

**ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES :: TIRUPATI
(AUTONOMOUS)**

*Academic Regulations (AK19 Revised) for
B. Tech (Regular-Full time)*

*(Effective for the students admitted into I year from the Academic Year 2019-2020 onwards)
and*

B.Tech (Lateral Entry Scheme)

*(Effective for the students getting admitted into II year through Lateral Entry Scheme from the
Academic Year 2020-2021 onwards)*

1 MINIMUM QUALIFICATIONS FOR ADMISSION

- A candidate seeking admission to the first semester of the eight semester B.Tech. Degree programme should have passed the Intermediate Examination of the Board of Intermediate Education of Andhra Pradesh with Mathematics and Physical Sciences (Physics and Chemistry) as optional subjects or any other equivalent examination thereto recognized by Jawaharlal Nehru Technological University Anantapur, Ananthapuramu / Govt. of Andhra Pradesh.
- For admissions into the third semester of B.Tech Degree programme under lateral entry scheme a candidate should have passed diploma in the respective branch of study or should have passed three year degree with Mathematics as optional subject.

2 FOUR YEAR B. TECH DEGREE UG PROGRAMS

The programs of study prescribed for B.Tech. Degree are

1. Civil Engineering (CE)
2. Computer Science and Engineering (CSE).
3. Electrical and Electronics Engineering (EEE).
4. Electronics and Communication Engineering (ECE).
5. Mechanical Engineering (ME).
6. Any other program offered by the college

The duration of B.Tech program is four academic years divided into eight semesters comprising two semesters in each academic year. A student is required to choose a branch of study at the time of admission.

Students under lateral entry admission will be admitted straightaway into II B.Tech I Semester of B.Tech program in the respective branch. No change of branch shall be allowed after the admissions are closed.

3 STRUCTURE OF THE PROGRAMME

By course in this context we mean a subject Every programme will have a curriculum consisting of Basic Sciences, Humanities Sciences, Engineering Sciences, Humanities Elective Courses, Professional Core Courses, Professional Elective Courses, Open Elective Courses, Laboratory Courses, Design and Drawing Courses, Socially relevant Project Work and Project Work, Internship, Mandatory Courses which are classified as shown in Table 3.1 below. Each course is allotted certain number of credits based on its importance to the programme and the number of contact periods per week allotted to it in the time-table.

The credits adopted in the design of our curriculum are shown below.

1 Hour Lecture (L) per week	1 Credit
1 Hour Tutorial (T) per week	1 Credit
1 Hour Practical (P) per week	0.5 Credit
Socially relevant Project Work	0.5 Credits
3 Weeks Internship/Industrial Training/Training in National Laboratories/Central Institutions(Summer Break after III year)	2 Credits
Project Work	9 Credits
Mandatory Courses	Nil

The curriculum is designed for every programme so that the total credits will be 160 (120 for lateral-entry students). To become eligible for the award of degree, every regular admitted student shall earn all the credits of 160 (120 for lateral-entry students) specified in the curriculum of the programme.

S.No	Course Group / Category	Course Description
1	BS- Basic Sciences	Includes Mathematics, Physics and Chemistry
2	HS - Humanities Sciences	Includes courses related to Humanities, English, Social Sciences and Management
3	ES - Engineering Sciences	Includes fundamentals of Engineering and science courses
4	HE- Humanities Elective Courses	Includes Electives courses – off shoots of English, and Social Sciences
5	PC-Professional Core Courses	Includes core courses related to the respective branch of Engineering
	Projects and Internships	Projects and Internships related to the respective branch of Engineering
6	PE- Professional Elective Courses	Elective courses relevant to respective specialization / programme
7	OE- Open Elective Courses	Electives courses relevant to the other departments – on emerging technologies and interdisciplinary courses
8	MC - Mandatory Courses	Professional Ethics and Human Values, Environmental Studies, Constitution of India, Essence of Indian Traditional Knowledge etc., which have no credits but securing 40% marks only in the internal evaluation on max 30 marks is a must to pass in the course.

Table 3.1 Classification of Courses:

- Every student has to study all the courses specified in different categories of courses. However, the student will have the choice in the Elective courses only.
- Every student will have the choice to opt from the lists of Professional Elective Courses prescribed in the curriculum. The students shall have the choice to opt from the lists of Open Elective Courses

of technical and/or emerging subjects. Further, student is required to give the options through registration for these Elective Courses in advance (at least one week) before the commencement of the semester during which the said courses are offered.

- Each semester curriculum shall normally have a blend of Theory courses not exceeding 7 and practical courses (including engineering drawing practice) not exceeding 5. The total number of courses per semester shall not exceed 12 (including Mandatory Courses).
- Socially Relevant Project will be offered during II B.Tech II Sem; III B.Tech I Sem; III B.Tech II Sem; and IV B.Tech I Sem (i.e., IV, V, VI and VII semesters). Elective courses will be introduced in the curriculum from III B.Tech I Sem (V semester) onwards.
- In the IV B.Tech II Sem (VIII semester) there will be one Professional Elective Course and one Open Elective Course and Project Work-2. Student has to do internship in the relevant industry/ department/ research departments/ IITs/ Central Institutions for the min period of 21 days (3 weeks) and submit a report to the department while reporting to VII semester and the seminar will be taken towards the end of IV B.Tech I Sem (VII semester) for assessment and award credits.
- The medium of instruction for all course work, Examination, Seminar Presentations, Project Reports and all academic activities shall be **ENGLISH** only.
- Students are encouraged to effectively involve in co academic activities for the overall development and the certifications for such kind of activities will help to become choosy for placements in the organizations and also to become competitive.

3.1.1 Co-Academic Activity (CAA) :

Every student is required to register for any one of the following co-academic activities during V - VI semesters of study, which is mandatory.

a. Industry Lectures / Workshops organized by the respective department:

Each department shall arrange at least 15 hours of guest lectures by the experts from industry/research organizations / higher learning institutions. Besides these, the department faculty can also offer training in some specialized topics. Students can register for this activity and are expected to maintain at least 75% attendance. The evaluation methodology, will in general, be based on quizzes at the end of each lecture/group of lectures/end of the semester. Due weightage shall be given to the attendance also. However, the HOD or his nominee may devise suitable methodology for evaluation and the same shall be informed to the student.

Grading in terms of either “SATISFACTORY” / “NOT SATISFACTORY” will be printed in the VI Semester Marks Memorandum.

b. Industrial Training/ Internship Programme

A student can opt for industrial training/ Internship Programme in a reputed industry/organization for a minimum period of three weeks during vacation slot after 3rd year. The student shall approach the respective Head of the department with a request that he/she is interested to carry out an Industrial Training / Internship Programme, with the details of the industry/organization. The Head of the department issues a letter to the industry with a request to permit the students for Industrial Training / Internship. On

completion of training the student shall submit the proof of participation/training completion certificate issued by the organization. In addition, the student shall submit a report and evaluation shall be done through presentation and viva voce by a three member committee constituted by Head of the Department. In lieu of industrial training a student can opt for internship / training offered by reputed academic institutes like IISc/IITs/NITs, etc.

- For internship/ Industrial Training/ Research Projects in National Laboratories/ Academic Institutions, 50 marks will be for the evaluation by the department committee based on the internship report submitted by the student and certificate from the concerned authority.
- Assessment will be reflected in VII Semester Marks Memorandum in terms of marks for maximum of 50 and 2 Credits in case of Pass i.e. on obtaining 40% of 50 Marks (20 Marks)

c. Technical Paper Presentation/ Seminar in VIII semester

A student can do an in depth study in a specialized area (preferably on emerging technologies) by doing extensive literature survey. The student is expected to study relevant research papers, correlate work of various authors/researchers, study concepts, techniques, results etc., analyze and present it in the form of a report. It is mandatory to give a seminar presentation before a panel constituted for the purpose. The evaluation shall be done on the basis of the depth of the work done, report and presentation given by the student. It has no credits. Seminar will be evaluated for maximum of 50 marks.

4 ELIGIBILITY FOR PROMOTION

Promotion from a lower semester to successive higher semester will be automatic, if the student satisfies the minimum attendance requirements during the lower semester. However, in order to promote a student from 4th to 5th semester or 6th to 7th semester the student should also satisfy the minimum academic requirements in addition to satisfying the minimum attendance requirements.

4.1 Minimum Attendance requirement

- i. In any semester a student is considered to have completed the regular course of study only when he/she puts in an aggregate attendance of 75%.
- ii. Condonation of shortage of attendance in genuine cases (Student's ill health) on health grounds may be recommended by the Principal, if a student puts in an aggregate attendance of at least 65%. However the student has to make an application and pay the prescribed fee.
- iii. A student cannot avail the condonation for more than **FOUR** times throughout his/her entire course of study. In case of Lateral Entry students, Condonation cannot be availed for more than **THREE** times throughout his/her entire course of study.
- iv. A student who has not satisfied these requirements of attendance in any semester will not be allowed to write the end examination and shall have to repeat that semester. The attendance under this clause does not include attendance of CIE (Continuous Internal Examinations).
- v. Students who represent the college in the affiliating university / inter university / National / International tournaments shall be given attendance exemption of maximum one week duration on submission of relevant attendance certificate from the competent authority. However, for such participations, prior approval from the HoD / Principal is compulsory.

- vi. Eligibility for appearing the end examinations: All students who have satisfied the attendance requirement in any semester with or without condonation are eligible to appear for the regular end examinations of that semester. They shall register for the end examinations of that semester by paying the prescribed examination fee. It is mandatory for all the eligible students to register for the regular end examination.

4.2 Minimum Academic requirement / Credit requirements for promotion

The promotion from I to II sem , II to III sem and from every odd semester to the next immediate even semester, shall be automatic for all the students except for those detained due to shortage of attendance and there will be no credit requirements and restrictions for a student to progress. Example (I to II, III to IV, V to VI and VII to VIII semester). However for promotion to V semester (Regular students only) and VII semester (Regular and Lateral entry students), in addition to attendance requirement mentioned above in clause 4.1, the following credit requirements have to be satisfied.

(The credit requirements specified here are to make the students not to carry too many backlogs.)

4.2.1 For Four Year B.Tech (Regular) students

(i) Promotion to V semester

A student shall be promoted from IV semester to V semester only if he/she secures 40% (24 credits) (rounded off to lower integer) of credits (up to and including III semester) from the following Examinations, whether the candidate takes the examinations or not.

- a) One Regular and Two subsequent Supplementary Examinations of semester – I
- b) One Regular and One subsequent Supplementary Examinations of semester – II
- c) One Regular Examination of Semester – III

(ii) Promotion to VII semester

A student shall be promoted from VI semester to VII semester only if he/she secures 40% (41 credits) (rounded off to lower integer) of credits (up to and including V semester) from the following Examinations, whether the candidate takes the examination or not.

- a) One Regular & Four subsequent Supplementary Exams of Semester -I
- b) One Regular & Three subsequent Supplementary Exams of semester -II
- c) One Regular & Two subsequent Supplementary Exams of semester -III
- d) One Regular & One subsequent Supplementary Exam of semester –IV
- e) One Regular Exam of semester – V

4.2.2 For Lateral Entry Students:

Promotion to VII semester

A student shall be promoted from VI semester to VII semester only if he/she secures 40% (25 credits) (rounded off to lower integer) of total credits of III semester, IV semester and V semester from the following Examinations, whether the candidate takes the examination or not.

- a) One Regular & Two subsequent Supplementary Exams of semester - III
- b) One Regular & One subsequent Supplementary Exam of semester - IV
- c) One Regular Exam of semester - V

The above promotion criteria is also depicted in a tabular form in Table 4.2

For Promotion to	Minimum Credits required	
	For Four Year B.Tech Students	For Lateral Entry Students
V Semester	Students should earn 40% of the credits up to and including III semester before they register for IV semester regular exams.	---
VII Semester	Students should earn 40% of the credits upto and including V semester before they register for VI semester regular exams.	Students should earn 40% of the total credits of III, IV and V semesters before they register for VI semester regular exams.

Table 4.2 : Promotion Criteria

When a student is detained due to lack of credits in any semester, he/she shall be eligible for promotion to the next semester after obtaining required number of credits.

4.2.3 Registration by a student is compulsory to study every semester atleast one week before the commencement of class work.

4.3 Maximum Period for Completion of Programme

- The normal duration of B.Tech programme shall be Four academic years (Three academic years in case of Lateral entry admission). The maximum period which a student can take to complete a B.Tech programme shall be double the normal duration of the programme, i.e., eight years (excluding period of Gap Year, explained in clause 4.4) for regular and six years (excluding period of Gap Year) for lateral entry students reckoned from the commencement of the semester to which the student was first admitted to the programme. A student is required to complete the B.Tech Programme of study satisfying the attendance and academic/credit requirements in all the eight semesters of the course within a period of eight (six in case of lateral entry) academic years (excluding period of Gap Year) from the year of admission, failing which he/she shall be declared ineligible to pursue B.Tech degree course.
- Completing the programme of study shall mean not only satisfying the attendance and academic/credit requirements but also passing of all the courses and earning the credits prescribed in the curriculum within the respective stipulated period.

4.4 Gap year

The concept of Student Entrepreneur in Residence is being introduced and outstanding students who wish to pursue entrepreneurship are allowed to take a break of one year at any time after IV semester to pursue entrepreneurship full time. This period may be extended to two years at the most and this period would not be counted for the time for the maximum time for graduation. A sub-committee appointed by the principal shall evaluate the proposal submitted by the student and the committee shall recommend whether or not to permit student(s) to avail the Gap Year. The students permitted to rejoin the programme after break of study shall be governed by the Curriculum and Regulations in force at the time of rejoining.

4.5.1 Minor Degree in Engineering

This concept is introduced in the curriculum of all conventional B. Tech. programmes offering a major degree. The main objective of Minor in a discipline is to provide additional learning opportunities for academically motivated students and it is an optional feature of the B. Tech. programme. In order to earn a Minor in a discipline a student has to earn 20 extra credits by studying any seven theory subjects from the programme core & professional elective courses of the minor discipline or equivalent MOOC courses available under SWAYAM platform. The list of courses to be studied either in MOOCs or conventional type will be decided by the concerned department at the time of registration for Minor degree.

- i. Students having a CGPA of 8.0 (for SC/ST students CGPA of 7.5) or above up to II year-I semester and without any backlog subjects will be permitted to register for Minor discipline programme. An SGPA and CGPA of 7.5 (for SC/ST students CGPA of 7.0) has to be maintained in the subsequent semesters without any backlog subjects in order to keep the Minor discipline registration live or else it will be cancelled.
- ii. Students aspiring for a Minor must register from V semester onwards and must opt for a Minor in a discipline other than the discipline he/she is registered in. However, Minor discipline registrations are not allowed before V semester and after VI semester.
- iii. Students will not be allowed to register and pursue more than two subjects in any semester.
- iv. The Evaluation pattern of theory subjects will be similar to the regular programme evaluation.
- v. Students may enlist their choice of Minor discipline programmes, in order of preference, for which they wish to register. It will not be permissible to alter the choices after the application has been submitted. However, students are allowed to opt for only one Minor discipline programme in the order of preference given by them.
- vi. Minimum strength required for offering a Minor in a discipline is considered as 20% of the class size and Maximum would be 80% of the class size.
- vii. Completion of a Minor discipline programme requires no addition of time to the regular Four year Bachelors' programme. That is, Minor discipline programme should be completed by the end of final year B. Tech. program along with the major discipline.
- viii. Reservations shall be followed as per the rules of Government of Andhra Pradesh i.e., State-wide Universities Presidential Order 371 Article D in consonance to Section 95 of the A.P. Reorganization Act, 2014 for admissions to Minor degree programmes.
- ix. A student registered for Minor in a discipline shall pass in all subjects that constitute the requirement for the Minor degree programme. No class/division (i.e., second class, first class and distinction, etc.) shall be awarded for Minor degree programme.
- x. The Minor in a discipline will be mentioned in the degree certificate as Bachelor of Technology in XXX with Minor in YYY. For example, Bachelor of Technology in

Computer Science & Engineering with Minor in Electronics & Communication Engineering. This fact will also be reflected in the transcripts, along with the list of courses taken for Minor programme with CGPA mentioned separately.

4.5.2 Undergraduate Degree with Honors

- i. This concept is introduced in the curriculum for all conventional B. Tech. programmes. The main objective of Honors degree in a discipline is to provide additional learning opportunities for academically motivated students and it is an optional feature of the B. Tech. programme.
- ii. In order to earn a Honors degree in his/her discipline, a student has to earn 20 extra credits by studying few courses for 16 credits and by carrying out a mini project for 4 credits in the concerned branch of Engineering.
- iii. In place of advanced courses, he/she can study equivalent MOOC courses available under SWAYAM platform, as decided by the department from time to time.
- iv. The mini project shall be evaluated by the committee consisting of Head of the department, Supervisor and External examiner.
- v. Students aspiring for Honors degree must register from V semester onwards. However, Honors degree registrations are not allowed before V semester and after VI semester.
- vi. Student may register for mini project from V semester onwards and complete the same before VIII semester after completing at least 8 credits.
- vii. The students who wish to enroll for Undergraduate Degree with Honors shall have a minimum CGPA of 8.0 (upto and including IV semester) and should have cleared all the subjects upto IV semester in first attempt i.e. he/she should not have any history of backlog subjects. Students should consistently maintain prescribed levels of CGPA in the subsequent semesters without any backlog subjects in order to keep the Honors degree registration 'Active', else Honors Degree registration will be cancelled.
- viii. Registration for Honors degree will not be permitted from VII Semester onwards.
- ix. For SC / ST Students, registrations for Honors degree will be permitted if the minimum CGPA is 7.5 and with the same other conditions.
- x. In the case of Honors registrations and on successful attainment of 20 additional credits through MOOCS in the Major Discipline, Degree will be awarded as " Bachelor of Technology with Honors in XXX .For Example " Bachelor of Technology with Honors in Computer Science and Engineering ".

Procedure for Conduct and Evaluation of Honors degree Mini project:

- i. Out of a total of 100 marks for the Mini project, 30 marks shall be for Internal Evaluation and 70 marks for the End Semester Examination (Viva-voce).
- ii. The Viva- Voce shall be conducted by a committee consisting of HOD, Project Supervisor and an External Examiner nominated by the principal.
- iii. The evaluation of project work shall be conducted at the end of the VIII semester. The Internal Evaluation shall be made by the departmental committee (Head of the Department and one senior faculty member of the Department and Supervisor).

5 EVALUATION

- The performance of the students in each semester shall be evaluated course-wise for 100 marks. The break-up of marks between the continuous internal evaluation (CIE) and the semester end examination (SEE) for various types of courses are as given below.
- For Theory, Design and Drawing courses out of 100 marks, 30 marks will be for the CIE and 70 marks will be for the SEE.
- In case of Practical courses 30 marks will be for CIE and 70 marks will be for the SEE.
- In case of Socially Relevant Project course, 50 marks will be for CIE only.
- In VIII semester, for Major Project, there shall be 60 marks for CIE only and there will be 140 marks for SEE. For maximum of 60 marks for CIE, based on the continuous evaluation by the guide / supervisor and Project review committee, assessment will be done by taking two assessments (minimum) one in the middle of the semester and another towards the end of the semester before submission of the final report.

5.1 Continuous Internal Evaluation for theory courses including Professional and Open Electives:

In case of theory courses there shall be two internal examinations for 30 marks each with the first exam (on first two units) conducted in the middle of the semester and the second exam (for remaining three units) conducted towards the end of the semester and the sessional marks are awarded giving a weightage of 0.80 for the better score and 0.20 for the other score.

5.1.2 Continuous Internal Evaluation for the practical courses :

In case of practical courses out of 30 marks, 15 marks are awarded based on the performance in the day to day laboratory work, 05 marks for record work. Viva-voce and internal practical examination will be conducted for 10 marks at the end of the semester.

5.1.3 Continuous Internal Evaluation for the Design/Drawing/Estimation courses :

For these courses the distribution shall be 30 marks for internal exams out of which 15 marks for day to day work and there shall be two internal exams conducted for 15 marks each time and the marks shall be finalized with a weightage of 0.80 for the better score and 0.20 for the other.

5.1.4 Continuous Internal Evaluation for Internship (IV B.Tech I Sem):

The internal evaluation for 50 marks will be done by the dept based on the report submitted by the student and a viva-voce examination.

5.1.5 Continuous Internal Evaluation for Socially Relevant Project

- The Socially relevant project shall be submitted in a report form along with a project model/ prototype if any, and a seminar should be presented before the committee comprising HOD/nominee and two senior faculty members for the award of 50 marks (0.5 credits). The topic for this project should find relevance with societal issues/improvements/problems etc.,
- The faculty imparting instruction is solely responsible for continuous internal evaluation and he/she shall be responsible for maintaining all records to justify his/her evaluation scheme and score thereof. Every teacher shall maintain an 'ATTENDANCE RECORD' which consists of attendance marked in each Theory/Laboratory/Electives, the assessment marks and the record of class work

(topics covered), separately for each course handled by the teacher. This should be submitted to the Head of the Department periodically (at least three times in a semester) for verifying the syllabus coverage and the records of assessment marks and attendance. The Head of the Department will affix his/her signature and date after due verification. At the end of the semester, the record should be verified by the Head of the Department who shall keep this document in safe custody.

5.1.6 Continuous Internal Evaluation for Project Work:

60 marks are awarded based on the continuous evaluation by the guide / supervisor and Project review committee based on two seminars given by each student.

5.2 Semester End Examination (SEE) :

5.2.1 SEE for the theory, professional electives, open electives and design/drawing courses :

There shall be a comprehensive written end examination of Three hours duration for each Theory, Design and /or Drawing courses for 70 marks. Question paper setting shall be done by the external examiners.

5.2.2 SEE for practical courses:

For each practical course the end examination with duration as specified in the regulation shall be conducted for 70 marks by one internal and one external examiner nominated by the Principal. However, if external examiner is not available, HOD with approval of the Principal may nominate a faculty member as an external examiner from among the same department competent in the course and preferably who had not handled that practical course for that class.

5.2.3 SEE for the Project Works:

For Major Project, the external evaluation will be for 140 marks based on the report/model if any, and the performance of the student in the viva-voce examination. Viva-voce examination will be conducted by the evaluation committee comprising Head of the Department, One Senior Faculty Member and an External examiner nominated by the Principal from the three member panel of examiners submitted by the concerned Head of the Department.

Table 5.1 : Distribution of Weightages for CIE and SEE in Tabular form

S. No	Nature of the course	Marks	Type of examination and Mode of assessment	Scheme of examination
1.	Theory (including Professional and Open Elective Courses)	30	Internal Assessment	Two internal exams for 30 marks each shall be conducted and shall be finalized with a weightage of 0.80 for the better score and 0.20 for the other score.
		70	End Examination	This end examination in theory courses will be for a maximum of 70 marks.
		30	Internal Assessment	15 marks are allotted for day to day laboratory work, 05 marks for Record work and 10 marks for viva-voce and internal exam.

2.	Practical	70	End Examination	This end examination in practical courses will be for a maximum of 70 marks. In this 40 Marks are allotted for procedure and experiment. Calculations, graphs and result etc for 20 marks and 10 marks for Viva Voce	
3.	Project Work	200	60	Internal Assessment	Continuous evaluation by guide / supervisor/ Evaluation review committee with the following guide lines for the breakup: i) Evaluation by the Supervisor : (Max Marks: 30) (a) Problem identification /Literature Review : 10 marks (b) Thesis preparation : 20 marks ii) Evaluation by the Project Review committee (Max Marks: 30) (a) Presentation :15 marks (b) Defence of the topic/problem: 15 Marks
			140	End Examination	Thesis Presentation / Viva Voce Examination will be conducted by a committee comprising HoD, project coordinator and one external examiner. Presence of supervisor is optional and left to the discretion of committee.
5.	Design Drawing	100	30	Internal Assessment	Sessional exam marks : 15 marks for Day to day assessment and for 15 marks two internal exams for 15 marks each shall be conducted and shall be finalized with a weightage of 0.80 for the better score and 0.20 for the other score.
			70	End Examination	This end examination will be for a maximum of 70 marks

5.3 Question Paper Pattern:

a. Internal Assessment

For theory subjects, during the semester, there shall be two midterm examinations. Each midterm examination consists of subjective paper for 20 marks and quiz paper for 10 marks with duration of 2 hours.

Question paper shall contain 6 questions with internal choice (either or type) hence 3 questions to be answered, and the marks obtained for 30 shall be condensed to 20 marks. For remaining 10 marks, ten fill up the blanks type questions of each 1 mark weightage can be asked.

Note-1: Any fraction (0.5 and above) shall be rounded off to the next higher marks.

Note-2: In the subjective paper of I Mid Examinations, First two questions to be set from Unit-I, Third and fourth questions from unit-II, Fifth question shall be from Unit-I and sixth question from Unit-II.

For theory courses, comprising two parts of syllabus from two different disciplines For Example Basic Electrical & Electronics Engineering, question paper for First Mid examination shall contain two sections. Section-I on First discipline and section –II on second discipline. Section-I Comprises First Question of Fill up the blank type of 5 questions of 1 mark weightage for each and 4 subjective questions of either or type internal choice. First two questions will from Unit-I and questions 3 & 4 will be from Unit-II. Student has to answer two questions and each question carries 5 marks. Internal question paper on the other discipline also follows the same pattern.

However to meet the specific course requirement a different pattern of question paper can be recommended by the course teacher with the approval of HOD/Chairman BOS. But this must be informed to the students well in advance.

b. End Examination:

- For theory courses, the SEE question paper shall contain two parts viz. Part-A for 20 marks and Part-B for 50 marks. Part-A comprises one compulsory question having 10 sub questions of short answer type with 2 marks weightage for each. Part-B comprises Ten (10) questions with internal choice (either or type), picking up two questions from each unit and all questions are of equal weightage of 10 marks each.
- For theory courses, comprising two parts of syllabus from two different disciplines, the question paper on each part shall contain two sections viz. section1 comprises compulsory question of short answer type for 5 marks (5 questions with weightage of one mark each) and section 2 comprises 6 questions with internal choice(either or type),for 30 marks with the weightage of 10 marks each. Part-B Question paper on another discipline also follows same pattern.
- Model Question paper for each theory course shall be prepared by the course teacher/expert within 15 days from the commencement of the semester and the same shall be forwarded to the Controller of Examinations through the Chairman, BOS concerned.

5.4 Massive open online Courses (MOOCs')

Modified Guidelines for MOOC Courses in AK19 B.Tech Curriculum

- i Two MOOC courses are introduced in AK19 curriculum in IV B.Tech II Semester(8Th Semester)

- a. Students should compulsorily submit the pass certificate generated by NPTEL for verification and for consideration of credits.
- b. As understood, Certificate by NPTEL will be issued only when a registered students submit assignments regularly as per schedule given and get a minimum of 10 out of 25 marks; and obtain a minimum of 30 marks out of 75 marks in the end examination. (Both criteria should be met to declare pass by NPTEL).
- ii. Out of two MOOC courses introduced, one MOOC shall be with ‘Professional Elective Nature and another with ‘open Elective’ nature: Head of the department will announce options available on the NPTEL platform, and the students have to select 3 credited courses only to fit into the existing credit scheme.
- iii. Courses with minimum 12 weeks learning duration only shall be chosen for MOOC courses.
- iv. Marks or percentage obtained will be converted to grade points and reflects on the grade sheet.
- v. Swayam NPTEL Courses will be notified on this platform before 1st November for January semester; and will be notified before 1st June for July semester. Accordingly HOD shall issue notification/circular to the teachers connected and to the concerned student groups.
- vi. In case the student fails/ absent in the MOOC courses in the regular examination he/she will be allowed to register for next supply examination in manual mode as he can’t avail MOOC platform to clear the pending course during the next season.
 - a. The pattern of examination for manual mode in supplementary will be in the pattern of conventional exam on theory course (Five questions should be answered with either or type descriptive questions of 15 marks each). Supply exam fee shall be paid by the students. The syllabus for this pen-paper exam will be the syllabus mentioned in the MOOCS platform.
- vii. Examination fee paid for the 8th semester to the exam branch of the college is only for project work, internships and seminars. The exam fee payable for taking NPTEL online courses shall be borne by the students only
- viii. Teachers connected to the student group for guidance of MOOC courses shall also register for the course, go through the e-content in it to provide proper guidance to the students and also to get his ‘mentor certificate’.
- ix. Registration facility – extension of dates if any shall be continuously monitored by the HOD & students.

An Equivalent grade corresponding to grade/marks awarded by MOOC agency shall be determined by a committee consisting of a principal, controller of examinations and HoD concerned this equivalent grade shall be shown in the grade sheet and accounted in the SGPA and CGPA calculations.

5.5 Grading:

After each course is evaluated for 100 marks, the marks obtained by the student in each course will be converted to a corresponding letter grade as given below, depending on the range in which the marks fall.

Table 5.3 – Conversion into Grades and Grade Points assigned

Range in which the marks in the subject fall	Grade	Grade points Assigned
≥ 90	S (Superior)	10
80-89	A (Excellent)	9
70-79	B (Very Good)	8
60-69	C (Good)	7
50-59	D (Average)	6
40-49	E (Below Average)	4
< 40	F (Fail)	0
ABSENT	AB (Absent)	0

MALPRACTICE	MP	0
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Note: Whenever the performance of a student is cancelled in any course/ courses due to Malpractice, he has to register for the End Examination in those course/courses consequently and has to fulfill all the norms required for award of Degree.

5.6 Requirement for clearing any course

- In the theory and practical courses the students have to obtain a minimum of 35% marks in the end examinations and also minimum 40% of marks in the sum total of the continuous internal assessment and semester end examination taken together, otherwise they will be awarded grade-F in that course. F is considered as a fail grade indicating that the student has to reappear for the supplementary examination in that course and obtain a non fail grade for clearing that course.
- In other words to pass in a course, a student shall score **25** marks or more out of 70 marks in the end examination and also shall score **40** marks or more out of 100 in the end examination and the continuous internal assessment put together.
- To become eligible for the award of degree a student must obtain a minimum CGPA of 4.5 (as per computations shown in clause 5.9)

5.7 Supplementary Examinations

- Apart from the regular end examinations, the college will also schedule and conduct supplementary examinations for all courses for the benefit of students with backlogs. Such of the students writing supplementary examinations as supplementary candidates, may have to write more than one examination per day.
- Instant examination / Advanced supplementary examination for eighth semester courses will be conducted only for the benefit of those outgoing students who are failed or who are absent in eighth semester examinations. The instant exam will be conducted normally within one month from the date of announcement of the final semester revaluation results.

5.8 No Improvement

No improvement facility is available for the students, who cleared the examinations. However, failed students can take up supplementary examinations within the stipulated period.

5.9 Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e

$$SGPA (S_i) = \frac{\sum (C_i \times G_i)}{\sum C_i}$$

where C_i is the number of credits of the i th course and G_i is the grade point scored by the student in the i th course.

- ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

$$CGPA = \frac{\sum (C_i \times S_i)}{\sum C_i}$$

where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the Memorandum of Marks / transcripts.

5.9.1 Illustration of Computation of SGPA and CGPA

a. Illustration for SGPA

Course	Credit	Letter Grade	Grade Point	Credit Point (Credit x Grade Point)
Course – I	3	S	10	3 x 10 = 30
Course – II	3	A	9	3 x 9 = 27
Course – III	3	B	8	3 x 8 = 24
Course – IV	3	C	7	3 x 7 = 21
Course – V	2	B	8	2 x 8 = 16
Course – VI	1	B	8	1 x 8 = 8
	15			126

Thus, SGPA = $126 / 15 = 8.40$

b. Illustration for CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit : 27	Credit : 27	Credit : 30	Credit : 18
SGPA : 8.13	SGPA : 6.9	SGPA : 7.3	SGPA : 6.8

Thus, CGPA = $(27 \times 8.13) + (27 \times 6.9) + (30 \times 7.3) + (18 \times 6.8) / 102 = 7.32$

6 AWARD OF DEGREE

After having admitted into the program, B.Tech degree shall be conferred on a student who has satisfied the following conditions.

- i. The student joining with Intermediate qualification must have, after admission into the Regular B.Tech programme of the college, pursued a regular course of study for not less than four academic years and not more than eight academic years.
- ii. The student joining under lateral entry scheme with diploma qualification must have, after admission into III Semester B.Tech, pursued a regular course of study for not less than three academic years and not more than six academic years.
- iii. The student must have satisfied the minimum academic requirements in appropriate branch of engineering in each semester of the program, herein after prescribed
- iv. Students must register for all the courses and earn the credits specified
- v. Students who fail to fulfill all the academic requirements for the award of degree within the specified period from the year of their admission shall forfeit their seat in B.Tech course and their admission stands cancelled.
- vi. The student shall successfully complete non credit courses like CAA and MCs.
- vii. The student has no dues to the institution, library, hostels etc
- viii. The student has no disciplinary action pending against him/her

The Degree will be conferred and awarded by Jawaharlal Nehru Technological University Anantapur, Ananthapuramu on recommendations by the Academic council of AITS TIRUPATI (Autonomous) basing on the eligibility as in clause 7.

7 MINIMUM ACADEMIC REQUIREMENTS

- 7.1 A student is deemed to have satisfied the minimum academic requirement if he/she scores not less than 35% marks in the end examinations and also minimum 40% of marks in the sum total of the internal evaluation and end examination together in each of the theory and practical courses including project work etc., and obtains a minimum CGPA of 4.5 which is calculated considering all the semesters. However, lateral entry students must obtain a CGPA of 4.5 which is calculated considering the performance from third semester to eighth semester.
- 7.2 A student shall be declared to have satisfied the minimum academic requirements and has become eligible for the award of degree if he/she fulfills each of the following conditions.
- Satisfies minimum requirements as stated in clause 7.1
 - Satisfies the minimum requirement of attendance as stipulated in clause 4 and Satisfies all other regulations, academic or otherwise stipulated by the college from time to time.

8 AWARD OF CLASS

After a student has satisfied the minimum requirements prescribed for the completion of the Course as stipulated in clause 7 and has become eligible for the award of degree he/she shall be placed in one of the following classifications based on CGPA.

Division / Class	CGPA
First Class with Distinction	≥ 7.5
First Class	≥ 6.5 and < 7.5
Second Class	≥ 5.5 and < 6.5
Pass Class	≥ 4.5 and < 5.5

9 WITH HOLDING OF RESULTS

The result of a candidate shall be withheld if: He/she has not cleared any dues to the Institution/ Hostel /University A case of disciplinary action against him/her is pending disposal.

10 EXAM HALL CULTURE

- Students are not permitted to use mobile phones in the examination halls.
- Any attempt by any student to influence the examiners, faculty and staff or Controller of Examinations for undue favours in the exams, and bribing them either for marks or attendance will be treated as malpractice case and the student can be debarred from the college.
- When a student absents himself/herself, he/she is treated as to have appeared and obtained zero marks in that course(s) and Grading is done accordingly.
- When a student's answer book is confiscated for any kind of attempted or suspected malpractice, the decision of the examination committee is final.

11 MINIMUM INSTRUCTION WEEKS

Each semester shall consist of 15 instruction weeks excluding the days allotted for examinations.

12 TRANSITORY REGULATIONS

Candidates who have been detained for want of attendance/lack of credits or who wish to repeat the same semester and who have availed gap year/s are eligible for readmission into the respective semester and shall be governed by the curriculum and academic regulations in force at the time of re-joining.

13 AMENDMENT OF REGULATIONS

The college may, from time to time, revise, amend or change the regulations, scheme of examinations and syllabi.

14 RAGGING

Ragging of any kind is strictly prohibited. A Student who indulges in ragging shall be punished as per the provisions of the ragging act.

15 RULES OF DISCIPLINE

- i. Use of mobile phones with camera, in the campus is strictly prohibited.
- ii. Students shall behave and conduct themselves in a dignified and courteous manner in the campus/Hostels.
- iii. Students shall not bring outsiders to the institution or hostels.
- iv. Students shall not steal, deface, damage or cause any loss to the institution property.
- v. Students shall not collect money either by request or coercion from others within the campus or hostels.
- vi. Students shall not resort to plagiarism of any nature/extent. Use of material, ideas, figures, code or data without appropriate acknowledgement or permission of the original source shall be treated as cases of plagiarism. Submission of material, verbatim or paraphrased, that is authored by another person or published earlier by oneself shall also be considered as cases of plagiarism.
- vii. Use of vehicles by the students inside the campus is prohibited.
- viii. Any conduct which leads to lowering of the esteem of the organization is prohibited.
- ix. Any student exhibiting prohibited behaviour shall be suspended from the institute. The period of suspension and punishment shall be clearly communicated to the student. The student shall lose the attendance for the suspended period
- x. Dress Code
Boys : All the boy students should wear formal dresses. Wearing T-shirts and other informal dresses in the campus is strictly prohibited.
Girls : All the girls students shall wear saree/churidhar with dupatta

16 GENERAL

- i. The academic regulations should be read as a whole for purpose of any interpretation. The college reserves the right of altering the regulations as and when necessary.
- ii. The regulations altered may be applicable to all the Candidates on rolls.

- iii. Wherever the word he, him or his occur, it will also include she, her, hers.
- iv. Whenever ambiguities arise in interpreting the regulations, the joint board of studies shall have the powers to issue clarifications and /or to make new rule for removing such ambiguities which shall be final.

Academic Regulations (AK 19) for B. Tech (Lateral Entry)

(Effective for the students admitted into 3rd Semester from the Academic Year 2020-21 onwards)

NOTE: All the regulations adopted for B.Tech (Regular-Full Time) programme are applicable to lateral entry students in addition to the following:

1. AWARD OF B.TECH. DEGREE

A student will be declared eligible for the award of B.Tech. Degree if he/she fulfils the following academic regulations:

- i) Pursues a course of study for not less than three academic years and in not more than six academic years from the year of their admission. However, for the students availing Gap year facility this period shall be extended by two years at the most and these two years would not be counted for the time for the maximum time for graduation.
- ii) Registers for 120 credits and secures all 120 credits.
- iii) Forfeit of Seat: Students, who fail to fulfill all the academic requirements for the award of the degree within six academic years from the year of their admission, shall forfeit their seat in B.Tech. Course and their admission stands cancelled.

2. MINIMUM ACADEMIC REQUIREMENTS

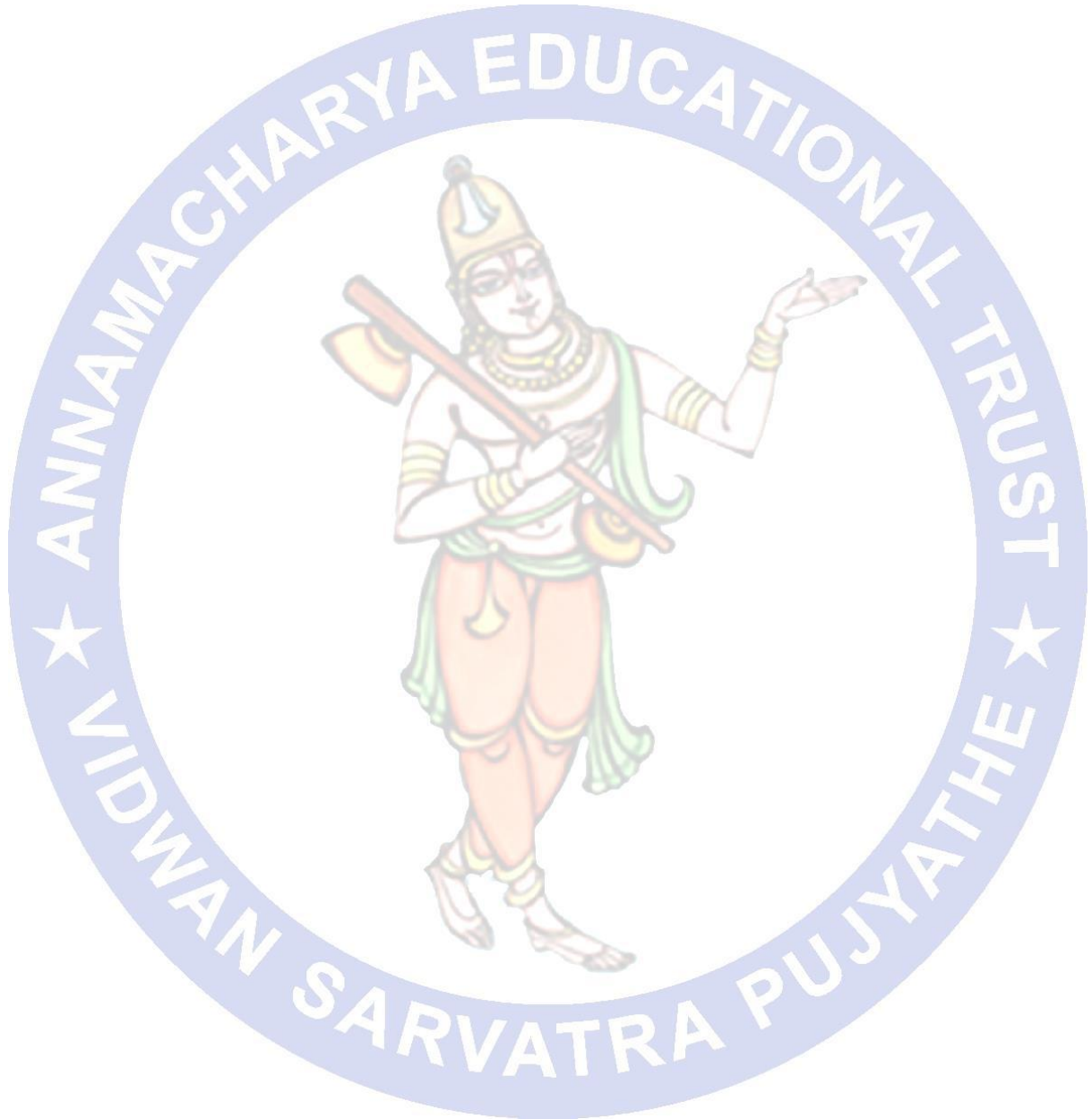
Students need to acquire necessary credits to get promoted to the subsequent academic year, in addition to the attendance requirements mentioned above.

- i) A student shall be promoted from III Year to IV Year only if he / she fulfils the academic requirements as mentioned in section 4.2.2, irrespective of whether the candidate takes the examinations or not as per the normal course of study.
- ii) When a student is detained due to lack of credits/shortage of attendance he/she may be readmitted 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.
- iii) A student shall register and put up minimum attendance in all 120 credits and earn all 120 credits. Marks obtained in all 120 credits shall be considered for the calculation of aggregate percentage of marks obtained.
- iv) Students who fail to earn 120 credits as indicated in the course structure within six academic years from the year of their admission shall forfeit their seat in B.Tech. programme and their admission shall stand cancelled.

3. COURSE PATTERN

- i) The entire course of study is for three academic years. All years shall be on semester pattern.

- ii) 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 in the next supplementary examination when offered.



**RULES FOR
DISCIPLINARY ACTION FOR MALPRACTICES / IMPROPER CONDUCT IN EXAMINATIONS**

	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, 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)	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 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 / her.
2.	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.
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 semester end examinations if his/her 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. 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. If the imposter is an outsider, he/she will be handed over to the police and a case

		is registered against him/her. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat
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 Chief Superintendent /Asst. Superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walkout or instigates others to walkout, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his/her person or to any of his/her 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/her 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 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(s) is (are) also barred and forfeit his/her (their) seat(s). In case of outsiders, they will be handed over to the police and a police case is registered against them. 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 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 college 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/year examinations.
12.	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.	

Note:

- i) **All malpractices cases are to be handled by the Chief Controller with a committee consist of Controller of Examinations, HOD concerned and subject expert.**