



**GOVERNMENT OF KERALA**

**DEPARTMENT OF TECHNICAL EDUCATION**

**RULES AND REGULATIONS FOR THE CONDUCT OF PROGRAMMES IN  
ENGINEERING/ TECHNOLOGY/ COMMERCIAL PRACTICE/  
MANAGEMENT IN THE POLYTECHNIC COLLEGES RECOGNISED BY  
THE STATE**

**BOARD OF TECHNICAL EDUCATION, KERALA STATE.**

**(Approved as per G.O.(Rt) No. 1213/2010/H.Edn dated 23-6-2010)**

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**DEFINITIONS. IN THESE RULES AND REGULATIONS UNLESS THE  
CONTEXT OTHERWISE REQUIRES:-**

**Academic Calendar** means the calendar of academic activities undertaken during an academic year as prescribed by the State Board of Technical Education.

**Academic Year** in relation to a programme means a period of 10 months spanning two successive calendar years, which includes instructional periods, holidays and examinations which shall invariably consist of 2 semesters, called odd and even semesters.

**Audit Course** means a course which shall carry no credit but which can be registered by the students without the requirement to take examinations.

**Course** means the study of an individual subject in a particular semester. (*traditionally referred to as subject/ paper*) which shall include theory, practical, field work, project work etc.

**Course Categories** means the distribution of courses for a programme.

**Credit** means the sum of lecture periods in hours and half the hours of practical, drawing etc. allotted for teaching the course, specified in the curriculum. A student earns as much number of credits for a course if he/ she completes the prescribed course as per the curriculum and satisfies the criteria fixed for such course by the State Board of Technical Education.

**Curriculum** for a course or programme means a written document prepared by the State Board of Technical Education which states the educational objectives detailing the integrated sequence of areas of study covered under the course or programme with detailed contents, recommendations as to the learning experiences to be given to students and methodology of student evaluation for achieving the learning objectives for the student undergoing the course or programme in each semester which among other things shall include the syllabus, theory, practical, project work, etc. and the rules and regulations contained herein.

**Diploma** means a certificate, declaring that the holder has successfully completed a programme specified in the curriculum for such programme and satisfies the criteria fixed for such programme by the State Board of Technical Education.

**Faculty Advisor** means a teacher of the Polytechnic College who provides counseling to the students to make choices in respect of courses included in the programme.

**Programme** means the entire course of study and examinations (*traditionally referred to as course*) prescribed for the same leading to the award of diploma.

**Semester** means a period of 5 months in an academic year, which shall include instructional periods, holidays and examinations. Odd semesters shall span from June to October with end of the semester holidays in November. Even Semesters shall span from December to April with end of semester holidays in May.

**Student** means a person admitted to or registered for a course or programme in accordance with these rules and regulations.

## **02. DURATION OF A PROGRAMME**

The duration of a programme shall be of 3 (three) academic years, consisting of 6 (six) consecutive semesters. The maximum duration permissible for acquiring diploma shall be 6 academic years from the month of first registration for the programme.

## **03. MEDIUM OF INSTRUCTION**

The medium of instruction and examination shall be in the English language.

## **04. ELIGIBILITY FOR REGISTRATION FOR A PROGRAMME**

A pass with eligibility for higher studies in the X<sup>th</sup> class examination (S.S.L.C) conducted by the Board of Public Examinations, Kerala State or equivalent examinations recognized by the Board of Public Examinations, Kerala State.

## **05. INSTRUCTIONAL DURATION IN AN ACADEMIC YEAR**

An academic year shall consist of 2 (two) semesters, each consisting of a minimum of 18 (Eighteen) weeks of instruction including intervening holidays, but excluding the period of examination and study holidays.

Odd semester in an academic year shall span from June to October (Including Study leave, Holidays & Examinations) with end of semester Holidays in November.

Even semester in an academic year shall span from December to April (Including Study leave, Holidays & Examinations) with end of semester holidays in May.

In a semester, minimum of 80 days of instruction shall be mandatory before the conduct of examinations.

A programme shall follow semester pattern, with end of semester examinations for each semester conducted by the State Board of Technical Education, Kerala State.

There shall be 7 (seven) periods of 55 (fifty five) minutes duration of instruction each day for 5 days per every week and thereby 35 (thirty five) periods every week in a Calendar month.

## 06. COURSE CATEGORIES

A programme shall consist of following course categories:

- i) **Foundation Courses** are courses covering areas which are required to build a foundation for further studies in the programme selected by the student.
- ii) **Common Courses** are courses to be studied by all students admitted to a programme.
- iii) **Basic Technology Courses** are foundation courses which aim to bridge the courses of pure science/ social science/ commercial practice/applied science / management with the elective courses.
- iv) **Applied Technology Courses** are professional level terminal courses through which the desired knowledge and skills are achieved by the students to perform his/ her job functions in the programme selected by the student.
- v) **Elective Courses** are integrated courses providing detailed knowledge in specific areas in the same or related course with an aim to develop knowledge and awareness in other interdisciplinary areas of study.

## 07. MINIMUM CREDITS TO BE EARNED FOR AWARD OF DIPLOMA

A student shall acquire the minimum credits for each course/category of courses as prescribed in the curriculum and satisfy such other criteria fixed by the State Board of Technical Education, to be entitled for the award of diploma in the programme.

## 08. REGISTRATION FOR A PROGRAMME

Each student admitted to the programme shall be required to take a registration for the programme. This registration shall be valid for 6 (six) academic years. If a student fails to earn the diploma within a period of 6 (six) academic years, his registration shall be treated to be cancelled and he/ she will forfeit the credits already earned for the programme.

A student who has completed the course of a programme but has not appeared or earned credits in the end of semester examination shall register for the course afresh. Such a registration is mandatory for reappearing in the end of semester examination for that course.

## 09. EXAMINATION

i) The examinations for a programme shall be conducted by the State Board of Technical Education in accordance with the curriculum prescribed for the programme.

- ii) No candidate shall be permitted to register for the end of semester examination for any course unless,-
- a) He/ she is certified by the principal to the effect that he/she has attended 75% of the prescribed instruction hours in the semester as laid down in the curriculum. However, in case of those students who have attended not less than 65% of the prescribed instruction hours for proved medical reasons, the principal may on being satisfied as to the genuineness of the same and after recording the same in writing permit the students to register for the examination subject to the remittance of fee fixed by the Government from time to time. The authority of the principal in this regard is limited to 1 (one) during a programme. Students who have attended only less than 65% of the prescribed instruction hours in the semester shall not be permitted to register for the examination for the examination. He shall have to repeat that semester as and when it is offered in the Polytechnic college. However the Government may on the recommendation of the Principal of the Polytechnic college and the Director of Technical Education, if satisfied, in extraordinary conditions, for reasons to be recorded in writing, permit a student to register for the examination for any semester. Principals shall be liable and accountable to watch the academic progress of students and ensure that no student falls short of prescribed attendance for more than two semesters during a programme.
  - b) He/ she has completed all the prescribed laboratory, practical, workshop practical or any other kind of practical including drawing, field work, project work etc. as prescribed in the curriculum and so certified by the Principal of the Polytechnic college. Such certification shall be on the basis of the recommendations of the faculty advisor.
- iii) Students who do not satisfy clauses (i) and (ii) above shall have to register for the same semester as and when it is offered in the institution afresh and shall have to fulfill such conditions prescribed by the State Board of Technical Education.
- iv) A student shall have to remit the fees prescribed by the Government from time to time for registration/ re-registration for the course along with application in the prescribed form.

- v) A student shall not be allowed to re-register for a course or reappear for an examination for which he/she has gained the prescribed credits.
- vi) A student who has been found guilty of having committed an offence declared as an offence by the State Board of Technical Education by such authority appointed by the State Board of Technical Education for the purpose, shall be debarred from appearing for the end of semester examination of a course / courses / programme and such student shall not be permitted to register or re-register for such period determined by the said authority. An appeal against the decision of the said authority shall lie to the Government and the Government may after making such enquiry, for reasons to be recorded in writing, take an appropriate decision.

## 10. ASSESSMENT OF STUDENTS

### A) GENERAL

The assessment of students for each course shall be done through continuous internal assessment and end of semester examinations. Internal assessment shall be conducted throughout the semester.

Internal assessment marks for theory and practical courses shall be published in the Polytechnic college on the dates specified in the academic calendar.

### B) Internal assessment for Theory Courses

- i) The maximum marks that may be awarded for internal continuous assessment and end of semester examinations shall be 50 marks and 100 marks respectively, totaling to 150 marks.
- ii) The weightage to be awarded for internal continuous assessment marks for theory courses shall be as follows:

Sl. No	Criteria Component	Weightage (%)
1	Test Papers (Best 2 out of 3)	50
2	Assignments (Minimum 3)	30
3	Attendance	20

### C) Internal Assessment for Practical Courses

- i) Internal continuous assessment and end of semester practical examinations shall have weightage in the ratio 1:1; with 50 marks for internal continuous assessment and 50marks for end of semester examinations.
- ii) The weightage for internal continuous assessment marks for practical courses shall be as follows:

Sl. No	Criteria Component	Weightage (%)
1	Observation Note / Rough Record	20
2	Fair Record (Timely Submission, Accuracy and Neatness)	20
3	Attendance	20
4	Test	40

### D. Internal Assessment for Drawing Courses.

Sl. No	Criteria Component	Weightage (%)
1	Submission of Completed Drawing Sheets (Timely Submission, Accuracy and Neatness)	40
2	Test	40
3	Attendance	20

### E. Assessment at End of Semester Examinations (Practical Courses)

- i) An external examiner and an internal examiner, appointed by the State Board of Technical Education , shall conduct the end of semester examinations of practical courses.
- ii. No candidate shall be allowed to attend the end of semester practical examinations unless he/she produces certified record of the laboratory.



- iii. Award of marks in the end of semester practical examinations (except for project work ) shall be as follows, -

Sl. No	Criteria Component	Weightage (%)
1	Fair record	10
2	Viva Voce	20
3	Procedure & Tabulation	30
4	Conduct of Experiment	20
5	Result & Inference	20

#### **F. Assessment for Seminar**

Sl. No	Criteria Component	Weightage (%)
1	Relevance of Topic	10
2	Collection of Materials	20
3	Presentation (Presentation slides, delivery)	40
4	Question Answer / Discussion	20
5	Seminar Report	10

#### **G. Assessment for Project Work**

Sl. No	Criteria Component	Weightage (%)
1	Relevance of Topic	10
2	Knowledge of Tool	20
3	Selection of Tool	20
4	Fabrication of Final Product	20
5	Role of Individual in the Team	20
6	Project Report	10

#### **H) Assessment for Theory Courses**

The theory courses shall be assessed through end of semester examinations, conducted by the State Board of Technical Education, Kerala. The duration of the end of semester examination shall be 3 Hours. The question papers for the end of semester examinations shall be prepared to test the analytical thinking of students and not to test mere memory. Question papers shall be prepared –

- i) emphasizing on knowledge testing, problem solving & quantitative methods.
- ii) with sufficient data and related information on problems given.
- iii) covering all sections of the syllabus as contained in the model question papers.
- iv) without ambiguity and free from any defects and errors.
- v) having clear and complete instructions to the candidates.

## 11. PATTERN OF QUESTION PAPERS FOR THEORY COURSES

The entire syllabus for the theory course shall be divided into 4 Modules / Units. The maximum marks for the course shall be 100. Different patterns of question papers are permitted for courses involving drawing, design etc. In such cases the modified pattern should be specified along with the syllabus for the course. The model question paper will form part of the curriculum. The general pattern of Question Papers shall be as follows:-

### **PART A: Short Answer Questions (One/Two Sentences)**

**5x2 Marks = 10 Marks**

All Questions are Compulsory. There should be at least one question from each module and not more than two questions from any module.

### **PART B: Analytical / Problem Solving Questions**

**5 x 6 Marks = 30 Marks**

Candidates will have to answer Five questions out of Seven. There should be at least one question from each module and not more than 2 questions from any module.

### **PART C: Descriptive / Analytical / Problem Solving Questions**

**4 x 15 Marks = 60 Marks**

Two questions from each module with Choice to answer one question. weightage for categories of questions like, recollection, problem solving, descriptive, drawing / diagrammatic etc. shall be specified along with the syllabus, if necessary. Model question paper shall be prepared for each course at the time of framing the syllabus. The model question paper along with the syllabus must be sent to the question paper setter for framing questions.

## 12. QUESTION PAPER SETTING

- a) The State Board of Technical Education, shall appoint question paper setters from among senior faculty who have sufficient experience and expertise for conducting course/programme. It shall be ensured that the same person is not

engaged as question paper setter for a course for consecutive occasions for the same course. Not more than 2 sets of questions shall be collected from a setter.

- b) All question paper setters shall supplement the question paper with scheme and key for valuation.
- c) Question papers / scheme & key shall be subjected to scrutiny by such person authorised by the State Board of Technical Education to ensure that the questions are prepared as per the Curriculum. The scheme & key prepared shall be ensured to be correct. It shall also be ensured that it maintains academic standards and conforms to the curriculum. Out of syllabus questions shall be avoided.
- d) Faculty members whose children / relatives are appearing for the examinations shall not be engaged for question paper setting / scrutiny. Faculty members engaged for question paper setting / scrutiny shall certify that his /her children / relatives are not appearing for the examination for which the question paper is set/scrutinized.

### 13. GRADING SYSTEM

- i) The State Board of Technical Education shall award Letter Grade to students based on the marks secured by them in both internal assessment and end of semester Examinations for each course.
- ii) Each Letter Grade indicates a qualitative assessment of the student's performance and is associated with specified grade points. All candidates will be allotted grades according to the marks scored by them. The grading system based on the marks scored are as follows:-

Sl. No	Range of Marks (%)	Grades	Description	Grade Points
1	90 and above	S	Outstanding	10
2	[80-90)	A	Excellent	9
3	[70-80)	B	Very Good	8
4	[60-70)	C	Good	7
5	[50-60)	D	Average	6
6	[40-50)	E	Satisfactory	5
7	Below 40	F	Unsatisfactory	0

Where [X-Y) means, X included and Y excluded.

- iii. The State Board of Technical Education shall issue to the students a grade card on completion of each semester. The grade card shall contain the following –
  - a. The title of the course, category – Foundation, Common Course, Basic Technology, Applied Technology, Elective and Audit Course. (An audit course will be listed only if a student successfully completes the course)
  - b. Credits associated with and grades awarded for each course.
  - c. The number of credits earned and grade point average.

#### 14. MINIMUM REQUIREMENTS FOR EARNING CREDIT

A candidate must secure a minimum of 40% marks in the end of semester examination for theory and a combined 40% marks for internal & external assessment put together in theory and practical courses to secure the credit for the course.

#### 15. CUMULATIVE GRADE POINT AVERAGE (CGPA)

i. CGPA is the weighted average of grade points obtained in all courses registered for the diploma.

ii. CGPA shall be computed for all the students at the end of each semester by taking into consideration their performance in all semesters as follows,-

$$\text{CGPA} = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

(‘n’ is the number of courses registered up to that semester, ‘C<sub>i</sub>’ is the number of credits allotted to ‘i<sup>th</sup>’ course as per the scheme and ‘G<sub>i</sub>’ is the grade points corresponding to the grade awarded to the student for the course).

iii. CGPA shall be rounded off to the second place of decimal and recorded as such for representation. Whenever the CGPA is to be used for determining the merit ranking in a group of students only the rounded off values shall be made use of.

#### 16. CLASSIFICATION

i) To be eligible for the award of diploma for a particular programme a student shall earn the requisite number of credits through successful completion of the courses of study.

ii) There shall be three classifications of successful candidates, -

- a. First Class with Distinction
- b. First Class
- c. Second Class

iii) A candidate who has earned the requisite number of credits will be classified as First Class with Distinction based on the CGPA attained if, - he/ she secures the requisite credits and CGPA of 8 (eight) or above and fulfills the requirements for the award of diploma within 4 (four) consecutive years including the year of registration for the programme.

iv) A candidate who has earned the requisite number of credits will be classified as First Class based on the CGPA attained if, - he/ she secures the requisite credits and CGPA of 7 (seven) or above but less than 8 (eight) and fulfills the requirements for the award of diploma within 4 (four) consecutive years including the year of registration for the programme.

- v) All other successful candidates shall be declared to be placed in Second Class.
- vi) Audit papers will not be considered for classification.
- vii) The system of awarding ranks shall be stopped.

## **17. ACADEMIC CALENDAR**

- i) The academic calendar shall be prepared by the State Board of Technical Education and shall be followed in all Polytechnic colleges.
- ii) Within a week after the commencement of the classes of each semester, the Principal of the Polytechnic college shall forward the list of faculty engaging various courses to the Joint Director, Curriculum Development Centre and Joint Controller of Technical Examinations in the prescribed format. The details of faculty advisors should also be included.

## **18. EXAMINATION MONITORING CELL**

The Principal of each Polytechnic college shall constitute an Examination Monitoring Cell at the Polytechnic college for supervising the academic activities. This cell shall have a senior staff member as convener and three members of which one shall be a woman. The duties and responsibilities of the examination monitoring cell shall be,

- a. To officiate as the examination squad to keep a vigil on all end of semester examinations. If any malpractice are found/ reported by the invigilator the Principal shall be appraised of the same with a report. The Principal shall forward such complaints to the Government.
- b. To schedule all examinations conducted as part of internal assessment of students.
- c. To receive any complaints from the students regarding issues like out of syllabus questions, printing mistakes, insufficient data etc. of end of semester examinations of theory and practical courses. The cell shall make a preliminary investigation of the complaint and if necessary forward it to the Controller of Technical Examinations through the Principal with specific comments.
- d. To receive any complaints from students regarding internal examinations, make preliminary enquiry of such incidents and give report to the Principal for necessary action.

## **19. DEPARTMENTAL COMMITTEE**

The Principal of the Polytechnic college shall form departmental committee for each department. The committee shall function during the entire semester of each academic year. The departmental committee shall consist of the Head of Section, faculty advisors and three student representatives (one of which shall be a woman). The committee shall meet and deliberate at least for 2 times a semester. It shall be the responsibility of the Head of Section to convene these meetings. The decisions of the departmental committee shall be recorded in a register for further reference. The departmental committee shall communicate its comments to the Principal Polytechnic college. The departmental committee shall, -

- a) review periodically the progress and conduct of the students in the class.
- b) discuss any problems concerning any course in the semester concerned.
- c) identify weaker students in the class and suggest remedial measures for helping him/her.
- d) review teaching effectiveness and coverage of syllabus.
- e) discuss any other academic issues.

## **20. ANTI – RAGGING CELL**

The Principal shall form an Anti – Ragging Cell at the commencement of each academic year. The cell shall function as per the orders and guidelines issued by the Government in this regard.

# SUBJECTS OF STUDY AND SCHEME OF EVALUATION

## SEMESTER I

Code	Course	Periods Per Week			Credits	Evaluation	
		Theory	Practical	Total		CA	External
1	English I	4		4	4	50	100
2	Technical Maths I	6		6	6	50	100
3	Applied Science I Physics Chemistry	3 3		6	6	50	100
4	General Engineering	4		4	4	50	100
5	Humanities	3		3	3	50	100
6	Informatics Practices	2	2	4	3	50	50
7	Workshop Practice		3	3	2	50	50
8	Engineering Graphics	1	2	3			
9	Applied Science Lab		2	2			
	<b>TOTAL</b>	<b>26</b>	<b>9</b>	<b>35</b>	<b>28</b>		

## SEMESTER II

Code	Course	Periods Per Week			Credits	Evaluation	
		Theory	Practical	Total		CA	External
1	English II	4		4	4	50	100
2	Technical Maths II	6		6	6	50	100
3	Applied Science II Physics Chemistry	3		6	6	50	100
		3					
4	Engineering Graphics	1	3	4	5	50	100
5	Programing Methodology	3	2	5	4	50	100
6	BST*	5		5	5	50	100
7	BSL/W**		3	3	2	50	50
8	Applied Science Lab		2	2	2	50	50
	<b>TOTAL</b>	<b>25</b>	<b>10</b>	<b>35</b>	<b>34</b>		

\*BST : Branch Specific Theory

\*\*BSL/W : Branch Specific Lab / Workshop