



# **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

CET Campus, Thiruvananthapuram, Kerala-695016

**2016**

REGULATIONS

For

MASTER OF COMPUTER APPLICATIONS  
(MCA, MCA Lateral Entry, Integrated Degree MCA)

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## 1. Admission to the Master of Computer Applications

- a) Eligibility for admission to the MCA programme, admission policy and procedure shall be decided from time to time by following the guidelines issued by All India Council for Technical Education (AICTE), Government of India and the Government of Kerala. Other important eligibility criteria are as listed out by the Director of Technical Education with the approval of the Government of Kerala.
- b) Subject to Clause 1(a), Admission to MCA, shall be based on the guidelines given by the State and Central Governments on reservation. Other eligibility criteria for admission is currently prescribed by the Government of Kerala through Government orders.
- c) The Branches of study and number of students admitted are to be based on the approval by the All India Council for Technical Education (AICTE) and the APJ Abdul Kalam Technological University (KTU).
- d) Notwithstanding all that is stated above, the admission policy may be modified from time to time by the University, particularly to conform to directions from the Government of Kerala and the Government of India.
- e) The MCA programme is a credit based programme. The duration of the MCA programme will normally be three academic years spanning 6 semesters, MCA Lateral Entry programme will normally be two academic years spanning 4 semesters and Dual Degree MCA programme will normally be five academic years spanning 10 semesters. The maximum duration shall be, for MCA - five academic years spanning 10 semesters, for MCA Lateral Entry - four academic years spanning 8 semesters, for Dual Degree MCA – seven academic years spanning 14 semesters.

## 2. Examination

- a. At the end of the semester, end semester examination will be conducted in all lecture based courses offered in the semester and will normally be of three hours duration, unless otherwise specified. Supplementary examinations shall be conducted after the declaration of results of end semester examinations, for students who are eligible and have registered for them.
- b. Students, who have completed a course but could not write the end semester examination for valid reasons like illness or personal exigencies, are allowed to write the supplementary examination or the end semester examination at the next opportunity and earn the credits without having to register for the course again provided they meet other eligibility criteria.
- c. The main eligibility criteria for the end semester examination are attendance in the course, internal marks and no pending disciplinary action. The minimum attendance for appearing for the end semester examination is 85% in each course. Further, the internal evaluation marks in the course should be 45% or above. Students who do not meet these eligibility criteria are awarded an FE grade and have to register for the course again.
- d. Students who could not write the end semester examination due to health reasons or other exigencies can register for the supplementary examination, with

the approval of the principal provided they have 45% or above marks in the internal evaluations for the course. Candidates who received F grade can also write the supplementary examination. Grades awarded in the supplementary examination will be taken as the end semester grades in these courses.

### 3. Eligibility for Award of Degree

The award of MCA degree shall be based on the recommendation of the Academic Committee and the approval of the Board of Governors and in accordance with the academic regulations, if any, issued for the said purpose by the University.

#### Award of MCA Degree

The award of the MCA Degree shall be in accordance with the Ordinances and Procedures given by the University.

A student will be eligible for the award of MCA Degree of the University on meeting the following requirements;

- a. Registered and earned the minimum credits, as prescribed in the curriculum.
- b. No pending disciplinary action.

### 4. Fee charged by the University

Fee charged for the programme shall be decided by the University from time to time and informed to all concerned for compliance.

### 5. Discipline of the student – Action against breach of discipline

Every college shall have a Student's Welfare Committee and a Disciplinary Action Committee, constituted by the Principal of the college. Each college should have a Grievance Redress and Appeals Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. Details on the constitution and terms of reference are outlined in 7-v, 7-w, and 7-x.

### 6. Action against breach of guidelines and unfair practices in Examinations

These are viewed seriously and appropriate actions are to be taken by the colleges as detailed in 7-v.

### 7. Miscellaneous Provisions:

#### a. Language of Instruction and Examination.

Unless otherwise stated, the language of instruction and examinations shall be English.

#### b. Academic Calendar.

The University shall publish in its website the academic calendar for every academic semester indicating the commencement of the semester and beginning of instruction. It will specify the course registration and enrolment dates, the schedule for mandatory internal tests for theory courses, dates by which laboratory/practical evaluations are to be completed, date for finalization of

internal marks, last instruction day in the semester, planned schedule of end semester examinations and result declaration as well as approved holidays falling within the semester. Schedules for the supplementary examinations and result declaration dates are to be included in the calendar. Additionally colleges may publish their academic calendar, in line with the University academic calendar, indicating other schedules and events they plan to conduct during the semester.

c. MCA Programme Structure

- i. MCA programme is structured on a credit based system following the semester pattern with continuous evaluation allowing flexibility for students to decide on the duration of programme completion.
- ii. Each semester shall have 72 instructional days, followed by end semester examinations.
- iii. A common course structure for the MCA programme is to be followed and consists of the following.
  - Core Courses
  - Elective Courses
  - Laboratory Courses
  - Seminar
  - Project
- iv. The curriculum of MCA programme is designed to have a minimum number academic credits based on 7 (1), for the award of the degree.
  - Credits are assigned as follows, for one semester
  - 1 credit for each lecture hour per week
  - 1 credit for each tutorial hour per week
  - 1 credit for each laboratory/ practical of 2, 3 or 4 hours per week
  - 2 credits for the seminar
  - 2 credits for Mini Project
  - 12 credits for Final Project
- v. The maximum number of lecture based courses and laboratory courses in any semester shall not exceed 5 and 2 respectively. The maximum credits in a semester shall be 23.
- vi. University may allow students to transfer credits they have earned at other Universities and Academic Institutions, as per the guidelines given by the Academic Committee and approved by the Board of Governors.

d. Curriculum, List of Courses and Syllabi

MCA programme will have a curriculum, list of courses, syllabi and course plans approved by the Academic Committee of the University.

e. Faculty Advisor/Counsellor

- All students shall have faculty advisors whose role will be:-
- To guide and help students on academics
- To monitor their progress in academics and advise them
- To counsel them and hand-hold them in any difficulty

f. Course Registration and Enrolment

All students have to register for the courses they desire to attend in a semester. Students admitted to the first semester are advised to register for all courses offered in the first semester. They do not have to enrol for the semester. All other students are required to register at the end of the semester for the courses they desire to take in the next semester. Later they have to enrol for these courses in the new semester based on the results in the previous semester. This allows them to make minor changes in the list of courses already registered for. Before enrolment, students should clear all dues including any fees to be paid and should not have any disciplinary proceedings pending. The dates for registration and enrolment will be given in the academic calendar. Any late registration or enrolment, allowed only up to 7 working days from the commencement of the semester, will attract a late fee.

A student can drop a course or substitute one already registered for by another, for valid reasons with the approval of the faculty advisor. However this has to be done within 7 working days from the commencement of the semester.

The maximum number of credits a student can register for in a semester is limited to 24.

g. Course Completion and Earning of Credits

Students registered and later enrolled for a course have to attend the course regularly and meet the attendance rules of the university [RU-2] and appear for all the internal evaluation procedures for the completion of the course. Credits for the course are earned only on getting a pass grade in the composite evaluation.

h. Core courses, Prerequisites and Electives

All courses listed in the curriculum, other than the electives, are core courses. Earning credits in the core courses is mandatory for the MCA degree. For electives, failure to earn credits does not necessarily require repeating the course. Instead another approved elective is permitted as a replacement course by the faculty advisor concerned. For some courses there could be a prerequisite course completion requirement for registration.

i. Academic Assessment/Evaluation

1. Academic Evaluation of Courses

University follows a continuous academic evaluation procedure.

Academic evaluation procedure and corresponding weights are as follows:-

- 1) For theory courses: - The maximum marks for internal evaluation and end semester examination for theory courses are fixed as 40 and 60 respectively. Scheme of evaluation is as follows.

- i) Two internal tests each of 15 marks and of one hour duration.  
(Internally by the College)
- ii) Tutorials/Assignments/Mini Projects carrying 10 marks.  
(Internally by the College)
- iii) End Semester examination carrying 60 marks.  
(Conducted by the University)

All the above evaluations are mandatory requirements to earn credits.

Students who have missed either the first or the second test can register with the consent of the faculty and the Head of the Department (HOD) concerned for a re-test which shall be conducted soon after the completion of the second test, but before the end semester examination. The re-test will cover both first and second test course plans. Those who have missed both the tests are not eligible to appear for the end semester examination.

However if one misses both tests due to medical reasons or other personal exigencies, based on genuine evidence, a single test of 2 hour duration for 30 marks will be conducted covering the whole syllabus, before the end semester examinations. Decision on this will be taken by the Principal and verified by the external academic auditor.

2) For Laboratory /Practical courses			
a)	Practical records /Outputs	60 marks	(Internally by the College)
b)	Regular class Viva	10 marks	(Internally by the College)
c)	Final practical exam	30 marks	(Internally by the College)

All the above assessments are mandatory to earn credits. If not, the student has to complete the course/assessments during his free time in consultation with the faculty members. On completion of these, grades will be assigned. In case the Practical /Laboratory courses are not completed in the semester, grade I (incomplete) will be awarded against the course and the final grade will be given only after the completion of the course/assessments.

### 3) Seminar

Students have to prepare a detailed report on the topic of the seminar and submit it to the teacher concerned. The seminar is to be of 20 minutes duration with another 5 minutes given for questions and answers. All students in the class have to attend the seminar without fail. Evaluation will be based on the report, seminar presentation as well as on the ability of the student to answer the questions put forward. Faculty member in charge of the seminar and another faculty member in the department nominated by the Head of the Department are the evaluators for the seminar.

Distribution of marks for the seminar is as follows.

Marks for the report: 20%

Presentation: 60%

Ability to answer questions on the topic: 20%

#### 4) Final Semester Project

Students, individually have to do a project approved by their faculty supervisor.

Project evaluation weights shall be as follows:-For convenience the marks are allotted as follows.

Marks for the Final Project: **100**

Project Progress evaluation details

Project evaluation by the supervisor/s : **30** Marks

Presentation & evaluation by the Committee : **40** Marks

Evaluation by the External expert : **30** Marks

The project assessment board shall consist of the following members.

Chairman: Head of the Department

Members: Project supervisor/s of the student

One faculty member from the Department

One faculty member from a sister Department

An external expert, either from an academic/research institute or industry

#### 1) Eligibility to Continue

A student has to earn a minimum number of credits in a semester to be eligible to register for the new courses offered in the next semester. In odd semesters if this requirement is not met, the student is to be forewarned and allowed to continue to the next even semester. However at the end of even semesters this requirement will be strictly implemented. Students who do not meet this requirement are not permitted to register for new courses in the higher semesters. They have to register for the failed courses in normal semesters in which they are offered subject to the limitations imposed by the ordinances and course timetable.

Action plan, for dealing with course arrears in theory courses at the end of each semester to continue with the programme, is given below. Faculty advisors shall monitor, advice and support the students in this. Students should be informed about the minimum cumulative credits requirement to register for higher semester courses.

#### Eligibility Criteria for Registering for Higher Semester Courses

<b>Integrated MCA</b>			
Semester	Allotted Credits	Cumulative Credits	Minimum cumulative credits required to register for courses in higher semesters
First	22	22	Not insisted
Second	22	44	33 (75%)
Third	22	66	Not insisted
Fourth	22	88	75 (85%)
Fifth	22	110	Not insisted
Sixth	22	132	119 (90%)
Seventh	22	154	Not insisted
Eighth	22	176	167 (95%)

Ninth	23	199	Not insisted
Tenth	12	211	

REGULAR MCA				
Semester	Allotted Credits	Cumulative Credits	Minimum cumulative credits required to register for courses in higher semesters	
			<b>MCA Regular</b>	<b>MCA Lateral Entry</b>
First	22	22	Not insisted	Credit Transfer
Second	22	44	33 (75%)	Credit Transfer
Third	22	66	Not insisted	Not insisted
Fourth	22	88	75 (85%)	75 (85%)
Fifth	23	111	Not insisted	Not insisted
Sixth	12	123		

m) Class Committees

The Class Committees are to be in place in each college affiliated to the University. Beginning from the first semester, all branches of study will have class committees for every semester constituted by the respective Heads of the Departments. The chairman of the committee shall be a senior faculty member who does not offer any course during that semester.

Members:-

1. All faculty members teaching courses in that semester.
2. Two student representatives nominated by the head of the Department.

The class committees shall meet at least thrice in a semester – the first at the beginning of the semester, the second and the third after the first and the second internal tests respectively. Class committees should monitor the conduct of the courses, adherence to the course plan and time schedule, completion of the syllabus, standards of internal tests, evaluation process and difficulties faced by the students and take suitable remedial actions at the appropriate time. At the end of the semester, the committee should meet without student representatives to review the conduct of the course and finalize the internal assessment marks and approve them.

n) Eligibility for writing the end semester examination and for grading

Students with 45% or more marks in internal assessment in a course shall only be permitted to write the end semester examination in that course. Those with less than 45% internal marks shall be awarded FE (Failed due to Eligibility criteria) grade and have to register for the course again.

A student should have a minimum of 45% marks in the end semester examination to be eligible for grading in a course. Otherwise he/she will be considered to have

failed in the course and an F grade will be awarded.

Internal marks given to the students who got 45% marks or more in the end semester examination shall be regulated in line with the end semester examination performance. Internal mark percentage shall not exceed 25% over the end semester mark %.

(For example if the end semester mark % is 45, then the maximum internal mark % is to be  $45+25 = 70$  %.)

In case the student writes the supplementary examination, the mark got in that will be taken into consideration for regulating the internal marks.

Those who have more than 45% marks in the end semester examination are awarded the grade based on both internal assessment and end semester examination marks. A student earns credits for a course if the grade is P or above.

o) Award of Grades

Grading is based on the % marks obtained by the student in a course, as given in 7(p). The grade card will only give the grades against the courses the student has registered. Semester grade card will give the grade for each registered course, Semester Grade Point Average (SGPA) for the semester as well as Cumulative Grade Point Average (CGPA).

p) Grades and Grade Points

Grades and Grade Points to be followed by the University

Grades	Grade Point (GP)		% of Total Marks obtained in the course
O	(Outstanding)	10	90% and above
A <sup>+</sup>	(Excellent)	9	85% and above but less than 90%
A	(Very Good)	8.5	80% and above but less than 85%
B <sup>+</sup>	(Good)	8	70% and above but less than 80%
B	(Above Average)	7	60% and above but less than 70%
C	(Average)	6	50% and above but less than 60%
P	(Pass)	5	45% and above but less than 50%
F	(Fail)	0	Less than 45%
FE		0	Failed due to Eligibility criteria [7-n]
I			Course Incomplete

SGPA and CGPA are calculated based on the above grading norms and are explained at the end of this document.

q) Academic Auditing

The University shall have a detailed academic auditing procedure in place comprising of an internal academic auditing cell within the colleges and an external academic auditing for each college. The internal academic auditing cell in each

college shall oversee and monitor all the academic activities including all internal evaluations and examinations. This cell is to prepare academic audit statements for each semester at regular intervals. These reports are to be presented to the external academic auditor approved by the University, who will use it as a reference for his independent auditing and for the final report to the University.

Academic auditing shall cover:-

- i) Course delivery covering syllabus, adherence to course plan, quality of question papers for internal examinations, internal evaluation, laboratory experiments, practical assignments, mini projects and conduct of practical classes and their evaluation.
  - ii) Co-curricular and Extra-curricular activities available for students, their organization and the mechanism of monitoring of activities points earned by the students.
  - iii) Academic functioning of the college encompassing students, faculty and college administration covering punctuality, attendance, discipline, academic environment, academic accountability, academic achievements and benchmarking.
- r) Break of Study

A student may break study for a maximum duration of two semesters, preferably in one academic year, to initiate start-up ventures, product development etc. This is however permitted only on successfully completing the courses listed out in the first four semesters. Request for this with ample evidence to the seriousness of the venture should be forwarded to the college principal for approval. [RU-3]

Break of study on serious health reasons is also permitted with the approval of the college Principal in any semester. [RU-3]

All such cases of break of study are to be reported to the University. In both the cases, the maximum duration for completing the MCA programme will still be as given in 1(e).

- s) Revaluation and Grade Improvement

There is no provision for revaluation of the end semester answer books as they are valued by two examiners or for improving the grade.

However, the student is permitted to check the answer books of the end semester examination after the results are declared. Any discrepancy in evaluation could be brought to the notice of the teacher concerned who will initiate appropriate action on this. The decision of the Controller of Examination shall be final on this.

- t) Grade Cards

Students who have written the end semester examination will be given the grade cards for the registered courses on the website, in every semester. On earning the required credits for the degree, a consolidated grade sheet for the MCA programme

will be given by the University.

u) MCA Degree

MCA degree will not have any classifications like distinction or first class.

v) Academic Discipline and Malpractices in Examinations

Every student is required to observe discipline and decorous behaviour.

Any act of indiscipline, misbehaviour and unfair practice in examinations will be referred to the Disciplinary Action Committee (DAC). Malpractices in examinations shall be viewed seriously and any such incident observed or reported by a faculty member or an invigilator associated with the examinations shall be reported to the Principal who in turn shall refer it to DAC. On the basis of the report and evidence available or gathered, DAC shall immediately initiate an enquiry giving the concerned student a chance to explain his/her case. Based on this the committee shall recommend the course of action in line with the guidelines formulated for this by the Controller of Examination of the University and forward it to the Principal for action.

Actions are to be based on the severity of the offence and are to be dealt with, on a course basis. Guidelines on this shall be given by the Controller of Examination which is to be followed by the Disciplinary Action Committee of the college.

The student may appeal to the Grievances and Appeals Committee for a relook on the matter. Based on the committee's report, the Principal shall take a final decision on the matter.

DAC shall be headed by a department head and shall have three other faculty members drawn from different departments as members. In case of malpractices in end semester examinations, the report given by the college DAC and the action taken by the Principal shall be intimated to the Controller of Examination of the University. The Controller of Examinations will refer the cases to the examination monitoring committee for review.

w) Student's Welfare Committee

Every college shall have a Student's Welfare Committee, constituted by the Principal of the college. This committee shall have at least three faculty members as members and the chairman shall be a senior faculty member in the rank of a Professor. This committee is entrusted with the task of looking after the welfare of the students by taking appropriate steps with the concurrence of the principal.

x) Grievances and Appeals Committee

Each college should have a Grievances Redress Committee constituted by the Principal to address the grievances of the students and to consider their appeals on any decisions made by the college. This committee consisting of at least three faculty members and chaired by a senior professor shall look into student's

grievances and appeals and give its recommendations to the Principal for action.

## 8) Amendment to Ordinance/ Regulations/Rules

Notwithstanding all that has been stated above, the University has the right to modify any of the above Ordinance/Rules/regulations from time to time.

### RULES:

#### RU-1 Course Code and Course Number

Each course is identified by a course code and a three digit number. For regular MCA programme the course code will be CA XXX, where XXX is the course Number for 1<sup>st</sup> and 2<sup>nd</sup> semesters and the course code will be CA XXX, where XXX is the course Number for 3<sup>rd</sup> to 6<sup>th</sup> semesters as the subjects are same as that for lateral entry students.

Course Number: MCA101 - This refers to a course in first year, odd semester with the course number 101.

Course Number: MCA505 - This refers to a course in fifth year, odd semester with the course number 505.

These course numbers are to be given in the curriculum and syllabi.

#### RU-2 Attendance

Attendance is marked for each course. 85% attendance is mandatory for writing the semester examination in a course. Students who get Part Time Teaching Assistantship (PTTA) or Scholarships from the Central or State Governments or any other agencies are expected to have 100 % attendance. However, under unavoidable circumstances students are permitted to take leave. Leave is normally sanctioned for any approved activity taken up by students outside the college covering sports and other extra-curricular activities. Leave is also permitted on medical grounds or on personal exigencies. Leave of absence for all these is limited to 15 % of the academic contact hours for the course.

In case of long illness or major personal tragedies/exigencies the Principal can relax the minimum attendance requirement to 70%, to write the semester examination. This is permitted for one or more courses registered in the semester. The Principal shall keep all records which led to his decision on attendance, for verification by the Academic Auditor. However this concession is applicable only to any two semesters during the entire programme.

In the case where students with less than 85% attendance and more than 70%

attendance are permitted by the Principal to write the end semester exam, the details must be reported to the University and the records must be maintained in the College and University.

In case of prolonged illness, break of study is permitted as per RU-3.

### RU-3 Break of Study

A student is permitted to have a break of study.

- i) In case of accident or serious illness needing prolonged hospitalization and rest.
- ii) In case the student has a bright idea and would like to initiate a start-up venture or develop a new product.
- iii) In case of any personal reasons that need a break in study.

For break of study due to illness, student should submit all necessary medical reports together with the recommendation of the doctor treating him giving definite reasons for break of study and its duration. Before joining back the student should submit the fitness certificate from the doctor who treated him.

Students who want to initiate a start-up venture or a product development, have to submit a project report, clearly indicating the purpose, action plan, technical details, funding details and future plans to the college Principal. The Principal shall evaluate the proposal by constituting an expert team consisting of a technocrat and a bank executive and take an appropriate decision based on the team's recommendation. In the semester system followed by the University, break of study for an academic year is preferred over a semester break.

Students who want a break in study due to personal reasons shall convince the Principal on the genuine need for it by giving authentic evidence for the same.

### RU-4 Leave of Absence

Students who want to take leave under RU2 have to submit a leave letter to the teacher conducting the course. This letter is to be forwarded to the Head of the Department with recommendation of the teacher indicating the total leave of absence the student has so far availed. Leave is to be sanctioned by the Head of the Department. For medical leave over three days, medical certificate indicating the need for leave is required. After any medical leave exceeding five instruction days, on rejoining, the student has to produce the fitness certificate given by the doctor.

### RU-6 Seminar

Students have to prepare a detailed report on the topic of the seminar and submit it to the teacher concerned. The seminar is to be of 20 minutes duration with another 5 minutes given for questions and answers. All students in the class have to attend the seminar without fail. Evaluation will be based on the report, seminar presentation as well as on the ability of the student to answer the questions put

forward. Faculty member in charge of the seminar and another faculty member in the department nominated by the Head of the Department are the evaluators for the seminar. Distribution of marks for the seminar is as follows.

Marks for the report: 20%

Presentation: 60%

Ability to answer questions on the topic: 20%

#### RU-7 Project Evaluation

Normally students are expected to do the project within the college. However they are permitted to do the project in an industry or in a government research institute under a qualified supervisor from that organization. Progress of the project work is to be evaluated at least twice before the final evaluation. For this a committee headed by the head of the department with two other faculty members in the area of the project and the project supervisor/s. If the project is done outside the college, the external supervisor associated with the student shall also be a member of the committee.

Final evaluation of the project will be taken up only if the student has earned all course credits listed in the previous semesters. Project evaluation shall be done by the same committee mentioned above with an external expert, either from an academic/R&D organization or from Industry, as an additional member. If the quantum of work done by the candidate is found to be unsatisfactory, the committee may extend the duration of the project up to one more semester, giving reasons for this in writing to the student. Normally further extension will not be granted and there shall be no provision to register again for the project.

#### RU -8 Project work outside the College

While students are expected to do their projects in their colleges, provision is available for them to do it outside the college either in a reputed software industry or in an institute of repute. This is only possible in the final semester. Student should apply for this through the project supervisor indicating the reason for this well in advance.

The application for this shall include the following:-

Topic of the Project:

Project work plan:

Reason for doing the project outside:

Institution/Company where the project is to be done:

External Supervisor Name:

Designation:

Qualifications:

Experience:

Letter of consent of the External Supervisor as well as from the organization is to be obtained.

This application is to be vetted by the head of the department and based on the decision taken, the student is permitted to do the project outside the college.

#### RU-9 Ragging

Ragging of any nature is a criminal and non-bailable offence. Involvement in ragging shall lead to stringent punishment, including imprisonment as per the law of the land. A student, whose involvement in ragging is established, shall be summarily dismissed from the college. Each student of the Institute, along with his/her parent, is required to give an undertaking in this regard and the same is to be submitted at the time of registration.

Addendum:-

### 1. Calculation of SGPA/CGPA

Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) are calculated as follows.

$SGPA = \frac{\sum(C_i \times GP_i)}{\sum C_i}$  where  $C_i$  is the credit assigned for a course and  $GP_i$  is the grade point for that course. Summation is done for all courses registered by the student in the semester. Here the failed courses are also accounted.

$CGPA = \frac{\sum(C_i \times GP_i)}{\sum C_i}$  where  $C_i$  is the credit assigned for a course and  $GP_i$  is the grade point for that course. Summation is done for all courses registered by the student during all the semesters for which the CGPA is needed. Here the failed courses are also accounted. CGPA of all courses passed may also be given.

CGPA for the MCA programme is arrived at by considering all course credits that are needed for the degree and their respective grade points.