



**ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
RAJAMPET**
(An Autonomous Institution)

ACADEMIC REGULATIONS (R20), COURSE STRUCTURE AND SYLLABI
For the students admitted to
M.C.A., Regular Two Year Degree Programme from the Academic Year 2020-2021

VISION AND MISSION OF THE INSTITUTION

Vision

We impart futuristic technical education and instil high patterns of discipline through our dedicated staff who set global standards, making our students technologically superior and ethically strong, who in turn shall improve the quality of life of the human race.

Mission

Our mission is to educate students from the local and rural areas and from other states so that they become enlightened individuals, improving the living standards of their families, industry and society. We provide individual attention, world-class quality of Technical education and take care of character building.

ACADEMIC RULES AND REGULATIONS OF TWO-YEAR M.C.A REGULAR DEGREE PROGRAMME

APPLICABLE FOR THE STUDENT BATCHES ADMITTED FROM THE ACADEMIC YEAR 2020-2021

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1. PREAMBLE

Annamacharya Institute of Technology and Sciences (Autonomous), Rajampet, relentlessly aims to achieve academic excellence by implementing new initiatives in teaching-learning and evaluation processes. Based on the directions of the University Grants Commission (UGC), New Delhi, All India Council for Technical Education (AICTE), New Delhi and Jawaharlal Nehru Technological University Anantapur (JNTUA) Anantapuramu, the institute is developed the curriculum for Master of Computer Applications (MCA) Course to match the needs, expectations, and skillsets of students of the region, in the post-graduate programme offered from the academic year 2020-21.

2. APPLICATION AND COMMENCEMENT

- The regulations are quite comprehensive and include definitions of key terms, semester system, credit system, grading system and other relevant details.
- The regulations detailed herein shall apply to all the regular post-graduate programme offered by the Institute.
- The regulations shall be applicable and come into force to the student batches admitted from the academic year 2020-21.
- The Institute may revise, amend or change the regulations, scheme of examinations and syllabi, from time to time, if found necessary and on approval by the Academic Council of the Institute, keeping the recommendations of the Board of Studies in view.
- Any or all such amendments shall be effective from such date and to such batches of students including those already undergoing the programme, as may be approved through Academic Council of the Institute.
- These regulations shall be called R20 Regulations.

3. PROGRAMMES OFFERED BY THE INSTITUTE

The following M.C.A programmes are offered by the Institute from 2020-2021.

SNo	Name of the Program	Programme Code
1	Master of Computer Applications (2 Year Degree) (Regular Entry Scheme)	1F

4. ELIGIBILITY FOR ADMISSION

The eligibility criteria for admission into the MCA Post Graduate programme offered at AITS shall be as prescribed by the Government of Andhra Pradesh. The criteria are given below:

- Admission to the above programmes shall be made subject to the eligibility and qualifications as prescribed from time to time.
- **Regular Entry Scheme:** Candidates for admission to the first semester of the Four semester

MCA degree programme must have a B.C.A / B.Sc / B.Com Degree with Mathematics as one of the subject at 10+2 level or at graduation level.

- Admissions shall be made on the basis of Rank earned by the candidate in the relevant ICET examination / merit rank obtained by the qualifying candidate in the entrance test (ICET) conducted by the Government of Andhra Pradesh for MCA & MBA programmes or as decided by APSCHE subject to the reservations as prescribed by the university / State Government / on the basis of any other order of merit as decided by APSCHE from time to time
- Seats in each programme in the Institute are classified into two categories i.e., **Category – A** and **Category – B** as per the GOs of Andhra Pradesh.

Category – A Seats

These seats shall be filled through counselling as per the rank secured by a candidate in the Common Entrance Test (ICET) conducted by the Government of Andhra Pradesh and as per other admission criteria laid down in the GOs.

Category – B Seats

These seats shall be filled by the Institute as per the GOs issued by the Government of Andhra Pradesh from time to time

5. MEDIUM OF INSTRUCTION

The medium of instruction shall be **English** for all the courses including their content delivery and examinations, seminars, presentations and project evaluation as prescribed in the programme curriculum.

6. M.C.A PROGRAMME STRUCTURE

The structure of the M.C.A Programme on offer at AITS are based on the **Choice Based Credit System (CBCS)** as defined by the UGC and the curriculum / course structure in line with AICTE.

Semester Scheme

- The **M.C.A** Programme offered at AITS follow **semester scheme** pattern.
- The duration of a **M.C.A** Programme shall be of 2 **academic** years.
- Each academic year shall have **2 semesters** i.e., odd and even semesters and shall be counted as first semester, second semester, and so on up to fourth semester.
- Each semester shall consist of **16 weeks** of academic work excluding internal examinations.
- Each semester is structured to provide credits totalling to **90 credits** for the entire M.C.A. Programme.
- Each semester shall have **Continuous Internal Evaluation (CIE)** and **Semester End Examination (SEE)** for both Theory and Lab courses.
- A student after securing admission into a 2 year M.C.A Programme at AITS shall pursue and acquire the M.C.A. Degree in a **minimum period of Two academic years i.e., 4 semesters**

and a **maximum period of Four academic years i.e., 8 semesters** starting from the date of commencement of I year I semester, failing which the student shall forfeit the seat in **M.C.A.** Programme.

7. COURSES AND CREDIT STRUCTURE

Credit: A credit is a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (Lecture/Tutorial) or two hours of practical work/field work/project per week.

Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.

Choice Based Credit System (CBCS): CBCS provides choice for students to select from the prescribed courses.

Each course is assigned certain number of credits based on following criterion

Type of Class	Semester	
	Periods per Week	Credits
Theory (Lecture/Tutorial)	01	01
	02	02
	03	03
	04	04
Practical	02	01
	03	1.5
	04	02
Project Work	-	16
Comprehensive Viva-Voce	-	02

Every course of the M.C.A. programme shall be offered by a specific section / department. The unique codes of the section / department offering the courses are given in the Table.

Course offering Department	Code
Basic Science Courses	C
Humanities Courses	
Master of Computer Applications	F
Master of Business Administration	E

M.C.A Programme of study shall be designed to have theory and laboratory courses. In addition, a student shall carry out project work and comprehensive viva-voce courses as prescribed in the curriculum of the Programme.

7.1 Types of Courses

Type of courses	Course category	Code	Range of credits
Foundation Courses	Humanities	HS	5
	Basic Sciences	BS	3
Core Courses	Professional Core	PC	52
Electives Courses	Professional Electives	PE	09
	MOOCs	-	03
Project	Comprehensive Viva Voce	-	2
	Project work	PW	16
Mandatory Courses	Mandatory	MC	-
Total Credits			90

7.1.1 Foundation Courses

Basic Science Courses and Humanities courses are termed as Foundation Courses and are mostly offered at I Year – I Semester.

7.1.2 Professional Core Courses

Professional Core Course is to be completed by all students of respective programme before they can move on to the next semester.

7.1.3 Professional Core Electives

University Grants Commission has come up with the Choice Based Credit System (CBCS) in which the students have a choice to choose from the prescribed courses, which are referred as Professional elective courses.

Students have to register for a total of 4 professional core electives courses (PE-1 to PE-4) from the list of track-wise professional elective course as prescribed in the course structure of the programme. The following points are considered for a Professional Elective Course.

- The selection of course based on the choice for students shall be on 'first come first serve' through on line and off line registration.
- The Head of the department or concerned shall decide, whether or not to offer such course keeping in view the resources available in the department offering the course.

7.1.4 Mandatory Courses

- A student shall pursue mandatory courses as specified in the course structure of the M.C.A. Programme.
- These courses are among the compulsory courses and do not carry any credits.

- A student has to secure 40 marks out of 100 in the Internal Examination, shall be necessary requirement for the student to qualify for the **award of Degree**.
- Result of mandatory courses shall be declared with “**Pass**” or “**Fail**” performance in the Comprehensive Marks Memo.
- No marks or letter grade shall be allotted.

Attendance in the mandatory course shall be considered while calculating aggregate attendance.

7.1.5 Massive Open Online Courses

- MOOCs (Massive Open Online Courses) are introduced to meet with the global requirements and to inculcate the habit of self-learning and in compliance with the UGC guidelines
- A student shall be permitted to pursue up to a maximum of one electives courses under MOOCs during programme. Each of courses must be of minimum 12 weeks in duration.
- Students interested in pursuing MOOCs shall register for the course and submit this information at their department office at the start of the corresponding semester.
- Course content for the selected MOOCs shall be drawn from the respective MOOCs offering Portal.
- Course progress shall be monitored by the Mentors designated by the HoD.
- Grade obtained through the evaluation of the MOOC shall be considered for the CGPA calculation.
- Three credits shall be awarded to the student upon successful completion of MOOC.
- In case a student fails to complete the MOOCs he/she shall re-register for the same with the same provider, already offered that course. In case that provider discontinues to offer the course, Institution shall conduct an offline examination in the same format, which student already appeared in online examination, as per the MOOC syllabus.

8. EVALUATION PROCESS

The performance of a student in each semester shall be evaluated course-wise with a maximum of 100 marks for both Theory and Lab Courses.

- For a Theory course, the distribution shall be 40 marks for Internal Evaluation and 60 marks for End-Examinations. The distribution is detailed in 8.1.1.
- For a Lab course, the distribution shall be 40 marks for Internal Evaluation and 60 marks End-Examinations. The distribution is detailed in 8.1.2
- For the project work, the evaluation procedure is detailed in 9.0.
- Comprehensive Viva-Voce shall be evaluated for 100 marks, the evaluation procedure is detailed in 9.2.

8.1 Internal Evaluation

8.1.1 Theory Internal Examinations

For a Theory Course, 40 marks are allotted for Internal Evaluation. Two mid-term examinations (Theory Internal Examinations) shall be conducted for a Theory Course during a semester and they shall be evaluated for 40 marks. First midterm examination shall be conducted as per the syllabus of I & II units. The second midterm examination shall be conducted as per the syllabus of III, IV and V units. The question paper shall be of subjective type in which four questions with an internal choice are to be answered. 80 % weightage for the best performance and 20 % for other shall be considered.

For Example:

Marks obtained in I mid-term examination: 19

Marks obtained in II mid-term examination: 10

Final Internal Marks: $(19 \times 0.8) + (10 \times 0.2) = 17.2$

If the student is absent for any one midterm examination, the final internal marks shall be arrived at by considering 80% weightage to the marks secured by the student in the appeared examination and zero to the other.

For Example:

Marks obtained in first mid: 0 (Absent); Marks obtained in second mid: 18

Final Internal Marks: $(18 \times 0.8) + (0 \times 0.2) = 14.4$

8.1.2 Laboratory Internal Examinations

For Lab Course, there shall be a continuous internal evaluation during the semester for 40 marks. Out of the 40 marks, day-to-day performance of the student in the laboratory shall be evaluated for 20 marks by the concerned laboratory teacher based on experimental correctness/record/viva. Two Lab Internal examinations shall be conducted for 20 marks by the concerned teacher. Performance of one best out of two tests to be considered.

8.2 External Evaluation

8.2.1 Theory End Examinations

As specified in 8.0, Theory End Evaluation is done for 60 marks. End examination of theory subjects shall be conducted at the end of semester. There shall be Regular and Supplementary End Examinations. Theory End Examination shall be conducted for 60 marks and is of 3 hours duration. The question paper shall be of subjective type with 5 questions, one question from each unit, with internal choice. All questions carry equal marks of 12 each.

8.2.2 Laboratory End Examinations

As specified in 8.0, Lab End Evaluation is done for 60 marks, in the form a Lab End Examination that shall be conducted for 3 hours in respective Laboratory. Each lab course will have its own evaluation procedure and weightage.

8.2.3 Supplementary Theory/Laboratory End Examinations

- Supplementary examination shall be conducted along with regular Semester End Examinations.
- During Semester End Examinations of even semester, supplementary examinations of odd semester shall be conducted and during semester end examinations of odd semester, supplementary examinations of even semester shall be conducted.
- The same schedule is applicable to Supplementary Lab End Examinations. Supplementary examination shall be conducted along with the next batch of students or separately.
- In case of seminars and comprehensive viva-voce examinations, supplementary seminar / comprehensive viva-voce will be conducted along with the next batch of students. If the next batch of students is not available, a separate supplementary examination will be conducted.

8.2.4 Revaluation and Recounting

Students may visit Examination Section Webpage for Norms and Procedures for Revaluation and Recounting of Answer Scripts.

- The students who wishes to apply for Revaluation/Recounting of his/her answer-books(s) must submit his/her application on the prescribed form together with the requisite fee to the Controller of Examinations before expiry of 15 days excluding the date of the declaration of his/her examination result. Application not received in the prescribed form or by the due date or without the requisite fee shall be rejected.
- After Recounting / Revaluation, records are updated with changes if any and the student will be issued a revised memorandum of marks. If there are no changes, the student shall be intimated the same through a notice.
- No Revaluation / Recounting for Laboratory Examination.
- The students are informed to be more careful in furnishing the information while applying for Recounting / Revaluation. The applications with insufficient information will be summarily rejected and the student has to forfeit the amount paid in this connection.

8.2.5 Challenge Evaluation

- Applications are invited from the students, who wish to apply for Challenge Valuation in the subjects of the M.C.A Regular and Supplementary examinations
- The student will apply for Challenge valuation in a specified application and should be routed through the HOD concerned.
- The students who have applied for the revaluation for a paper(s) of an examination are only eligible for the Challenge Valuation of that paper(s) of that examination.
- A Fee of Rs. 10000/- (Ten Thousand Rupees Only) for each paper is to be paid within the last date for challenge valuation.

- A Xerox copy of the answer script will be provided to the student on receipt of the payment of fee and date and time of the valuation will be informed to the student, so that valuation will be done in the presence of the teacher attended in support of the student nominated by the HOD concerned.
- The HOD concerned will nominate a teacher of the concerned subject to observe the valuation in support of the student. This will be done on the request of the student.
- If the marks obtained in the challenge valuation are more than or equal to 15% of the maximum marks with respect to the original marks obtained in the first valuation, then the marks obtained in the Challenge valuation will be awarded to the student and the institute will pay back Rs 9,000 (Nine thousands rupees only) to the student. If the student status changes from fail to pass, an amount of Rs. 5000 will be refunded to the student. Otherwise there will not be any change in the result of the student and original marks will be retained and the student will forfeit the fee paid.
- No Challenge valuation for Laboratory Examination

9. PROJECT EVALUATION

Every student shall be required to submit thesis/dissertation after taking up a topic approved by the Departmental Committee.

- The Departmental Committee (DC) consisting of HOD, Project supervisor and two internal senior experts shall monitor the progress of the project work. A Project Review Committee (PRC) shall be constituted with Principal as a Chair person, Heads of the Departments of the program and two other senior faculty members, as members of PRC. PRC will come into action when DC is not able to resolve the issues.
- Registration of project work: A student is permitted to register for the project work after satisfying the attendance requirements of all the courses (theory, practical and seminars)
- After satisfying above point, a student has to submit in consultation with his supervisor, the title, objective plan of action of his project work to the DC for approval. Only after obtaining the approval of DC, the student can initiate the project work
- The work on the project shall be initiated in the penultimate semester and continued in the final semester. The student can submit project thesis with the approval of DC after 16 weeks from the date of registration at the earliest but not later than 6 Months from the date of registration for the project work. Extension of time within the total permissible limit for completing the programme is to be obtained from the Head of the Institute
- The internal evaluation shall be made by the DC to grade, on the basis of two seminars presented by the student on the topic of his project.

- The student must submit the status of thesis/dissertation only after passing all the prescribed subjects such as theory, practical's, seminar and project internal evaluation
- A Student has to prepare four copies of the thesis/dissertation certified in the prescribed format by the supervisor and HOD. Out of which three copies shall be submitted in the examination section.
- Viva Voce examination shall be conducted by a board consisting of the supervisor, Head of the department and the External examiner. The Board shall jointly report student work as:
 - A- Excellent
 - B- Very Good
 - C- Good
 - D- Satisfactory
 - E- Not Satisfactory

Head of the Department shall coordinate and make arrangements for the conduct of viva-voce.

- If the report of the viva-voce is failure, the student will 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.

9.1 Pre-Submission Seminar

- A student shall present a seminar before submitting the final project in II Year II Semester of the M.C.A Programme.
- A student under the supervision of a faculty member, shall collect literature on his/her project, critically review the literature, carry out the work and submit it to the department in a form of report as prescribed by the Academic section and shall make an oral presentation before the Departmental Committee.
- Student has to clear Pre-Submission Seminar, prior to the submission of project report to the DC for approval.

9.2 Comprehensive Viva-Voce Evaluation

- Comprehensive Viva-Voce is to assess the student's technical and analytical skills in the domain of Computer Applications.
- There shall be a Comprehensive Viva-Voce in II Year II Semester.
- The Comprehensive Viva-Voce will be conducted by a Committee consisting of Head of the Department and two senior faculty members of the department.
- The Comprehensive Viva-Voce is intended to assess the student's understanding of the subjects he/she studied during the MCA course of study.
- This is also to see the articulation of what is being learnt by them.

- The idea is to see that students are able to digest what is being taught in two terms and see their relevance not only in the practical field but also their inter relationship.
- The Comprehensive Viva-Voce is evaluated for 100 marks by the committee.
- Comprehensive Viva-Voce conducted twice in II Year II Semester.
- One in the middle of the semester and the other towards the end of the semester, and the best one is considered.
- There are no internal marks for the Comprehensive Viva-Voce.

10. ATTENDANCE REQUIREMENTS AND DETENTION POLICY

- A student shall maintain a minimum required attendance of 75% in AGGREGATE.
 - Shortage of attendance up to 10% i.e., attendance between 65% to 75% in aggregate, may be condoned by the Institute Academic Committee based on the rules prescribed by the Academic Council of the Institute from time to time.
 - A stipulated fee shall be payable towards condonation of shortage of attendance.
 - Shortage of attendance below 65 % shall in no case be condoned. A stipulated fee shall be payable towards condonation of shortage of attendance to the Institute as per following slab system.
 - 1stSlab:** Less than 75% attendance but equal to or greater than 70% a normal condonation fee can be collected from the student.
 - 2ndSlab:** Less than 70% but equal to or greater than 65%, double the condonation fee can be collected from the student.
 - Students whose shortage of attendance is not condoned OR who have not paid the stipulated fee OR who have not cleared any other due to the Institute in any semester are not eligible to write the Semester End Examination (SEE).
 - Students, who do not meet the minimum required attendance of 65% in a semester, shall be detained in that semester and their registration for that semester shall stand cancelled. They shall not be promoted to the next semester.
 - Students detained in a semester shall seek re-admission into that semester as and when offered.
 - Academic regulations applicable to the semester in which re-admission is sought shall be applicable to the re-admitted student.
 - In case, there are any professional electives and / or the same may also be re- registered, if offered. However, if those electives are not offered in the later semesters, then alternate electives may be chosen from the same set of elective courses offered under that category.
- Any student against whom any disciplinary action is pending shall not be permitted to attend semester end examination (SEE) in that semester.

11. Minimum Academic Requirements and Award of the Degree

The following Academic Requirements have to be satisfied in addition to the attendance requirements mentioned in section 10.

11.1 A student shall be deemed to have satisfied the minimum academic requirements and earn the credits for each theory , practical and seminar, if he secures

- A minimum of 40 % marks for each theory course in the Semester End Examination (SEE), and
- A minimum of 50 % marks for each theory course considering both CIE and SEE taken together.

11.2 A student shall be deemed to have satisfied the minimum academic requirements and earn the credits allotted to seminar courses, if he secures

- A minimum of 50 % marks for a seminar in the Continuous Internal Evaluation (CIE)

11.3 A student shall be treated as failed, if he

- Does not submit a report of a seminar or
- Does not make a presentation of the same before the evaluation committee as per the schedule, or
- Secures less than 50 % marks in evaluation.

11.4 If a student fails to secure a pass grade in a particular course, it is mandatory that he shall register and re-appear for the examination in that course during the next semester when SEE is conducted in that course. It is mandatory that he should continue to register and re-appear for the examination till he secures a pass grade.

11.5 A student detained in a SEMESTER due to shortage of attendance, may be re-admitted when the same semester in the next academic year for fulfillment of academic requirements.

11.6 Academic regulations applicable to the semester in which re-admission is sought shall be applicable to the re-admitted student.

11.7 A student shall be given one chance to re-register, after completion of the course work, for each course, provided the internal marks (CIE) secured by a student are less than 50% and he has failed in the SEE. In such a case, a student may re-register for the course(s) with prior permission and secure the minimum required attendance. Attendance in the re-registered course(s) shall be calculated separately to become eligible to write the semester end examination (SEE) in the re-registered course(s).

11.8 Re-registration is allowed only in those cases where the student doesn't have any course(s) yet to pass other than the re-registration course(s) where the CIE marks are less than 50%. However, in the case of re-registration of course(s) by a student, academic regulations applicable at the time of student admission in the programme shall be applicable.

11.9 In the event of re-registration, the internal evaluation marks as well as the End Semester Examinations marks secured in the previous attempt (s) for those subjects stand cancelled.

11.10 For each subject re-registered, the student has to pay a fee equivalent to one third of the semester tuition fee

11.11 A student shall register and put up minimum academic requirement of all 90 credits and earn all 90 credits for the award of M.C.A Degree

11.12 Students who fail to earn 90 credits as indicated in the course structure within four academic years from the year of their admission shall forfeit their seat in M.C.A course and their admission shall stand cancelled.

12. SEMESTER GRADE POINT AVERAGE (SGPA) AND CUMULATIVE GRADE POINT AVERAGE (CGPA)

The performances of students in each of the courses in the Programme are expressed in terms of letter grades based on an absolute grading system. We use 10-point grading system with letter grades. They are given in the following table.

Marks Obtained	Letter Grade	Description	Grade Points (GP)
≥90	S	Superior	10
≥80 and ≤89.99	E	Excellent	9
≥70 and ≤79.99	A	Very Good	8
≥60 and ≤69.99	B	Good	7
≥50 and ≤59.99	C	Pass	6
< 50	F	Fail	--
Absent in the exam(s)	AB	Absent	--

A student is eligible for the award of the M.C.A. Degree with the class as mentioned in the following table

CGPA	Class
≥7.5	First class with Distinction
≥6.5 and <7.5	First Class
≥5.5 and <6.5	Second Class
≥5.0 and <5.5	Pass

12.1 Computation of SGPA

The performance of each student at the end of each semester shall be indicated in terms of SGPA. The SGPA shall be calculated as follows:

$$SGPA = \frac{\text{Total earned weighted grade points in a semester}}{\text{Total credits in a semester}}$$

$$SGPA = \frac{\sum_{i=1}^p C_i \cdot G_i}{\sum_{i=1}^p C_i}$$

Where

C_i = Number of credits allotted to a particular course 'i'

G_i = Grade point corresponding to the letter grade awarded to the course i

$i = 1, 2, \dots, p$ represent the number of courses in a particular semester.

Note: SGPA is calculated and awarded to those students who pass all the courses in a semester.

12.2 Computation of CGPA

The performance of a student shall be obtained by calculating Cumulative Grade Point Average (CGPA), which is weighted average of the grade points obtained on all courses during the course of study

$$CGPA = \frac{\text{Total earned weighted grade points for the entire programme}}{\text{Total credits for the entire program}}$$

$$CGPA = \frac{\sum_{j=1}^m C_j \cdot G_j}{\sum_{j=1}^m C_j}$$

Where

C_j = Number of credits allotted to a particular semester 'j'

G_j = Grade point corresponding to the letter grade awarded to the semester j

$j = 1, 2, \dots, m$ represent the number of semester of the entire programme.

12.3 Grade Card

The grade card issued shall contain the following

- The credits for each course offered in that semester
- The letter grade and grade point awarded in each course
- The SGPA and CGPA
- Total number of credits earned by the student up to the end of that semester

Example: - Computation /calculation of SGPA

Course name	Credits (C)	Letter grade	Grade point (GP)	Credit point (CP=C*GP)
Course 1	4	A	9	4x9=36
Course 2	3	A+	10	3*10=30
Course 3	2.5	A+	10	2.5*10=25
Course 4	1.5	D	6	1.5*6=9
Course 5	1	E	5	1*5=5
Total	12			105

Therefore, SGPA = $\frac{105}{12}$ 8.75

Example Illustration of CGPA

Semester 1	Semester 2	Semester 3
Credit: 20 SGPA : 8.75	Credit : 20 SGPA : 8.25	Credit : 22 SGPA : 7.89

$$\text{Thus, CGPA} = \frac{20 \times 8.75 + 20 \times 8.25 + 22 \times 7.89}{62} = 8.28$$

Similarly, compute CGPA obtained at the end of 4th semester shall be the final CGPA secured by the student for the entire programme.

12.4 Conversion of SGPA into percentage

In case of a specific query by students/employers regarding Semester Grade Point Average (SGPA)/ Cumulative Grade Point Average (CGPA) into percentage, the following formulae will be adopted for notional conversion of CGPA into percentage.

$$\text{Percentage} = (\text{CGPA} - 0.50) \times 10$$

13. TRANSCRIPTS

After successful completion of the entire programme of study, a transcript containing performance of all academic years will be issued as a final record. Duplicate transcripts will also be issued, if required, after payment of requisite fee. Partial transcript will also be issued up to any point of study to a student on request.

14. TRANSITORY REGULATIONS

Discontinued, detained, or failed candidates are eligible for readmission as and when the semester is offered after fulfilment of academic regulations. Candidates who have been detained for want of attendance or not fulfilled academic requirements or who have failed after having undergone the course in earlier regulations or have discontinued and wish to continue the course are eligible for admission into the unfinished semester from the date of commencement of class work with the same or equivalent subjects as and when subjects are offered, subject to Section 11 and they will follow the academic regulations into which they are readmitted. Students who are permitted to avail gap year shall be eligible for re-joining into the succeeding year of their M.C.A from the date of commencement of class work, subject to Section 11 and they will follow the academic regulations into which they are readmitted.

15. MINIMUM INSTRUCTION DAYS FOR A SEMESTER

The minimum instruction days for each semester shall be 16 weeks.

16. STUDENT TRANSFERS

Student transfers shall be as per the guidelines issued by the Government of Andhra Pradesh and the affiliating University from time to time.

17. ANNOUNCEMENT OF RESULTS

- Results review committee comprising of University nominee, Principal, Dean Academics, Chairman of various boards of studies, Controller of Examinations and Deputy Controller of Examinations will monitor the results and gives the permission for announcement of results.
- After review meeting results are loaded in to Institution website from which students can access their results by entering Hall Ticket number. And also results in form of hard copy are available with respective Heads of the departments.

18. GENERAL INSTRUCTIONS:

- The academic regulations should be read as a whole for purpose of any interpretation.
- Malpractices rules-nature and punishments are appended.
- Where the words "he", "him", "his", occur in the regulations, they also include "she", "her", "hers", respectively.
- In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal / Governing body is final.
- Any legal issues are to be resolved in Rajampet Jurisdiction.
- The Institute may change or amend the academic regulations or 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.

APPENDIX I: Rules for Disciplinary Action for Malpractices / Improper Conduct in Examinations

Malpractices identified by squad or special invigilators or invigilators

Punishments shall be given to the students as per the above guidelines. The case is to be referred to the malpractice committee.

Malpractice committee

1. The Principal, Chairman
2. Dean, Academics, Member
3. Invigilator, Member
4. Subject expert, Member
5. Concerned Head of the Department, Member
6. Controller of Examinations, Member Secretary

Note:

Whenever the performance of a student is cancelled in any subject/subjects due to Malpractice, he has to register for End Examinations in that subject/subjects consequently and has to fill all the norms required for the award of Degree.

	Nature of Malpractices/Improper conduct	Punishment
	<i>If the candidate:</i>	
1.(a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which he 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 subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(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 exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2.	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The Hall Ticket of the candidate is to be cancelled and sent to the University.
3.	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 University 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 subjects of the examination (including practical's and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for four consecutive semesters from class work and all University examinations, if his involvement is established. Otherwise, the candidate is debarred for two consecutive semesters from class work and all University 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 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 subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all University 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 subject only.
6.	Refuses to obey the orders of the Chief Superintendent/Assistant — Superintendent / 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 officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	In case of student of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. If the candidate physically assaults the invigilator/officer-in-charge of the Examinations, then the candidate is also debarred and forfeits his/her seat. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7.	Leaves the exam 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 subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all University 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 subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits

		the seat.
9.	If students 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 class 6 to 8.	Student of the colleges expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat. Person (s) who does 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 subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects 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 subject only or in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester / year examinations, depending on the recommendation of the committee.
12.	If any malpractice is detected which is not covered in the above clauses 1 to 12 shall be reported to the University for further action to award suitable punishment.	

DEPARTMENT OF COMPUTER APPLICATIONS

VISION AND MISSION OF THE DEPARTMENT

Vision

To become globally prominent and significant in the areas of academics and research keeping the aim of developing competitive professionals to serve the society and to light on the needs of ever changing software industry.

Mission

- To enable the students to be knowledgeable and creative by developing state-of-the-art curriculum through innovative teaching methodologies.
- Providing training programs that bridges the gap between academia and industry to produce competitive software professionals.
- To inculcate values and ethics in the students enabling them to become socially committed professionals.
- To enhance the research quality and productivity, by providing required facilities and industry collaboration.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Practice software engineering principles and standards to develop software to meet customer requirements across verticals.

PEO2: Contribute to build sustainable and inclusive applications using mathematical, simulation and meta-heuristic models.

PEO3: Demonstrate entrepreneurial qualities through individual competence and team work.

PEO4: Achieve successful professional career with integrity and societal commitments leading to lifelong learning.

PROGRAMME OUTCOMES (POs)

1. **Computational Knowledge:** Apply knowledge of computing fundamentals, computing specialization, mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
2. **Problem Analysis:** Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
3. **Design /Development of Solutions:** Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. **Conduct Investigations of Complex Computing Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage:** Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
6. **Professional Ethics:** Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practice.
7. **Life-long Learning:** Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
8. **Project management and finance:** Demonstrate knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
9. **Communication Efficacy:** Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
10. **Societal and Environmental Concern:** Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.
11. **Individual and Team Work:** Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.
12. **Innovation and Entrepreneurship:** Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.