** | Core Course - Main Project |  |  **27** | **12** |
| **MCA 403** | Core Course -Course Viva |  |  **-** | **5** |
|  | **Total Credit** |  |  | **90**  | **90** |

### EVALUATION SCHEME

Evaluation Scheme for each course shall contain two parts : End Semester Evaluation (External Evaluation) and Continuous Evaluation (Internal Evaluation). 25% weightage can be given to internal evaluation and remaining 75% can be given to external evaluation and the ratio and weightage between them is 1:3.

###### 8.1 Internal Evaluation :

The sessional marks are awarded on the basis of day to day performance, periodic tests and assignments. The allocation of sessional marks for individual subjects shall be on the following basis.

|  |  |  |
| --- | --- | --- |
| **SI NO** | **Component of Continual Evaluation** | **Percentage**  |
| **1** | **Test Papers (Subject to a Minimum of 2 tests****including model exam for each course)** | **60 %** |
| **2** | **Assignments /Seminar** | **30%** |
| **3** | **Class Participation , Punctuality, Discipline** | **10%** |
|  | **Total** |  |

###### 8.2 External Evaluation

###### 8.3 Criteria for internal & External Evaluations

* T**heory & Practical Papers**

|  |  |  |
| --- | --- | --- |
| Theory Papers (Total Marks =25) |  | Practical Papers (Total Marks =25) |
| Attendance | 10% |  | Attendance | 10% |
| Assignments / Seminar | 30% |  | Regular class work /Lab record / Class Performance | 50% |
| Tests (Subject to a minimum of 2 tests) | 60% |  | Tests | 40% |

* **Employability skill Training**

This paper is evaluated internally by the College and carries a total Marks of 50 divided as follows. Since these papers having only sessional assessments, the Head of the Institution should ensure that the class average does not exceed 80%.

|  |
| --- |
| Total Marks: 50 |
| Attendance | 10% |
| Assignments / Seminar | 30% |
| Tests | 60% |

* **Mini Project**

The evaluation is purely internal and the mark division is as follows

|  |  |  |
| --- | --- | --- |
| **Sl. No** | **Phase** | **Marks**  |
| 1 | Approval of Project Title * Title
* Project Abstract
 |  10 Marks  |
| 2 | System Design Documents * Table Design
* DFD / UML
 | 30 Marks |
| 3 | Coding Phase 1 (Demonstration) | 20 Marks |
| 4 | Coding Phase 2 ( Demonstration & Testing) | 20 Marks  |
| 5 | Final draft of Soft Report. The marks can be provided based on :* Timely submission
* The report should be prepared as per the chapters specified above.
 |  10 Marks  |
| 6.  | Final draft of Hard Copy of Report |  10 Marks |
| Total Marks |  100 Marks  |

* ***Seminar***

The Seminar is evaluated internally by the College and carries a total Marks of 50 divided as follows:

1. The relevance of the topic (10 Marks)

2. Presentation (20 Marks)

3. Question and Answers (10 Marks).

4. Seminar Report (10 Marks).

**\* Remarks about the presentation should be noted**

Since the evaluation is done internally the class average marks collectively should not exceed 80%.

* ***Main* Project**

The main project work would be of approximately 400 man-hours and carries a total of 200 marks. The project evaluation marks include external and internal assessment marks. Internal evaluation is done by a group of faculty members appointed by HoD. The external evaluation is done by the faculty members of MCA colleges in M G University duly appointed by the University. Both evaluations will carry 100 marks each.

The Criteria/Phases and Mark distribution of both evaluations will be as given below.

|  |  |  |
| --- | --- | --- |
| **Internal Evaluation** |  | **External Evaluation** |
| **Phases** | **Mark** |  | **Criteria** | **Mark** |
| First interim Presentation  | 10 |  | Presentation  | 25 |
| Second Interim  | 15 |  |  Viva | 20 |
| Third Interim | 10 |  | Project Report | 30 |
| Fourth Interim  | 20 |  | Software Coding | Documentation | 10 |
| Submission of Final Draft of Record  | 5 |  | Software along with the technology used | 15 |
| Final Project presentation | Presentation | 30 |  | **Total Marks**  | **100** |
| Final Project Report | 10 |  |  |  |  |
| **Total Marks** | **100** |  |  |  |  |

* ***Course* Viva**

There is no internal mark component for the same. The maximum marks for the Viva Voce examination are 100. The evaluation is done by the evaluators duly appointed by the University.

The mark division ( internal split up ) will be as shown below

1. Course Viva: 75 Marks
2. Online course evaluation / certificate presentation : 25 Marks

###  ACADEMIC AND EXAMINATION CALENDAR

The Academic Calendar has been designed to ensure that the course will be completed within the stipulated two years time. The commencement of the course shall be in the month of June of the Academic Year. A semester comprises 90 working days. The Academic and Examination Calendar published by the University shall be strictly followed by all affiliated colleges in order to ensure timely completion of the course.

**MCA Academic & Examination Calendar**

|  |  |  |
| --- | --- | --- |
| **Semester** |  **Course Schedule** |  **University Examination Schedule**  |
| ***S1*** |  ***June Ist Week*** |  ***November 1st Week*** |
| ***S2*** |  ***December 1st Week*** |  ***May 1st week***  |
| ***S3*** | ***June Ist Week*** | ***November 1st Week*** |
| ***S4*** | ***December 1st week*** |  ***May Ist Week*** |