

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE,  
Madanapalle  
(UGC-AUTONOMOUS)

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**DEPARTMENT OF COMPUTER APPLICATIONS**

Academic Regulations

Course Structure

and

Detailed Syllabi

For the students admitted to

**Direct 2<sup>nd</sup> Year Master of Computer Applications from the academic year 2015-16**



**Department of Computer Applications**

## **VISION AND MISSION OF THE INSTITUTION**

### **Vision**

Become a globally recognized research and academic institution and thereby contribute to technological and socio-economic development of the nation.

### **Mission**

To foster a culture of excellence in research, innovation, entrepreneurship, rational thinking and civility by providing necessary resources for generation, dissemination and utilization of knowledge and in the process create an ambience for practice-based learning to the youth for success in their careers.

### **Quality Policy**

Madanapalle Institute of Technology & Science is committed to bring out and nurture the talents and skills of youth in the fields of Engineering and Management to cater to the challenging needs of society and industry by

- Contributing to the academic standing and overall knowledge development of the students
- Providing excellent infrastructure and conducive learning environment.
- Enhancing the competence of faculty and promoting R&D Programs
- Collaborating with institutions and industries.
- Ensuring continual improvement of Quality Management System.

## **VISION AND MISSION OF THE DEPARTMENT**

### **Vision**

To establish centre of excellence in technical education using the state of the art infrastructure and best of the faculty to produce graduates industry ready.

### **Mission**

- To create professionals with profound knowledge and skill set to dedicate the services for the betterment of society
- To impart quality education using best in faculty with balanced curriculum
- To develop moral and ethical values

## Index

<b>Sl. No.</b>	<b>Description</b>	<b>Page Number</b>
1.	Regulations	5
2.	Breakup of Courses	17
3.	Curriculum	18
4.	List of Discipline Core Courses	20
5.	List of Discipline Electives	20
6.	List of Open Electives (CBCS)	21
7.	List of Audit Courses	21
8.	Programme Core Courses	22
9.	Discipline Electives	83
10.	Open Electives	92
11.	Audit Courses	101

# **REGULATIONS**

**For the students admitted to**

**Direct 2<sup>nd</sup> Year Master of Computer Applications from the academic year 2015-16**

## **Applicable for students admitted to Direct 2<sup>nd</sup> year M.C.A. from 2015-16 batch onwards**

### **1. Admission Procedure**

Admission to the Direct 2<sup>nd</sup> Year MCA programme shall be made subject to the eligibility, qualifications and specialization prescribed by the University from time to time.

Admission shall be made either on the basis of merit rank obtained by the qualified candidates at an Entrance Test conducted by the University or on the basis of ICET score, subject to reservations prescribed by the University or Government policies from time to time.

### **2. Programme of Study**

With the approval from AICTE, APSCH & JNTUA, the Direct 2<sup>nd</sup> Year MCA Degree programme is offered.

### **3. Programme Pattern**

- 3.1 The medium of instruction, examinations and project reports shall be in English.
- 3.2 The entire programme of study is for two academic years. All two academic years shall be on semester pattern.
- 3.3 The minimum instruction days for each Semester shall be 90.
- 3.4 A candidate admitted to a programme should complete it within a period equal to twice the prescribed duration of the programme from date of admission.
- 3.5 A student eligible to appear for the end examination in a course, but absent or has failed in the end examination may appear for that course at the next supplementary examination when offered.
- 3.6 When a student is detained due to shortage of attendance he/she may be re-admitted when the semester is offered after fulfillment of academic regulations. In such case, he/she shall be in the academic regulations into which he/she is readmitted.
- 3.7 The curriculum of Direct 2<sup>nd</sup> year M.C.A. programme is designed to have a total of 107 credits for the award of degree.
- 3.8 Each course is assigned certain number of credits which will depend upon the number of lecture per week. In general, credits are assigned to the courses based on the following contact hours per week per semester.
  - a. For Theory Courses: One credit for each Lecture hour.
  - b. For Practical Courses: One credit for two hours of Practical OR Two credits for three (or max. of four) hours of Practical.

### **4. Award of Direct 2<sup>nd</sup> Year MCA Degree**

A student will be declared eligible for the award of the Direct 2<sup>nd</sup> Year MCA Degree if he/she fulfils the following academic regulations:

- 4.1 Pursue a programme of study for not less than two academic years and in not more than four academic years.
- 4.2 Register for 107 credits and secure all 107 credits.
- 4.3 Student, who fails to fulfill all the academic requirements for the award of the degree within four academic years from the year of their admission, shall forfeit their seat in Direct 2<sup>nd</sup> Year MCA programme and their admission stands cancelled.

## **5. Attendance Requirements:**

- 5.1 A student shall be eligible to appear for Semester End examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the courses in a semester.
- 5.2 Shortage of Attendance below 65% in aggregate shall in NO case be condoned.
- 5.3 Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester may be granted by the College Academic Committee.
- 5.4 Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examination of that class and their registration shall stand cancelled.
- 5.5 A student will not be promoted to the next semester unless he/she satisfies the attendance requirements of the present semester, as applicable. They may seek readmission for that semester when offered next.
- 5.6 A stipulated fee shall be payable towards Condonation of shortage of attendance to the Institution.

## **6. Relative Weightage for Internal Evaluation and End Semester Examination**

- a. The performance of a student in each semester shall be evaluated course-wise.
- b. Performance evaluation in each course (theory/ practical) shall be based on a total of 100 marks, of which the relative Weightage for internal evaluation and end semester examination shall be 40% and 60% respectively.
- c. However, Audit courses shall be evaluated entirely on the basis of internal evaluation.

### **6.1 Internal Evaluation**

- 6.1.1 The total internal Weightage for theory courses is 40 marks with the following distribution.
  - a. 30 marks for Mid-term tests.
  - b. 10 marks for Assignments.
- 6.1.2 For all theory courses including audit courses there shall be two mid-term tests in each semester. The duration of mid-term test shall be 2 hours. Student shall answer three questions out of four of 10 marks each. First mid-term test shall be conducted for I, II units of syllabus and second mid-term shall be conducted for III, IV & V units. The average marks secured from I & II mid-term tests shall be the final mid-term test marks.
- 6.1.3 In case any student is not able to appear for anyone of the mid-term tests in any theory course for genuine reasons (for example; medical), the Principal at his discretion, on the recommendation of Head of the department and the faculty concerned, shall permit to conduct one additional mid-term test. This shall be conducted after the second mid-term test of that course(s), only on submission of supporting evidence.
- 6.1.4 The 10 marks allotted to assignments in each theory course shall be based on evaluation of two assignments (5marks each), on topics relevant to that particular course. The first assignment is to be submitted before I mid-term test and the second assignment is to be submitted before II mid-term test.

### **6.2 End Semester Examination**

- 6.2.1 End semester examination of theory courses shall have the following pattern:
  - 6.2.1.1 There shall be 5 questions of 12 marks each with internal choice for each question.
  - 6.2.1.2 Each of these questions from 1 to 5 shall cover one unit of the syllabus.
  - 6.2.1.3 The duration of Theory/practical end semester examination is 3 hours.

### 6.3 Practical Courses

- 6.3.1** The internal evaluation for practical courses shall be 40marks for day to day work based on execution of experiment/prerequisite work/ record/ Viva. The Weightage for each work shall be as follows:
- a. Observation & Execution of Experiment – 25 Marks
  - b. Record Work – 10 Marks
  - c. Viva – 5 Marks
- 6.3.2** The end semester examination shall be conducted by the laboratory faculty concerned and one senior faculty of the same department nominated by the Principal.

### 6.4 Audit Courses

An audit course is an educational term for the completion of a course of study for which a nominal assessment of the performance of the student is made without awarding grades. In this case, 'audit' indicates that the individual merely has received teaching and achieved a given standard of knowledge of the subject, rather than being evaluated. A student who audits a course does so for the purpose of self-enrichment and academic exploration.

#### Regulations for Audit Courses:

- 6.4.1** Institution intends to encourage the students to do one audit course in II Year II Semester of their program.
- 6.4.2** Audit Courses shall bear no credits.
- 6.4.3** The details of audit courses shall be reflected in Grade card of the successful students
- 6.4.4** Attendance for audit courses is compulsory and shall be considered while calculating the aggregate attendance.
- 6.4.5** There shall be only internal assessment/evaluation for audit courses. The student shall be declared passed in audit courses when he/she secures 40% marks or above in the internal evaluation. If any student does not attain the required pass percentage, the student needs to reappear for the mid-term tests, as and when the college conducts them in subsequent semesters.
- 6.4.6** For practical oriented audit courses like NSS, evaluation shall be based on practical work, as judged by the coordinator of NSS, without any compulsory internal examination.

### 6.5 Massive Open Online Courses (MOOCS)

The college in line with the developments in Learning Management Systems (LMS) intends to encourage the students to do online courses in MOOCs, offered internationally. The main intension to introduce MOOCs is to obtain enough exposure through online tutorials, self-learning at one's own pace, attempt quizzes, discuss with professors from various universities and finally to obtain certificate of completion of the course from the MOOCs providers.

#### Regulations for MOOCs:

- 6.5.1** Institution intends to encourage the students to do one MOOC from I year I Semester to II year I Semester of the Direct 2<sup>nd</sup> Year M.C.A. Programme.
- 6.5.2** The department shall give a list of **standard** MOOCs providers among edx, Udacity, Coursera, NPTEL or any other standard providers, whose credentials are endorsed by the HoD.

- 6.5.3** The department also opts for MOOCs providers, after tallying at least 70% to 80% of syllabus of the MOOC with MITS syllabus.
- 6.5.4** In general, MOOCs providers provide the result in percentage. In such case, the department shall follow the grade table given below, while providing CGPA for the MOOCs.

<b>Letter Grade</b>	<b>Grade points</b>	<b>Absolute marks</b>
O (Outstanding)	10	90 – 100
A+ (Excellent)	9	80 – 89
A (Very Good)	8	70 – 79
B+ (Good)	7	65 – 69
B (Above Average)	6	60 – 64
C (Average)	5	55 – 59
P (Pass)	4	50 – 54
F (Fail)	0	< 50
Ab (Absent)	0	

- 6.5.5** In case of any deviation from the clause 6.5.4, the committee appointed by the Principal shall take a decision for converting MOOC results in to the relevant grade points.
- 6.5.6** The Credits for MOOC(s) shall be same as given for the respective discipline core or discipline electives.
- 6.5.7** The department shall appoint Coordinator(s)/Mentor(s) and allot the students to them who shall be responsible to guide students in selecting online courses and provide guidance for the registration, progress and completion of the same.
- 6.5.8** A student shall choose an online course (relevant to his/her program of study) from the given list of MOOCs providers, as endorsed by the teacher concerned, with the approval of the HoD.
- 6.5.9** The details of MOOC(s) shall be displayed in Grade card of a student, provided he/she submits the proof of completion of it or them to the department concerned through the Coordinator/Mentor, before the end semester examination of the particular semester.
- 6.5.10** The Provisional Degree Certificate and/or consolidated grade sheet shall be issued only to those students, who have submitted proof of completion of MOOC(s), for the courses they have registered with.
- 6.5.11** In case a student fails to complete the MOOCs he/shall re-register for the same with any of the providers from the list provided by the department. Still if a student fails to clear the course/s, the institute shall evaluate for the said course/s for 60 marks (scaled up to 100 marks), as per the institution syllabi during the final year.
- 6.5.12** In case any provider discontinues to offer the course, institution shall allow the student to opt for any other provider from the list provided by the department, for completion of the same course. In case no provider offers the course the institution shall provide and evaluate the said course for 60 marks (scaled up to 100 marks), in the same semester as per the institution syllabi.

## **6.6 Choice Based Credit System (CBCS)**

The CBCS provides choice for students to select from the prescribed courses (core, elective). The CBCS provides a ‘cafeteria’ type approach in which students can take courses of their choice, learn at their own pace and adopt an interdisciplinary approach to learning.

### **Regulations for CBCS:**



- 6.6.1** The CBCS, also called as Open Electives (OEs) will be implemented in the college.
- 6.6.2** It is mandatory for students to study CBCS course during II year II Semester of their programme.
- 6.6.3** A student shall opt for courses from the list given by the department from time to time, complying with the requirement of the prerequisite course(s), if any.
- 6.6.4** A CBCS course shall be offered by the department, only when there are a minimum number of students opting for that course, as defined by the department.
- 6.6.5** A student, pursuing or has already completed a course under core/discipline elective is not eligible to pursue the same under CBCS / Open Electives category.

#### **6.7 Seminar:**

There shall be a seminar presentation in Direct 2nd Year MCAII Year II Semester and each student shall collect information on a specialized topic and deliver a Seminar on the same. The student shall prepare a technical report, showing his/her understanding over the topic, and submit the same to the department. The report and the presentation shall be evaluated for two credits and sessional marks of 40 shall be awarded by the departmental committee consisting of Head of the Department, seminar supervisor and a senior faculty member. The seminar shall be conducted anytime during the semester as per the convenience of the department committee and students. There shall be no external examination for seminar.

#### **6.8 Project work:**

- 6.8.1** The work on the project shall be initiated in the final semester and the duration of the project is for one semester.
- 6.8.2** Every candidate shall be required to submit a preliminary report on the topic approved by the department/college.
- 6.8.3** Registration of Project work: A candidate is permitted to register for the project work after satisfying the attendance requirement of all the courses (theory and practical courses of I to III Semesters).
- 6.8.4** An Internal Departmental Committee (I.D.C) consisting of HOD, Supervisor and one internal senior expert shall monitor the progress of the project work.
- 6.8.5** The student must submit status report at least in four different phases during the project work period. These reports must be approved by the I.D.C before submission of the Project Report.
- 6.8.6** A candidate shall be allowed to take viva-voce examination of the project, after fulfilling the attendance requirements.
- 6.8.7** Four copies of the Project Thesis / Dissertation certified in the prescribed format shall be presented to the HOD.
- 6.8.8** The department shall submit a panel of three experts for a maximum of 5 students at a time. However, the thesis / dissertation will be adjudicated by one external examiner nominated by the Principal.
- 6.8.9** If the report of the examiner is satisfactory, viva-voce examination shall be conducted by a board consisting of the Supervisor, Head of the Department and the examiner who adjudicated the project thesis / dissertation.
- 6.8.10** If the report of the viva-voce is either Grade F or Ab the candidate shall retake the viva-voce examination after three months. If he/she fails to get a satisfactory report at the second viva-voce examination, he/she will not be eligible for the award of the degree, unless he/she is permitted by the IDC & Principal to revise and resubmit the thesis.

## **7. Supplementary Examinations**

At the end of each Semester there will be regular examinations for the current Semester. Those students who could not clear their courses in their previous attempt can appear for the examinations under supplementary category along with the regular students after registering themselves at the examination section. Supplementary examinations for all other Semesters, other than the current one will be conducted during the same period.

## **8. Re-Registration for Improvement of Internal Evaluation Marks**

Following are the conditions to avail the benefit of improvement of internal evaluation marks.

- 8.1 The candidate should have completed the course work and obtained examinations results for all I to IV semesters.
- 8.2 He/she should have passed all the courses for which the internal evaluation marks secured are more than 50%.
- 8.3 In those courses in which the student has failed in the end semester examination due to internal evaluation marks secured being less than 50%, the candidate shall be given one chance for each theory course and for a maximum of **three** theory courses for improvement of internal evaluation marks.
- 8.4 The candidate has to re-register for the chosen courses and fulfill the academic requirements.
- 8.5 In the event of availing the Improvement of Internal evaluation marks, the internal evaluation marks as well as the end semester examinations marks secured in the previous attempt(s) for the reregistered courses stand cancelled.

## **9. Minimum Academic Requirements:**

- 9.1 Students need the attendance requirements mentioned in section no.5.
- 9.2 The minimum letter grade required for pass in each theory/practical/Seminar/Project work is P grade (internal evaluation + End Semester Examination). However a minimum of 40% (theory/practical) in end semester examination have to be secured.
- 9.3 If a student found to be guilty due to malpractice in the end semester examinations, he/she shall be awarded a letter grade “F”.
- 9.4 Students, who fail to earn 107 credits as indicated in the course structure within four academic years from the year of their admission, shall forfeit their seat in Direct 2<sup>nd</sup> Year M.C.A. Programme and their admission shall stand cancelled.

## **10. Transitory Regulations**

Discontinued, detained or failed candidates are eligible for readmission as and when the semester is offered after fulfillment of academic regulations. Candidates who are detained due to shortage of attendance or for not fulfilling academic requirements or failed after having undergone the programme in earlier regulations or have discontinued and wish to continue the programme are eligible for admission into unfinished Semester from the date of commencement of class work with the same or equivalent courses as and when such courses are offered, subject to section 4.3 and they will be in the academic regulations into which they get readmitted.

## **11. Withholding of Results**

If the candidate has any dues to the institution or any case of indiscipline or malpractice pending against him/her, the result of the candidate shall be withheld and he/sheshall not be allowed/promoted to the next semester. The issue of awarding the degree is liable to be withheld in such cases.

## **12. Grading System**

## 12.1 Letter Grade

12.1.1 Based on the student's performance during a given Semester, the students are awarded a final letter grade at the end of the Semester in each course. The letter grades and the corresponding grade points are as follows:

Letter Grade	Grade points	Absolute marks
O (Outstanding)	10	90 – 100
A+ (Excellent)	9	80 – 89
A (Very Good)	8	70 – 79
B+ (Good)	7	65 – 69
B (Above Average)	6	60 – 64
C (Average)	5	55 – 59
P (Pass)	4	50 – 54
F (Fail)	0	< 50
Ab (Absent)	0	

12.1.2 A student is considered to have completed a course successfully and earned the credits if he/she secures a letter grade other than F and Ab in that course. A letter grade F or Ab in any course implies that the candidate is yet to clear that course.

12.1.3 A course successfully completed cannot be repeated.

12.1.4 Grade Point Average (GPA) will be calculated according to the formula

$$GPA = \frac{\sum(C \times GP)}{\sum C}$$

where C = credits for the course, GP = grade points obtained for the course and the sum  $\sum$  is taken over all the courses taken in that Semester.

Cumulative grade point average [CGPA] averaged over all the courses is calculated for the award of class.

12.1.5 The following other GPAs are calculated on similar lines

1. SGPA = Averaged over all the courses taken in a particular Semester.
2. CGPA = Averaged over all the courses taken up to any given point of time.

## 12.2 Award of Class

The following Class is awarded to the student on successful completion of the MCA Degree Programme depending upon the CGPA obtained;

Class	CGPA	Based on the aggregate of grades secured from 107 credits
First Class with Distinction	$\geq 8.0$	
First Class	$\geq 6.0$ & $< 8.0$	
Second Class	$\geq 4.0$ & $< 6.0$	

## 13. Student transfers

Student transfer shall be as per the guidelines issued by the Government of Andhra Pradesh from time to time.

## 14. General

- 14.1** The academic regulations should be read as a whole for purpose of any interpretation.
- 14.2** Malpractice rules nature and punishments are appended.
- 14.3** Where the words “he”, “him”, “his” occur in the regulations, they also include “she”, “her”, “hers”, respectively.
- 14.4** In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal is final.
- 14.5** The Institute, with the approval of the Academic Council, may change or amend the academic regulations / structure / credits / syllabi at any time and the changes or amendments shall be made applicable to all the students on rolls with effect from the dates notified by the Institute.

### **Disciplinary Action for Malpractices / Improper Conduct in Examinations**

	<b>Nature of Malpractices/Improper conduct</b>	<b>Punishment</b>
	<i>If the candidate:</i>	
<b>1.</b>		
<b>(a)</b>	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers, blue tooth or any other form of material concerned with or related to the course of the examination (theory or practical) in which he/she is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the course of the examination)	Expulsion from the examination hall and cancellation of the performance in that course only.
<b>(b)</b>	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the examination hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that course only of all the candidates involved. In case of an outsider, he/she will be handed over to the police and a case is registered against him.
<b>2.</b>	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the course of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the courses of that Semester/year. The Hall Ticket of the candidate is to be cancelled.
<b>3.</b>	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from examination hall. The candidate is also debarred for four consecutive semesters from class work and all end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. The performance of the original candidate, who has been

		impersonated, shall be cancelled in all the courses of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining courses of that Semester/year. The candidate is also debarred for four consecutive Semesters from class work and all Semester end examinations if his involvement is established. Otherwise the candidate is debarred for two consecutive semesters from class work and all end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he/she will be handed over to the police and a case is registered against him.
4.	Smuggles in the Answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that course and all the other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred for two consecutive Semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5.	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that course.
6.	Refuses to obey the orders of the any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the College campus or engages in any other act which in the opinion of the	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that course and all other courses the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the courses of that Semester. If candidate physically assaults the invigilator or/ officer in charge of the examination, then the candidate is also barred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.

	officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	
7.	Leaves the examination hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that course and all the other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred for two consecutive Semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
8.	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred and forfeits the seat.
9.	If student of the college, who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the colleges expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the College will be handed over to police and, a police case will be registered against them.
10.	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that course and all other courses the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the courses of that Semester/year.
11.	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that course and all other courses the candidate has appeared including practical examinations and project work of that Semester examinations depending on the recommendation of the committee.

<b>12.</b>	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the Principal for further action to award suitable punishment.	
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**Note:** Whenever the performance of a student is cancelled in any course/ courses due to Malpractice, he/she has to register for the End semester examination in that particular course/s consequently and has to fulfill all the norms required for award of Degree.

**Curriculum – Direct 2<sup>nd</sup> Year MCA  
Breakup of Courses**

<b>Sl. No.</b>	<b>Category</b>	<b>No. of Theory Courses</b>	<b>No. of Practical Courses</b>	<b>Project Work+ viva voce</b>	<b>Seminar</b>	<b>Curriculum Credits</b>	<b>Weightage (%)</b>
1	Programme Core Courses	15	09	01	01	99	92.4
2	Discipline Elective	01	-	-	-	04	3.8
3	Open Elective	01	-	-	-	04	3.8
4	Audit Courses	02	-	-	-	-	-
	<b>Total</b>	19	09	01	01	107	100



**CURRICULUM**  
**Direct 2<sup>nd</sup> Year MCA**

Year	First Semester			Second Semester		
	Course Code	Course Name	Credits	Course Code	Course Name	Credits
<b>I</b>	14DMCA101	Advanced Database Management Systems	4	14DMCA105	Software Engineering	4
	14DMCA102	Design and Analysis of Algorithms	4	14DMCA106	Web Programming through PHP	4
	14DMCA103	Computer Networks	4	14DMCA107	Operating Systems	4
	14HUM403	Accountancy and Financial Management	4	14DMCA108	Network Security Essentials Applications and Standards	4
	14DMCA104	Programming to Python	4	14DMCA109	Computer Organization	4
	14DMCA201	Design and Analysis of Algorithms Practical	2	14DMCA204	Web Programming through PHP Practical	2
	14DMCA202	Advance Database Management Systems Practical	2	14DMCA205	Operating Systems Practical	2
	14DMCA203	Programming to Python Practical	2	14DMCA206	Network Security Practical	2
		<b>Total</b>	<b>26</b>		<b>Total</b>	<b>26</b>

Year	First Semester			Second Semester		
	Course Code	Course Name	Credits	Course Code	Course Name	Credits
<b>II</b>	14DMCA110	Data Warehousing and Mining	4	14DMCA114	Big Data and Analytics	4
	14DMCA111	Mobile Application Development using Android	4		<b>Open Elective</b>	4
	14DMCA112	Information Retrieval System	4	14DMCA501	Seminar -I	2
	14DMCA113	Object Oriented Analysis and Design (using UML)	4	14DMCA601	Project Work	19
		<b>Discipline Elective</b>	4		<b>Audit Course - II</b>	
	14DMCA207	Unified Modeling Language Practical	2			
	14DMCA208	Data Warehousing and Mining Practical	2			
	14DMCA209	Mobile Application Development Practical using Android	2			
		<b>Audit Course -I</b>	-			
		<b>Total</b>	<b>26</b>		<b>Total</b>	<b>29</b>

**List of Discipline Core Courses  
(All Courses Carry Equal Marks (100))**

Sl. No.	Course Code	Course Name	Credits
<b>Theory Course</b>			
1.	14DMCA101	Advanced Database Management Systems	4
2.	14DMCA102	Design and Analysis of Algorithms	4
3.	14DMCA103	Computer Networks	4
4.	14DMCA104	Programming to Python	4
5.	14DMCA105	Software Engineering	4
6.	14DMCA106	Web Programming through PHP	4
7.	14DMCA107	Operating Systems	4
8.	14DMCA108	Network Security Essentials Applications and Standards	4
9.	14DMCA109	Computer Organization	4
10.	14DMCA110	Data Warehousing and Mining	4
11.	14DMCA111	Mobile Application Development using Android	4
12.	14DMCA112	Information Retrieval System	4
13.	14DMCA113	Object Oriented Analysis and Design (using UML)	4
14.	14DMCA114	Big Data and Analytics	4
15.	14HUM403	Accountancy and Financial Management	4
<b>Total</b>			<b>60</b>
<b>Practical Courses</b>			
1	14DMCA201	Design and Analysis of Algorithms Practical	2
2	14DMCA202	Advance Database Management Systems Practical	2
3	14DMCA203	Programming to Python Practical	2
4	14DMCA204	Web Programming Through PHP Practical	2
5	14DMCA205	Operating Systems Practical	2
6	14DMCA206	Network Security Practical	2
7	14DMCA207	Unified Modeling Language Practical	2
8	14DMCA208	Data Warehousing and Mining Practical	2
9	14DMCA209	Mobile Application Development Practical using Android	2
<b>Total</b>			<b>18</b>

**List of Discipline Electives**

Sl. No.	Course Code	Course Name	Credit
1.	14DMCA401	Cloud Infrastructure Services	04
2.	14DMCA402	Decision Support Services	
3.	14DMCA403	Image Processing	
<b>Total</b>			<b>04</b>

**List of Open Electives (CBCS)**  
**(All Courses Carry Equal Marks (100) & Credits (4))**  
**Refer UG Regulations Clause 6.6**

Sl.No.	Course Code	Course Name	Offered by the Dept. of	Prerequisite Course Code / None
1.	14MBA432	Enterprise Systems & IT strategy	Management Studies	None
2.	14MBA435	E-Business	Management Studies	None
3.	14MBA439	Management of Software Project	Management Studies	None
4.	14MBA440	Corporate Information Management	Management Studies	None

**List of Audit Courses**  
**(No Credits & End Exam – Only Internal Evaluation)**  
**Refer UG Regulations Clause: 6.4**

**Audit Course -I**

Sl. No.	Course Code	Course Name	Area	Prerequisite Course Code / None
1.	14ENG301	Effective Public Speaking	English	None
2.	14ENG302	Creative Writing	English	None
3.	14HUM301	Entrepreneurship Development	Enterprise	None
4.	14HUM302	Introduction to Intellectual Property Rights	Research	None
5.	14CSE301	Data Analysis Using R	Computers	None

**Audit Course -II**

1.	14ENG303	Phonetics and Spoken English	English	None
2.	14ENG304	Introductory Psychology	English	None
3.	14CSE302	Ethical Hacking	Computers	None
4.	14MBA301	Business Ethics and Corporate Governance	Enterprise	None
5.	14HUM303	National Service Scheme (NSS)	Humanities	None

**Marks Allocation**

Sl. No	Description	Internal Marks			External Marks
		Mid Test	Assignment		
1.	Theory	30	10		60
2.	Practical	Experiment	Record Work	Viva-Voce	60
		25	10	5	
3.	Seminar	-			40
4.	Project Work + Viva voce	-			200
5.	Audit Course	-			40

**Semester-Wise Marks & Credits**

Sl.No	Year/Semester	Total Marks	Credits
1.	I/I	800	26
2.	I/II	800	26
3.	II/I	840	26
4.	II/II	480	29

## **PROGRAMME CORE COURSES**

