



**GOVERNMENT OF KERALA
DEPARTMENT OF TECHNICAL EDUCATION**

**CURRICULUM DEVELOPMENT CENTRE
KALAMASSERY**

**CURRICULUM OF
DIPLOMA COURSE**

IN

COMPUTER ENGINEERING

**SEMESTER SYSTEM
(Revision 2006)**

**Prepared at
CURRICULUM DEVELOPMENT CENTRE, KALAMASSERY**

RULES AND REGULATIONS OF THE DIPLOMA COURSES
IN ENGINEERING/TECHNOLOGY/COMMERCIAL PRACTICE
UNDER THE STATE BOARD OF TECHNICAL EDUCATION,
KERALA STATE. (SEMESTER SYSTEM)

01. Duration of the Diploma Course

The duration of the regular Diploma courses will be of three academic years, consisting of Six (6) consecutive semesters. The first 2 Semesters are combined and run on an year pattern, and called “Combined First and Second Semesters”.

02. Medium of Instruction

The medium of instruction in all the theory and practical subjects shall be English.

03. Eligibility for Selection to the Diploma Course

Candidates for admission shall be required to have passed Xth class examination (S.S.L.C.) conducted by the Board of Public Examinations, Kerala State or any other equivalent examinations already recognized by the Board of Public Examinations, of Kerala State, with the eligibility for Higher Education.

04. Instructional duration in an academic year

- a) The academic year shall consist of 2 Semesters, each consisting of a minimum of 16 weeks of instruction, including intervening holidays, but excluding the period of examinations and study holidays.
- b) The course will follow Semester pattern, with an End semester examinations, conducted by the Board of Technical Examinations, Kerala State. The examinations for first year (Semester I & II Combined) will be conducted at the end of second semester.
- c) There will be 7 Instructional periods of 55 Minutes duration per Day, and there shall be 5 working days in a week from Monday to Friday, and thereby 35 Periods per Week.

05. Minimum attendance required for obtaining eligibility to appear for the Examination.

- a) A candidate must secure a minimum of 80% attendance in the combined First and Second Semester and in each subsequent Semester, in order to secure the eligibility to appear for each End Semester examinations.
- b) In the case of those students with 65% or more attendance but could not attain 80% attendance due to Medical reasons, the Principal of the Polytechnic, at his/her discretion, may grant the eligibility to appear for the examination, subject to the remittance of “Condonation fee”, fixed by the Government from time to time.
- c) Students who have secured less than 65% attendance are not eligible to apply for “condonation”, and will not be allowed to appear for the examination under any circumstances.

- d) Students who have shortage of attendance, but not condoned, in any of the semesters including first year, are not eligible to appear for the end Semester Examinations, and therefore not eligible to be promoted to the higher semesters. They may seek readmission. Application for readmission may be entertained only for genuine cases on medical grounds and in doubtful cases the Principal may seek report from medical board for verification.
- e) Condonation of attendance is permitted only once in the entire course of study both in the case of regular and part time courses.

06. Scheme of Evaluation.

- a) The scheme of evaluation shall consist of (1) Internal assessment (Sessional) and (2) End Semester examinations in Theory and Practical Subjects. The maximum marks for End Semester Examinations, and Internal Assessment, both for the Theory and Practical papers will be 75 and 25 respectively except for the Combined I & II Semesters. However, for some exceptional subjects, this may vary. Details of break up of marks are given in the Curricula of each discipline.
- b) The Total marks (Internal and End Semester Examinations) will be as follows:
- | | |
|----------------------------|---------------------|
| Combined I & II Semesters: | 1000 Marks |
| III to VI Semesters: | 700 Marks/ Semester |
- c) All the end examination including the drawing examination will normally be of 180 Minutes duration. In certain specialized disciplines this requirement may not be adhered to strictly and the End Semester Examination of a longer duration may be permitted.

07. Award of internal assessment marks.

- a) In respect of theory subjects the award of sessional mark will be on a Continuous Evaluation method, based on tests, assignments and attendance in the proportion of 40% for tests, 40% for assignments and 20% for attendance. There will be a minimum of three tests and Three Assignments, and all the 3 Test papers and 3 Assignments are taken into account for the calculation of Final Internal Assessment Marks.
- b) Split up of Internal Assessment Marks :

A. Attendance:

Sl.No.	Percentage of Attendance*	Marks to be awarded (computed for 5 Marks)
1	Below 65	Zero
2	65 to 79	1
3	80 to 84	2
4	85 to 89	3
5	90 to 94	4
6	95 and above	5

B. Practical:

Sl.No.	Criteria component	Marks to be awarded
1	Observation Note/ Rough Record	20%
2	Fair Record (Timely submission, Accuracy and Neatness)	20%
3	Attendance*	20%
4	Test	40%

C. Drawing

Sl.No.	Criteria component	Marks to be awarded
1	Submission of Completed Drawing Sheets (Timely submission, Accuracy and Neatness)	40%
2	Attendance*	20%
3	Test	40%

*Percentage of attendance for that particular subject only is counted here.

D. Seminar

Sl. No.	Criteria component	Marks to be awarded
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%

E. Project Work

Sl. No.	Criteria component	Marks to be awarded
1	Relevance of Topic & Selection of	10%
2	Knowledge in the Tool	20%
3	Selection of Tool	20%
4	Fabrication & Final product	20%
4	Role of the individual in the Team	20%
5	Project Report	10%

- c) The Faculty concerned will maintain a record of all details regarding Attendance and Internal Assessment marks awarded in the prescribed log book. The students can represent their grievances, if any, in respect of marks awarded, to the concerned Head of Section for clarification.
- d) The students are required to keep a record of all their laboratory exercises performed by them in the form of a laboratory record. This record has to be authenticated by the teacher-in-charge of the laboratory and certified as the record of the bonafide work done by the student by the Head of Section before he is allowed to take the practical examinations. No student will be permitted to take any practical examinations without the bonafide Record.

08. End Examination

- a) In each theory subject and in the drawing subject there will be an end examination in each Semester conducted by the Board of Technical Examination, Kerala State as per the pre-announced notification of examinations. The Timetable for the examination will also be informed to the students ahead of their conduct.
- b) Regular/Supplementary examination for all semesters will be held at the end of each semester as the case may be.
- c) The question paper for each Theory paper (excluding the Drawing papers) will consist of Two parts:
Part A – is for a maximum of 15 marks consisting of 10 short answer type questions of 1½ (One and a half) marks each (to be answered in one or two sentences) covering the whole subjects area. There will be no choice in Part A.
Part B – consists of 10 structured essay type questions of 12 marks each with two question from each of the five units in a subject. Students will have to attempt one question from each unit to score the prescribed maximum of 60 marks.
The part A and Part B will be given together in one question paper.
- d) For drawing subjects, the design of question paper will be according to the needs of that particular drawing. There will not be any short answer type question in drawing.
- e) For practical end examinations, the Board of Technical Examination, Kerala State will appoint examiners who will set a question paper consisting of practical exercises. This will be used for that practical subject.

09. Minimum marks for a pass

- a) A candidate must secure a minimum of 40% marks in the End Semester examination in Theory and Practical for a Pass in each subject. There will be no separate minimum for a pass in the internal assessment but the total marks of End Semester examination and Internal assessment should not be less than 40% for a pass each subject.

10. Rules for promotion to the Higher Semesters.

- a) A candidate will be allowed to go to the next higher Semester, if he/she attended the Combined I & II Semester/ Previous Semester, and has fulfilled the conditions of attendance requirement. However,
- b) A candidate will be permitted to register for the Fifth Semester Examination if and only if he/she has passed all the subjects of the Combined I & II Semester, and
- c) A candidate will be permitted to register for the Sixth Semester Examination only if he/she has passed all the subjects of Combined I & II, and III Semesters.

11. Classification of successful candidates

- a) Candidates shall be declared to have passed the diploma course only if he/she has secured a Pass in all the theory and practical subjects in all the Six Semesters of study.
- b) There will be 3 classifications of passed candidates namely.
First class with distinction
First class and
Second class
- c) The total marks of the Semesters from 3 to 6 shall be considered to classify the successful candidates. That is all these marks will be added and the percentage of marks out of 2800 worked out.

First Class with Distinction

A candidate will be declared to have passed the Diploma Course in First Class with Distinction if he/she secures not less than 75% of the aggregate marks in all Semesters put together except First Year (Combined I & II Semesters) and passes all the above semesters including the Combined I & II Semesters in the first appearance itself, within the stipulated period of normal study, i.e., Three Years of Six Consecutive Semesters, without any break.

First Class

A candidate will be declared to have passed the Diploma Course in First Class if he/she secures not less than 60% of the aggregate marks in all Semesters put together except First Year (Combined I & II Semesters) and passes all the above semesters including the Combined I & II Semesters, within three consecutive chances including his regular chance offered by the Board of Technical Examination.

Second Class

All other successful candidates will be declared to have passed in the Second Class

12. Provision for Improvement/Betterment:

- a). A candidate, if he desires, may improve his/her marks in any subject, in the immediate chance that follow his regular chance/attempt, in the 3rd, 4th and 5th Semesters. A “regular attempt/chance” is defined as the examination chance of the current semester of his/her study.
- b) A candidate, if he/she desires, will be permitted to better his/her marks of the 6th Semester Subjects by reappearing for the entire subjects of that semester together, by taking the next available chance only. (Betterment can be done only for the 6th Semester)
- c) Improvement/betterment will not be reckoned as another chance/attempt. Candidates appearing for betterment will not be considered for the purpose of ranking.

13. **Award of Rank:** Rank Holder in each Discipline will be selected from among the successful candidates who have passed the Diploma course in “FIRST CLASS WITH DISTINCTION” only. “Grace mark” awarded for the performance in arts/sports/similar extra or co- curricular

activities will not be considered for determining the rank holders subject to rules 11 and 12 above.

14. Maximum duration of the Diploma Course:

Normal duration of the diploma course is 6 consecutive Semesters, spanned in 3 Academic Years, as stated in para 01. However, in the case of those who have not acquired Diploma within the stipulated minimum duration of 3 Years, he/she may acquire the Diploma taking a maximum duration of another 3 Years. However, the maximum number of chances to appear for the End Semester examination is limited to 4, including his/her regular chance.

15. Cancellation of Candidature in the Diploma Examination:

If a candidate desires to cancel his candidature for end semester Examination he/she should forward the duly filled in Application Form, recommended by the Principal of the Polytechnics so as to reach the office of the Controller of Technical Examinations within 10 days after the completion of the last theory Examination of that particular Semester examination. For those who have applied for the examination and absent without canceling their candidature, it will be treated as an attempt/ chance. Cancellation of candidature in any Semester Examination is allowed only once. Candidates reported for malpractice will not be eligible for cancellation of examination.

16. Defaulters of fee:

Defaulters of fee will not be permitted to register for the End Semester examination

17. General Information:

Norms for transfer of students:

- a) Application for transfer from one institution to another will be entertained only at the second year (3rd Semester) of the Diploma course. Candidates who desire to get transfer to another institution in the second year (3rd Semester) should submit the application in the prescribed "format for transfer" to the Principal of the Institution to which transfer is requested, through the Principal of the institution where the candidate is studying within 10 days from the date of re-opening of the institution after midsummer vacation.
- b) All applications received within the stipulated time will be processed and the list of candidates selected for transfer on the basis of the index marks secured by the candidates for admission to Polytechnics to the first year (Combined I and II semester) will be published by the concerned principals of the polytechnics to which transfer is requested for, and the selected candidates will be informed accordingly.
- c) Principals of Polytechnics should intimate the names of candidates transferred with branch of study to other institution to the Joint Controller of Technical examinations with details such as name of institutions to which transferred, date of transfer, and Diploma Examinations Register Number within ten days from the last date of admission.

NOTE

The syllabus for the diploma courses in Engineering/Technology are being updated in the semester pattern from the academic year 2006-07. The Government of Kerala in its draft IT policy have stressed the importance of Free & Open Source Software (FOSS). More over the students have completed their schooling using FOSS.

The revision of the Polytechnic Curriculum was in such a way that the use of FOSS can be utilized. It can be observed that in the following subjects the use of FOSS can be promoted,

1. CT 102 / CHM 102/INF102	Software Lab 1
2. CT 306 / CM 306/ IF 306	Software Lab II (C++ & Java) / (C ++)
3. CT 406 / IF 405	Software Lab IV(RDBMS)
4. CT 506 / CM506 / IF 506	Software Lab VII / Software Lab III / Software Lab VIII (Operating Systems)
5. CT 604 /IF 604	Software Lab IX (Web Technology)
6. IF 406	Software Lab V (Java)

The following Software may be downloaded free and used,

- | | |
|--------------------------------|----------|
| a. gcc compiler | Language |
| b. g++ | C++ |
| c. GNU/Linux | |
| d. MySQL, Postgress, PHP, Java | |

The students will get adequate familiarity with Microsoft's windows environment in the other subjects like,

1. CT 307 /CM 507/IF 307	Software Lab III / Software Lab IV / Software Lab III (VB)
2. CT 507 / IF 605	Software Lab VIII (VC++)
3. IF 507	Software Lab IX (Multi Media)

Hence the students will be in a position to handle both the environments smoothly.

It is requested that in tune with the Govt. IT policy, FOSS be promoted to the maximum extent for practical classes with in the framework of the curriculum and facilities available.