

ANNA UNIVERSITY :: CHENNAI 600 025

REVISED REGULATIONS 2001

MARK SYSTEM

Effective from the academic year 2002-2003 and applicable (i) to the students admitted to Anna University from July 2002 onwards and (ii) to the students admitted to other universities in July/Aug 2001 and transferred to Anna University as per Anna University Act (Amendment) 2001.

(Approved in the meeting of the Academic Council held on 11.04.2002 vide item No.48.2.1& subsequently amended in the Academic Council Meetings held on 16.11.2002(Item No.1.1.2) & 05.04.2003 (Item No. 1.1.2))

(The amendment to Regulations is applicable retrospectively from July 2002 except for the Clause 6)

DEGREE OF BACHELOR OF ENGINEERING / TECHNOLOGY
(EIGHT SEMESTERS)

The following Regulations will be **applicable to all technical institutions affiliated to Anna University**. If autonomous status is granted to any institution, the Regulations will then be separately prescribed to such an institution by the Syndicate of the University.

1. PRELIMINARY DEFINITIONS AND NOMENCLATURE

In these Regulations, unless the context otherwise requires:

- I) “**Programme**” means Degree Programme, that is B.E. / B.Tech. Degree Programme.
- II) “**Branch**” means specialization or discipline of B.E. / B.Tech. Degree Programme, like Civil Engineering, Textile Technology, etc.
- III) “**Course**” means a theory or practical subject that is normally studied in a semester, like Mathematics, Physics, Engineering Graphics, etc.
- IV) “**Head of the Institution**” means the Principal of a College / Institution who is responsible for all academic activities of that College / Institution and for implementation of relevant rules of this Regulations.
- V) “**University**” means ANNA UNIVERSITY.

2. ADMISSION

- 2.1 Candidates for admission to the first semester of the eight semester B.E. / B.Tech. Degree Programme shall be required to have passed the Higher Secondary Examination of (10 +2) Curriculum (Academic Stream) prescribed by the Government of Tamil Nadu with Mathematics, Physics and Chemistry as three of four subjects of the study prescribed under part-III or any other examinations of any University or authority accepted by the Syndicate of the University as equivalent thereto.

OR

the Diploma examination in Engineering / Technology of the State Board of Technical Education, Tamil Nadu or any other examination of any other authority accepted by the Syndicate of the university as equivalent thereto.

- 2.2 The practice of making the candidates who have passed the Higher Secondary Examination (Vocational groups in Engineering / Technology) of the Government of Tamil Nadu, to be eligible for admission to affiliated colleges, will continue.
- 2.3 The practice of making the candidates who have passed the Diploma in Engineering / Technology conducted by the State Board of Technical Education and Training, to be eligible for admission to affiliated colleges through lateral entry system to the third semester of the B.E. / B.Tech. Degree Programmes, will continue.
- 2.4. Notwithstanding the qualifying examination the candidate might have passed, the candidate shall also write an entrance examination designed to test the proficiency of the candidate in Mathematics, Physics and Chemistry on the standards prescribed for plus two academic stream of the Tamil Nadu Board of Higher Secondary Education.
- 2.5 The eligibility criteria such as marks, number of attempts and physical fitness shall be as prescribed by the Syndicate of the University from time to time.
- 2.6 The candidate shall not have completed 21 years of age as on first of July of the year of application. For candidates belonging to SC/ST, the age limit is relaxable by 3 years.

3. BRANCHES OF STUDY

A candidate may be offered one of the branches of study from those approved by the university for any institution. The lists of branches of study offered in various institutions (including Constituent Colleges) are given below.

B.E. Degree Programmes :

B.E. Aeronautical Engineering
B.E. Automobile Engineering

B.E. Civil Engineering
B.E. Computer Science and Engineering
B.E. Electrical and Electronics Engineering
B.E. Electronics and Communication Engineering
B.E. Electronics and Instrumentation Engineering
B.E. Geoinformatics
B.E. Industrial Engineering
B.E. Instrumentation and Control Engineering
B.E. Manufacturing Engineering
B.E. Marine Engineering
B.E. Mechanical Engineering
B.E. Mechatronics Engineering
B.E. Metallurgical Engineering
B.E. Mining Engineering
B.E. Media Science and Technology (formerly Printing Technology)
B.E. Production Engineering
B.E. Biomedical Engineering

B.Tech. Degree Programmes:

B.Tech. Ceramic Technology
B.Tech. Chemical Engineering
B.Tech. Biotechnology
B.Tech. Information Technology
B.Tech. Leather Technology
B.Tech. Polymer Technology

B.Tech. Rubber and Plastics Technology
B.Tech. Textile Technology (Textile Chemistry)
B.Tech. Textile Technology

4. STRUCTURE OF PROGRAMMES

- 4.1 Every Programme will have a curriculum with syllabi consisting theory and practicals such as :
- i) General core courses comprising mathematics, basic sciences, Engineering sciences, humanities and engineering arts.
 - ii) Core courses of Engineering / Technology.
 - iii) Elective courses for specialization in related fields.
 - iv) Workshop practice, computer practice, engineering graphics, laboratory work, industrial training, seminar presentation, project work, educational tours, camps etc.

- v) NCC/NSS/NSO/YRC[#] activities for character development
- 4.2 Each theory and laboratory course shall carry 100 marks. Project work shall carry 200 marks.
- 4.3 Each semester curriculum shall normally have a blend of lecture courses not exceeding 9 and practical courses not exceeding 4.
- 4.4 The medium of instruction, examinations and project report shall be in English, except for courses on language other than English.

5. DURATION OF THE PROGRAMME

A student is ordinarily expected to complete the B.E. / B.Tech. Programme in 8 semesters (four academic years) but in any case not more than 14 Semesters for HSC candidates and not more than 12 semesters for Lateral Entry Diploma Candidates. Each semester shall normally consist of 90 working days or 450 hours. The Head of the Institution shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus and that the teacher teaches the full content of the specified syllabus for the course being taught. End-Semester Examination will ordinarily follow immediately after the last working day of the semester.

6.* REQUIREMENTS FOR COMPLETION OF A SEMESTER

(* Amended vide item 1.5 of the resolution of Third meeting the Academic Council held on 06.12.2003)

- 6.1 A candidate who has fulfilled the following conditions shall be deemed to have satisfied the requirements for completion of a semester.
 - 6.1.1 He/She secures not less than 75% of overall attendance in that semester taking into account the total number of periods in all courses put together attended by the candidate as against the total number of periods in all courses offered during that semester.

However, a candidate who could secure attendance between 65% and 74% only in the current semester due to medical reasons (hospitalization / accident / specific illness) or due to participation in College / University / State / National / International level Sports events with prior permission from the Principal shall be given exemption from the prescribed attendance requirement and he/she shall be permitted to appear for the current semester examinations.

6.1.2 Deleted

6.1.3 Deleted

Youth Red Cross

- 6.2 Candidates who do not complete the semester (as per clause 6.1), will not be permitted to write the end-semester examination and are not permitted to go to next semester. They are required to repeat the incomplete semester in the next academic year.

7. FACULTY ADVISER

To help the students in planning their courses of study and for general advise on the academic programme, the Head of the Department of the students will attach a certain number of students to a teacher of the Department who shall function as Faculty Adviser for those students throughout their period of study. Such Faculty Adviser shall advise the students and monitor the courses taken by the students, check the attendance and progress of the students attached to him/her and counsel them periodically. If necessary, the faculty adviser may also discuss with or inform the parents about the progress of the students.

8. CLASS COMMITTEE

- 8.1. A class committee consists of teachers of the concerned class, student representatives and a chairperson who is not teaching the class. It is like the 'Quality Circle' (more commonly used in industries) with the overall goal of improving the teaching-learning process. The functions of the class committee include

- Solving problems experienced by students in the class room and in the laboratories
- Clarifying the regulations of the degree programme and the details of rules therein
- Informing the student representatives the academic schedule including the dates of assessments and the syllabus coverage for each assessment
- Informing the student representatives the details of Regulations regarding weightage used for each assessment. In the case of practical courses (laboratory/drawing/ project work/ seminar etc.) the breakup of marks for each experiment/ exercise/ module of work, should be clearly discussed in the class committee meeting and informed to the students.
- Analyzing the performance of the students of the class after each test and finding the ways and means of solving problems, if any
- Identifying the weak students, if any, and requesting the teachers concerned to provide some additional help or guidance or coaching to such weak students.

- 8.2 The class committee for a class under a particular branch is normally constituted by the head of the department. However, if the students of different branches are mixed in each class of the first semester (generally common to all branches), the class committee is to be constituted by the Head of the Institution.
- 8.3 The class committee shall be constituted on the first working day of any semester or earlier.
- 8.4 At least 4 student representatives (usually 2 boys and 2 girls) shall be included in the class committee.
- 8.5 The chairperson of the class committee may invite the Faculty adviser(s) and the Head of the Department to the meeting of the class committee.
- 8.6 The Head of the Institution may participate in any class committee of the Institution.
- 8.7 The chairperson is required to prepare the minutes of every meeting, submit the same to the Head of the Institution within two days of the meeting and arrange to circulate among the concerned students and teachers. If there are some points in the minutes requiring action by the management, the same shall be brought to the notice of the management by the Head of the Institution.
- 8.8 The first meeting of the class committee shall be held within one week from the date of commencement of the semester, in order to inform the students about the nature and weightage of assessments within the framework of the Regulations. Two or three subsequent meetings may be held at suitable intervals. During these meetings the student members representing the entire class, shall meaningfully interact and express the opinions and suggestions of the class students to improve the effectiveness of the teaching-learning process.

9. COURSE COMMITTEE FOR COMMON COURSES

Each common theory course offered to more than one discipline or group, shall have a “Course Committee” comprising all the teachers teaching the common course with one of them nominated as Course Coordinator. The nomination of the course Coordinator shall be made by the Head of the Department / Head of the Institution depending upon whether all the teachers teaching the common course belong to a single department or to several departments. The ‘Course committee’ shall meet as often as possible and ensure uniform evaluation of the tests and arrive at a common scheme of evaluation for the tests. Where it is feasible, the course committee may also prepare a common question paper for the test(s).

10. PROCEDURES FOR AWARDING MARKS FOR INTERNAL ASSESSMENT

(Amended vide item 1.5 of the resolution of Fourth meeting the Academic Council held on 31.05.2004 and this Amended clause is applicable from June 2004 – December 2004 session of the academic 2004 - 2005)

10.1 For all theory and practical courses the continuous assessment shall be for a maximum of 20 marks (consisting of 15 marks for Tests / experiments and 5 marks for attendance) and for project work the continuous assessment shall be for a maximum of 40 marks (consisting of 35 marks for Project assessment and 5 marks for attendance). The above continuous assessment shall be awarded as per the procedure given below:

10.2 Tests / experiment / Project assessment

The 15 marks for theory and practical courses (35 marks for Project work) shall be awarded as given below

(i) Theory courses:

Three tests each carrying 100 marks shall be conducted during the semester by the concerned Department / College. The total marks obtained in all tests put together out of 300, shall be proportionately reduced for 15 marks and rounded to nearest integer (This also implies equal weightage to all the three tests).

(ii) Practical Courses:

Every practical exercise / experiment shall be evaluated based on conduct of exercise / experiment and records maintained. There shall be at least one mid-semester test. The criteria for arriving at the internal assessment marks (15 marks) shall be decided based on the recommendation of the class committee and shall be announced at the beginning of every semester by the Principal.

(iii) Project Work:

The Principal shall constitute a review committee for each branch of study. There shall be three assessments (each 100 Marks) during the semester by the review committee. The student shall make presentation on the progress made by him / her before the committee. The total marks obtained in the three assessments shall be reduced for 35 marks and rounded to the nearest integer. (This also implies equal weightage to all the three assessments).

10.2 Attendance

The remaining 5 marks for attendance shall be awarded as given below:

Theory and Practical courses and Project Work

- 76% to 80% of attendance - 1 mark
- 81% to 85% of attendance - 2 marks
- 86% to 90% of attendance - 3 marks
- 91% to 95% of attendance - 4 marks
- 96% to 100% of attendance - 5 marks

- 10.3** Every teacher is required to maintain an 'ATTENDANCE AND ASSESSMENT RECORD' which consists of attendance marked in each lecture or practical or project work class, the test marks and the record of class work (topic covered), separately for each course. This should be submitted to the Head of the department periodically (at least three times in a semester) for checking the syllabus coverage and the records of test marks and attendance. The Head of the department will put his signature and date after due verification. At the end of the semester, the record should be verified by the Principal who will keep this document in safe custody (for five years). The University or any inspection team appointed by the University may inspect the records of attendance and assessment of both current and previous semesters.

11. EXAMINATIONS

The examinations shall ordinarily be conducted between October and December during the odd semesters and between March and May in the even semesters. For the practical examinations, both internal and external examiners shall be appointed by the University. The maximum marks for each theory and practical course (excluding the Project work and Viva Voce Examination in the Eighth Semester) shall be 100 comprising of 20 marks for internal assessment and 80 marks for the examinations conducted by the University. For the project work and viva-voce examination the maximum marks shall be 200 comprising of 40 marks for internal assessment and 160 for the University examination.

12. REQUIREMENTS FOR APPEARING FOR SEMESTER EXAMINATION

- i. A candidate shall normally be permitted to appear for the semester examination of the current semester if he/she has satisfied the semester completion requirements (Subject to Clause 6.1) and has registered for examination in all courses of that semester.

ii) Deleted*

(* Amended vide item 1.9 of the resolution of Fourth meeting the Academic Council held on 31.05.2004)

13. PASSING REQUIREMENTS

- 13.1* A candidate who secures not less than 50% of total marks prescribed for the courses with a minimum of 45% of the marks prescribed for the end-semester

University Examination in both theory and practical courses (including Project work), shall be declared to have passed in the Examination.

(* Amended vide item 1.4 of the resolution of Third meeting the Academic Council held on 06.12.2003)

13.2 If a candidate fails to secure a pass in a particular course, it is mandatory that he/she shall register and reappear for the examination in that course during the next semester when examination is conducted in that course; he/she should continue to register and reappear for the examination till he / she secures a pass. However, the internal assessment marks obtained by the candidate in the first attempt shall be retained and considered valid for all subsequent attempts.

13.3** If a student indulges in malpractice in any of the University / internal examinations, he / she shall be liable for punitive action as prescribed by the University from time to time

(** Vide item 5.1.9 of the Minutes of Fifth meeting the Academic Council held on 11.12.2004)

14. ISSUE OF MARK SHEETS

Individual mark sheet for each semester will be issued, containing the following information through the Head of the Institution concerned, after the publication of the results.

1. The college in which the candidate studied.
2. The marks obtained in each subject in internal assessment and University Examination.
3. Whether the candidate has passed or failed in the courses concerned.

15. ELIGIBILITY FOR THE AWARD OF DEGREE.

A student shall be declared to be eligible for the award of the B.E. / B.Tech. Degree provided the student has

- i. Successfully completed the course requirements and has passed all the prescribed examinations in all the 8 semesters (6 semester for lateral entry) within a maximum period of 7 years (6 years for lateral entry) reckoned from the commencement of the first semester to which the candidate was admitted.
- ii. Completed the NCC / NSS / NSO/YRC requirements
- iii. No disciplinary action pending against the student

The award of Degree must have been approved by the Syndicate of the University.

16. CLASSIFICATION OF THE DEGREE AWARDED

16.1* A candidate who qualifies for the award of the Degree (vide clause 15) having passed the examination in all the courses of all the eight semesters (six semesters for lateral entry) in his/her first appearance within eight consecutive semesters (six for lateral entry) and securing an aggregate of not less than 75% of total marks (internal assessment plus semester exam marks) in all the courses in the ***final six semesters*** shall be declared to have passed the examination in First Class with Distinction. For this purpose the withdrawal from examination (vide clause 17) will not be construed as an appearance. Further, the authorized break of study (vide clause 18 (iii)) will not be counted for the purpose of classification.

(* Amended vide item 1.5 of the resolution of Third meeting the Academic Council held on 06.12.2003)

16.2 A candidate who qualifies for the award of the Degree (vide clause 15) having passed the examination in all the subjects in the final six semesters (all the six semesters for lateral entry) within a maximum period of eight consecutive semesters reckoned from the commencement of study in the third semester (from first semester for lateral entry) securing an aggregate of not less than 60% of total marks (Internal assessment plus semester exam marks) shall be declared to have passed the examination in First Class. For this purpose the authorized break of study (vide clause 18(iii)) will not be counted for the purpose of classification.

16.3 All other candidates (not covered in clauses 16.1 and 16.2) who qualify for the award of the degree (vide Clause 15) shall be declared to have passed the examination in Second Class.

16.4 A candidate who is absent in semester examination in a course / project work after having registered for the same shall be considered to have appeared in that examination for the purpose of classification.

16.5 A candidate can apply for revaluation of his/her semester examination answer paper in a theory course, within 2 weeks from the declaration of results, on payment of a prescribed fee through proper application to the Controller of Examinations through the Head of Departments / Head of the Institution concerned. The Controller of Examination will arrange for the revaluation and the results will be intimated to the candidate concerned through the Head of the Institution. Revaluation is not permitted for practical courses and for project work.

17. PROVISION FOR WITHDRAWAL FROM EXAMINATION:

i) A candidate may, for valid reasons, be granted permission to withdraw from appearing for the examination in any course or courses of only one semester examination during the entire duration of the degree programme. Also only one application for withdrawal is permitted for that semester examination in which withdrawal is sought.

- ii) Withdrawal application shall be valid only if the candidate is otherwise eligible to write the examination and if it is made ten days prior to the commencement of the examination in that course or courses and also recommended by the Head of the Department and the Head of the Institution.
- iii) Withdrawal shall not be construed as an appearance for the eligibility of a candidate for First Class with Distinction.

18. TEMPORARY BREAK OF STUDY FROM A PROGRAMME

- i) A candidate is not normally permitted to temporarily break the study. However if a candidate intends to temporarily discontinue the programme in the middle for valid reasons (such as accident or hospitalization due to prolonged ill health) and to rejoin the programme in a later semester he/she shall apply to the Head of the Institution in advance, in any case, not later than the last date for registering for the semester examinations of the semester in question, through the Head of the Department and Head of the Institution stating the reasons therefor.
- ii) The candidate permitted to rejoin the programme after the break shall be governed by the rules and regulations in force at the time of rejoining.
- iii) The duration specified for passing all the courses for the purpose of classification vide Clause 16.1 and 16.2 shall be increased by the period of such break of study permitted.
- iv) The total period for completion of the programme reckoned from, the commencement of the first semester to which the candidate was admitted shall not exceed the maximum period specified in clause 5 irrespective of the period of break of study in order that he/she may be eligible for the award of the degree (vide clause 15).
- v) If any student is detained for want of requisite attendance, progress and good conduct, the period spent in that semester shall not be considered as permitted 'Break of Study' and Clause 18(iii) is not applicable for this case.

19. INDUSTRIAL VISIT

Every student is required to undergo one Industrial visit for every theory course offered, starting from the third semester of the Programme. Every teacher shall take the students at least for one industrial visit in a semester.

20. PERSONALITY AND CHARACTER DEVELOPMENT

All students shall enroll, on admission, in any one of the personality and character development programmes (the NCC / NSS / NSO/YRC) and undergo training for about 80 hours and attend a camp of about ten days. The training shall include classes on hygiene and health awareness and also training in first-aid.

National Cadet Corps (NCC) will have about 20 parades.

National Service Scheme (NSS) will have social service activities in and around the College / Institution.

National Sports Organization (NSO) will have sports, Games, Drills and Physical exercises.

Youth Red Cross (YRC) will have activities related to social services in and around college/institutions. However YRC will not have special camps of 10 days.

While the training activities will normally be during week ends, the camp will normally be during vacation period.

Every student shall put in a minimum of 75% attendance in the training and attend the camp (except YRC) compulsorily. The training and camp (except YRC) shall be completed during the first year of the programme. However, for valid reasons, the Head of the Institution may permit a student to complete this requirement in the second year.

21.* DISCIPLINE

Every student is required to observe disciplined and decorous behaviour both inside and outside the college and not to indulge in any activity which will tend to bring down the prestige of the University / College. The Principal shall constitute a disciplinary committee consisting of Principal, Two Heads of Department of which one should be from the faculty of the student, to enquire into acts of indiscipline and notify the University about the disciplinary action recommended for approval.

(* Amended vide item 1.5 of the resolution of Third meeting the Academic Council held on 06.12.2003)

22. REVISION OF REGULATION AND CURRICULUM

The University may from time to time revise, amend or change the Regulations, scheme of examinations and syllabi if found necessary.

23. SPECIAL CLAUSE APPLICABLE TO THE STUDENTS ADMITTED IN JULY/ AUGUST 2001 TO OTHER UNIVERSITIES AND TRANSFERRED TO ANNA UNIVERSITY AS PER ANNA UNIVERSITY (AMENDMENT) ACT 2001.

The Students admitted in July/August 2001 in other Universities and subsequently transferred to Anna University will be issued individual mark sheet. The actual marks obtained by them in the subjects as per the passing requirements of the

Universities through which they passed the subjects will be taken for classification for the award of the degree.

24. PROVISION FOR CANDIDATES FROM NON-IT BRANCHES OF B.E./B.TECH. TO UNDERGO DUAL DEGREE PROGRAMME LEADING TO B.TECH. INFORMATION TECHNOLOGY.

24.1. Conditions for Admission

A candidate seeking admission to Dual degree programme is required to have passed all the courses of first and second semesters of B.E. / B.Tech. in any branch other than Information Technology, in the first attempt. Selection of candidates shall be made purely on merit basis from the overall rank list of applicants belonging to the concerned institution, duly approved by the University.

24.2 Duration and Curriculum

Candidates selected for the Dual Degree Programme shall undergo additional courses pertaining to Information Technology as given in [Table 1](#). These courses constitute the additional Curriculum and consist of both core and electives courses. The additional courses are to be undergone concurrently from the 3rd semester of the B.E. / B.Tech. (Non-IT) degree programme and extend for one more year beyond the fourth year of the regular B.E. / B.Tech. (Non-IT) degree programme to which the candidate was first admitted. The additional courses are to be offered from 3rd to 8th semester after normal working hours so that the regular B.E. / B.Tech. (Non-IT) lecture schedule remains unaffected.

- 24.3 If a candidate in his/her regular branch (Non-IT) has already passed any of the core courses (other than project work) of the additional Curriculum, he/she may be exempted by the University from such course(s). However, the candidate has to undergo elective courses from among the electives listed in [Table 2](#), as replacement for the exempted course(s). The total number of courses in the additional curriculum to be undergone by every candidate, thus, shall be the same.
- 24.4 A candidate undergoing dual degree programme should satisfy minimum attendance requirements for the courses of additional Curriculum for each semester, as stipulated for the regular B.E. / B.Tech. degree programme.
- 24.5 For the courses of additional Curriculum, a candidate has to write the same examination that is held for the regular B.Tech. Information Technology.
- 24.6 The passing rules for the dual degree programme shall be same as that of regular B.E. / B.Tech. degree programme.
- 24.7 A candidate shall be declared to be eligible for the additional degree of B.Tech. Information Technology provided that

- i) the candidate has qualified for the regular B.E. or B.Tech. degree in the non-IT branch in which he/she was originally admitted.
- ii) the candidate has successfully completed all the courses prescribed in the additional Curriculum within a maximum period of 14 semesters from the date of first admission.
- iii) there is no disciplinary action pending against the student.

25. ELIGIBILITY REQUIREMENTS OF AN AFFILIATED COLLEGE TO OFFER DUAL DEGREE PROGRAMME.

- 25.1 The dual degree programme in Information Technology can be offered only in a college which is already offering B.Tech. Information Technology.
- 25.2 The college should have separate networked computing facilities in the Department of Information Technology at the rate of one node for every two students.
- 25.3 The college must subscribe to 2 Mbps Internet connectivity.
- 25.4 There should be at least one teacher with doctorate degree in CSE/ IT/ ECE working in the department of Information Technology on permanent basis.
- 25.5 The Principal of the college must also be Ph.D degree holder in Engineering / Technology.
- 25.6 All the text / reference books of Dual Degree courses should be additionally available in the library over and above those available for regular degree programmes.

TABLE - 1**ADDITIONAL CURRICULUM FOR NON-IT BRANCHES OF B.E. / B.TECH. LEADING TO B.TECH. (INFORMATION TECHNOLOGY) UNDER DUAL DEGREE PROGRAMMES (REGULATIONS 2001).**

Semester No.	Course Code	Course Title	L	T	P	M
III	IF144	Object Oriented Programming	3	0	0	100
	IF145	C++ and Java Lab	0	0	3	100
IV	IF242	Digital System Design	3	1	0	100
	IF244	Principles of Communications	3	1	0	100
V	IF245	Computer Architecture	3	0	0	100
	IF246	Data Structure and Algorithms	3	0	2	100
VI	IF251	Telecommunication Switching Techniques	3	0	0	100
	IF253	Operating Systems	3	0	0	100
VII	IF254	Data Base Management Systems	3	0	2	100
	IF255	Software Engineering	3	1	0	100
	IF256	UNIX and RDBMS Lab	0	0	3	100
VIII	IF351	Digital Signal Processing	3	1	0	100
	IF352	Computer Networks	3	0	0	100
IX	IF353	Visual Programming	3	0	0	100
	IF354	Object Oriented Analysis and Design	3	0	0	100
	IF357	Case Tools Lab	0	0	3	100
	IF358	Visual Programming Lab	0	0	3	100
	IF361	TCP/IP and Socket Programming	3	0	0	100
	IF362	Component Based Technology	3	0	0	100
	IF366	Web Technology	3	0	2	100
	IF368	Software Component Lab	0	0	3	100
X	IF452	Network Design Security and Management	3	1	0	100
	IF453	Networking Lab	0	0	3	100
		Elective I	3	0	0	100
		Elective II	3	0	0	100
		Elective III	3	0	0	100
	IF444	Project Work	0	0	10	200

TABLE - 2
ELECTIVES

Course Code	<u>Course Title</u>	L	T	P	M
IF021	Resource Management Techniques	3	0	0	100
IF022	Multimedia Compression Techniques	3	0	0	100
IF023	Embedded Architecture	3	0	0	100
IF024	Adhoc Networks	3	0	0	100
IF025	Wireless Application Protocol	3	0	0	100
IF026	Blue Tooth Technology	3	0	0	100
IF027	Optical Computing	3	0	0	100
IF028	Medical Informatics	3	0	0	100
IF029	Web-based Enterprise Application Development	3	0	0	100
IF030	Mobile Communication	3	0	0	100
IF031	Software Agents	3	0	0	100
IF032	Bioinformatics	3	0	0	100
IF035	Distributed Computing	3	0	0	100
IF036	Fault Tolerant Systems	3	0	0	100
IF037	Real Time Systems	3	0	0	100
IF042	Image Processing	3	0	0	100
IF043	Artificial Intelligence	3	0	0	100
IF044	Enterprise Resource Planning	3	0	0	100
IF045	Data Mining and Ware Housing	3	0	0	100
IF046	Parallel Processing	3	0	0	100
IF048	Soft Computing	3	0	0	100
IF049	Electronic Commerce	3	0	0	100
IF051	Satellite Communication	3	0	0	100
IF243	Display Systems Engineering	3	0	0	100
IF250	Microprocessor and Microcontroller Applications	3	0	2	100
IF364	Multimedia Systems	3	0	0	100
IF355	Software Quality Management	3	0	0	100
IF451	High Speed Networks	3	0	0	100