SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR

An Autonomous College of Rashtrasant Tukadojo
Maharaj Nagpur University, Nagpur, Maharashtra (INDIA)

**UNDER GRADUATE
ORDINANCES / REGULATIONS**

2016 - 2017

1. INTRODUCTION

1.1 PREAMBLE

Shri Ramdeobaba College of Engineering and Management (RCOEM), situated in the heart of Nagpur city, was established in 1984 by Shri Ramdeobaba Sarvajanik Samiti, a trust which has been involved in community service for over four decades. RCOEM has established a strong foundation in technical education in Central India. Journey of a student in this institute has always involved comprehensive knowledge building through practical skills, technical knowledge and personality development, which gives them a head start in their career. The institute on an average annually admits around 810 candidates for UG programmes, around 381 candidates for PG programmes and 60 candidates for Dual Degree Course in Management.

The curriculum provides broad knowledge, builds a thorough professional life long process of learning and exploring. At undergraduate level, a student needs to do compulsory foundation courses in the areas of basic sciences, humanities, social sciences and engineering apart from departmental requirements. Departmental courses (core and electives) constitute minimum 50% of the total curriculum. Further, students have to undertake electives including interdisciplinary ones to develop broad specialized and inter-disciplinary knowledge. At the PG level students are encouraged to look beyond their area of specialization to broaden their horizons through a wide variety of courses and electives.

The Institute follows a credit based semester system for its academic programmes with English as the medium of instruction. An academic year runs from July through June next year and is comprised of two semesters. Typically, the 1st semester (Odd Semester) starts in the July and ends in December; the 2nd Semester (Even Semester) starts in January and ends in June.

1.2 Departments

The various Departments and their two-letter codes are given below;

S.No.	Name of Department	Department Code
1	Civil Engineering	CE
2	Computer Science and Engineering	CS
3	Electrical Engineering	EE
4	Electronics and Communication Engineering	EC
5	Electronics Design Technology	ED
6	Electronics Engineering	EN
7	Industrial Engineering	IN
8	Information Technology	IT
9	Mechanical Engineering	ME
10	Management Technology	MB
11	Computer Applications	MC
12	Mathematics	MA
13	Physics	PH
14	Chemistry	CH
15	Humanities	HU
16	Physical Education	PE

1.3 Programmes Offered

RCOEM Nagpur offers academic programmes namely Engineering and Technology at UG and PG levels, MBA, MCA, Integrated Course in Engineering & Management and Dual Degree Course in Management. In undergraduate programmes and in Dual Degree Course in Management, students are admitted after 10+2 schooling while for all postgraduate programmes, students are admitted after they have obtained at least a college level Bachelor's degree. For Master of Technology Management, candidates are selected from total sanctioned UG engineering intake (all UG engineering programmes in first shift). For Academic year 2015-16, the selection of candidates for MTM programme shall be done at the start of semester III, UG engineering programme on programme wise merit of first year (Semester I & II) results. Admission to all these programmes are based as per the eligibility criteria laid down by the competent authority.

1.3.1 Under Graduate Programmes:
A. Bachelor of Engineering : (B.E.)

Sr. No.	Department	Programme Title	Programme Code	Eligibility for admission
1	Civil Engineering	B.E. (Civil Engineering)	CEU	Eligibility Criteria as laid down by the competent authority from time to time
2	Computer Science and Engineering	B.E. (Computer Science and Engineering)	CSU	
3	Electrical Engineering	B.E. (Electrical Engineering)	EEU	
4	Electronics and Communication Engineering	B.E. (Electronics and Communication Engineering)	ECU	
5	Electronics Design Technology	B.E. (Electronics Design Technology)	EDU	
6	Electronics Engineering	B.E. (Electronics Engineering)	ENU	
7	Industrial Engineering	B.E. (Industrial Engineering)	INU	
8	Information Technology	B.E. (Information Technology)	ITU	
9	Mechanical Engineering	B.E. (Mechanical Engineering)	MEU	

1.3.2 Post Graduate Programmes
A. Masters:

Sr. No.	Department	Programme Title	Programme Code	Eligibility for admission
1	Civil Engineering	M. Tech. (Geotechnical Engineering) (Part time)	CEG	Eligibility Criteria as laid down by the competent authority from time to time
2	Civil Engineering	M. Tech. (Structural Engineering)	CES	
3	Electonics Engineering	M. Tech. (Very Large Scale Integration Design)	ENV	
4	Industrial Engineering	M. Tech. (Industrial Engineering)	IND	
5	Electrical Engineering	M. Tech. (Power Electronics & Power System)	EEP	
6	Computer Science and Engineering	M. Tech. (Computer Science & Engineering)	CSE	
7	Mechanical Engineering	M. Tech. (Heat Power Engineering)	HPE	
8	Computer Applications	MCA	MCA	
9	Management Technology	MBA	MBA	

1.3.3 Integrated Course in Engineering & Management

Sr. No.	Department	Programme Title	Programme Code	Eligibility for admission
1	Management Technology	Masters of Technology Management	MTM	Eligibility Criteria as laid down by the competent authority from time to time

1.3.4 Dual Degree Course in Management

Sr. No.	Department	Programme Title	Programme Code	Eligibility for admission
1	Management Technology	Bachelor's Degree in Management	BM	Eligibility Criteria as laid down by the competent authority from time to time
2		Bachelor's Degree in Applied Management	BAM	
3		Master's Degree in Applied Management	MAM	

2. ORDINANCES FOR THE U.G. PROGRAMMES 2016

The Board of Management of the Institute prescribes the following ordinances in respect of the different academic undergraduate programmes at Shri Ramdeobaba College of Engineering and Management, Ramdeo Tekdi, Gittikhadan, Katol Road, Nagpur- 440013 on the recommendation of the Academic Council. The details in respect of the ordinances issued for UG Programmes are as follows.

Short Title and Commencement	(i)	These ordinances shall be hereafter called as the Ordinances for the Undergraduate (UG) Programmes of RCOEM.
	(ii)	These ordinances shall come into force with effect from the date of its approval by the Board of Management.
Definitions		Unless the context requires otherwise;
	(i)	**"Government"** shall mean the Government of Maharashtra/ Government of India as may be applicable.
	(ii)	**"DTE"** shall mean Director of Technical Education, Government of Maharashtra.
	(iii)	**"University"** shall mean Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
	(iv)	**"Regulating Authority"** shall mean any regulatory or controlling body for the Technical Education in India.
	(v)	**"UGC"** shall mean University Grants Commission, Government of India, New Delhi.
	(vi)	**"AICTE"** shall mean the All India Council for Technical Education, New Delhi.
	(vii)	**"Institute"** shall mean Shri Ramdeobaba College of Engineering and Management, Ramdeo Tekdi, Gittikhadan, Katol Road, Nagpur 440013.
	(viii)	**"Board"** shall mean the Board of Management of the Institute constituted as per the XI plan guidelines of UGC for autonomous colleges read with Direction no. 4/1999 of the University.
	(ix)	**"Principal"** shall mean the Principal of the Institute.
	(x)	**"Vice-Chancellor"** shall mean the Vice-Chancellor of the University.
	(xi)	**"APEC"** shall mean the Institute level Academic Programme Evaluation Committee formed by the Principal as and when required. If any academic program is to be evaluated based on factors like importance, academic content, industrial significance, financial viability, sustainability etc., the decision of this body must be taken into consideration.
	(xii)	**"Finance Committee"** shall mean the Finance committee of the Institute constituted as per the guidelines of UGC for autonomous colleges.
	(xiii)	**"BOS"** shall mean the Board of Studies of the department, constituted as per the Guidelines of UGC for autonomous colleges.

	(xiv)	**"Degree"** shall mean the Bachelor of Engineering (B. E.) or Master of Technology (M. Tech.) Master of Business Administration (MBA), Master of Computer Applications (MCA) and other degrees of the Institute as may be approved by the Board/University/UGC/Government.
	(xv)	**"Applicant"** shall mean an individual who applies for admission to any UG programme of the Institute.
	(xvi)	**"Student"** shall mean a student registered for UG programme for studies leading to any degree course offered by the Institute and sought final admission to the degree programme.
	(xvii)	**"Direct Admission Student"** shall mean a student who is admitted directly to second year of the B.E. degree program after completion of the appropriate Diploma Course and registered for undergraduate program for full time study leading to the respective B.E. degree.
	(xviii)	**"Course"** shall mean a curricular component identified by a designated number and title.
	(xix)	**"Programme"** Programme shall mean the stream in which the degree is awarded.
	(xx)	**"Scheme of Teaching and Examination"** shall mean the scheme of teaching and examination for a programme of study as approved by the Academic Council.
	(xxi)	**"Course Coordinator"** shall mean a faculty member who shall have full responsibility for the course, coordinating the work of other faculty member(s) involved in that course, including examinations and the award of grades.
	(xxii)	**"Departmental Faculty Board (DFB)"** shall mean the committee of the faculty members involved in teaching a course or a group of courses of technically relevant subjects.
	(xxiii)	**"Grade Moderation Committee"** shall mean the committee appointed by the Academic Council to moderate grades awarded by the examiner, if required.
	(xxiv)	**"SGPA"** shall mean the Semester Grade Point Average.
	(xxv)	**"CGPA"** shall mean the Cumulative Grade Point Average.
	(xxvi)	**"Academic Council"** shall mean the Academic Council constituted as per the XI plan guidelines of UGC for autonomous colleges read with Direction no. 4/1999 of the University.
	(xxvii)	**"EXC"** shall mean Examination committee constituted as per the Direction No. 4/1999 of the University for autonomous colleges.
	(xxviii)	**"COE"** shall mean the Controller of Examinations appointed as per the Guidelines of UGC for autonomous colleges.

	(xxix)	**"ISV"** shall mean In-charge of Spot Valuation, appointed by the Principal.
	(xxx)	**"OIC"** shall mean Officer In-charge of the End Semester Examination.
	(xxxi)	**"DEC"** shall mean the Departmental Examination Committee.
	(xxxii)	**"Guide"** shall mean a person who is qualified to supervise a project/dissertation work of students and is approved by the Academic Council.
	(xxxiii)	**"RCC"** shall mean Departmental Research Coordination Committee.
	(xxxiv)	**"GRC"** shall mean Grievance Redressal Committee formed by the Academic Council.
	(xxxv)	**"Competent Authority"** shall mean the Board of Management/Academic Council of the Institute/ University/Government/UGC/Regulating Authority as the case may be.
	(xxxvi)	**"Equivalence Committee"** shall mean the Equivalence Committee appointed by the Academic Council.
	(xxxvii)	**"APAC"** shall mean Academic Performance Advisory Committee.
	(xxxviii)	**"DAPAC"** shall mean Departmental Academic Performance Advisory Committee'.
Ordinances	(1)	The Institute shall offer UG programmes as the Board/ University/ Government may approve on the recommendation of the Academic Council either on its own or on the initiative of a Department and / or on the direction of the Board / Government. *Provided* that an interdisciplinary programme may be proposed by a Department or by a committee appointed by the Principal for the consideration of the Academic Council and the Board/Government.
	(2)	The procedure for starting a new programme/temporarily suspending a programme/phasing out a programme shall be as per the guidelines laid down by the competent authority.
	(3)	The minimum qualifications and procedure for admission to the first year UG programmes as well as direct second year admission to UG programme shall be as per the norms prescribed.
	(4)	A student shall be required to earn minimum credits through various academic courses of a curriculum as provided in the regulations and scheme given in Annexure-I
	(5)	The award of the UG degree to an eligible candidate shall be made in accordance with the procedure laid down in the regulations. A student shall have to complete all the requirements for the award of the degree within such period as may be specified in the regulations, including those credits earned at such other institutions as have been recognized by the Institute for this purpose.

(6)	The date of initial registration for the programme shall normally be the date, on which the student formally registers i.e. takes final admission for the first time. This date shall be considered as the date of joining the programme for all intents and purposes.
(7)	A student shall be required to attend every lecture, tutorial and practical class. However, for late registration, sickness or other such exigencies, absence may be allowed as provided in the regulations.
(8)	A student may be granted such scholarship / assistantship / stipend, etc. and awarded medals as may be specified in the regulations or in accordance with the directions of the Government and / or the decision of the Board from time to time. The overall topper(s) amongst all branches shall not be declared however on the basis of CGPA branch toppers may be declared as per norms.
(9)	The procedure for the withdrawal from an UG programme, rejoining the programme, award of grades and SGPA / CGPA, the examination and all such matters as may be connected with the running of UG programmes shall be as specified in the regulations.
(10)	A student admitted to the UG programme shall abide by the code of conduct for students issued by the Institute from time to time. This code of conduct shall deal with the discipline of the students in the hostels, departments, the Institute premises and outside. It may also deal with such other matters as are considered necessary for the general conduct of the students, co-curricular and extra-curricular activities. It shall be approved by the Academic Council on the recommendations of the Dean Students Affairs.
(11)	The minimum duration of UG programmes shall be of four years (Organized in 8 semesters of six months each including vacation period).
(12)	The tuition fees structure will be governed by the rules and regulations as prescribed by the competent authority.
(13)	The fees other than the tuition fees will be governed by the rules and regulations framed and recommended by the Finance Committee and duly approved by the Board.
(14)	Notwithstanding anything contained in the above Ordinances, no regulations shall be made in contradiction of the decision of the Board and /or the direction of the Government, in regard to the duration of the UG programme, the amount and number of scholarship/assistantships and the number of free ships and the procedure thereof.

ANNEXURE - I

Teaching Scheme for First Year (Semester I and II) Bachelor of Engineering

GROUP 1: SEMESTER I / GROUP 2: SEMESTER II

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	MAT101/ MAT102	Engineering Mathematics-I/II	4	1	0	9	40	60	100	3 Hrs.
2	PHT101	Engineering Physics	4	1	0	9	40	60	100	3 Hrs.
3	PHP101	Engineering Physics lab	0	0	3	3	25	25	50	-
4	EET101	Electrical Engineering	3	1	0	7	40	60	100	3 Hrs.
5	EEP101	Electrical Engineering lab	0	0	2	2	25	25	50	-
6	CST101	Computer Programming	2	0	0	4	40	60	100	3 Hrs.
7	CSP101	Computer Programming lab	0	0	2	2	25	25	50	-
8	HUT101	Communication Skills	2	0	0	4	40	60	100	3 Hrs.
9	HUP101	Communication Skills lab	0	0	2	2	25	25	50	-
10	PEP101	Sports/Yoga	0	0	2	0	-	-	-	-
		TOTAL	15	3	11	42	300	400	700	

Teaching Scheme for First Year (Semester I and II) Bachelor of Engineering

GROUP 1 : SEMESTER II / GROUP 2 : SEMESTER I

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	MAT102/ MAT101	Engineering Mathematics-II/I	4	1	0	9	40	60	100	3 Hrs.
2	CHT101	Engineering Chemistry	4	1	0	9	40	60	100	3 Hrs.
3	CHP101	Engineering Chemistry lab	0	0	3	3	25	25	50	-
4	CET101	Engineering Mechanics	3	1	0	7	40	60	100	3 Hrs.
5	CEP101	Engineering Mechanics lab	0	0	2	2	25	25	50	-
6	MET101	Engineering Drawing	3	0	0	6	40	60	100	4 Hrs.
7	MEP101	Engineering Drawing lab	0	0	3	3	25	25	50	-
8	HUT102	Social Skills	2	0	0	4	40	60	100	3 Hrs.
9	INP102	Workshop	0	0	2	2	25	25	50	-
		TOTAL	16	3	10	45	300	400		

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
III Semester, B.E. (Civil Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	MAT201	Engineering Mathematics -III	3	1	0	7	40	60	100	3 Hrs.
2	CET201	Strength of Materials	3	1	0	7	40	60	100	3 Hrs.
3	CEP201	Strength of Materials	0	0	2	2	25	25	50	-
4	CET202	Fluid Mechanics-I	3	1	0	7	40	60	100	3 Hrs.
5	CEP202	Fluid Mechanics-I	0	0	2	2	25	25	50	-
6	CET203	Geotechnical Engineering-I	3	1	0	7	40	60	100	3 Hrs.
7	CEP203	Geotechnical Engineering-I	0	0	2	2	25	25	50	-
8	CET204	Engineering Geology	3	1	0	7	40	60	100	3 Hrs.
9	CEP204	Engineering Geology	0	0	2	2	25	25	50	-
10	CHT201	Environmental Studies-I	2	0	0	0	-	-	-	-
		Total	17	5	8	43				

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
IV Semester, B.E. (Civil Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	CET205	Structural Analysis-I	3	1	0	7	40	60	100	3 Hrs.
2	CEP205	Structural Analysis-I	0	0	2	2	25	25	50	-
3	CET206	Building Construction and Materials	3	1	0	7	40	60	100	3 Hrs.
4	CET207	Environmental Engineering-I	3	1	0	7	40	60	100	3 Hrs.
5	CEP207	Environmental Engineering-I	0	0	2	2	25	25	50	-
6	CET208	Concrete Technology	3	1	0	7	40	60	100	3 Hrs.
7	CEP208	Concrete Technology	0	0	2	2	25	25	50	-
8	CET209	Surveying-I	3	1	0	7	40	60	100	3 Hrs.
9	CEP209	Surveying-I	0	0	3	3	25	25	50	-
10	CHT202	Environmental Studies-II	2	0	0	0	-	-	-	-
		Total	17	5	9	44				

·Optional two weeks field training after examination to sites such as flat schemes, bridges, roads, surveying, software etc.

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
V Semester, B.E. (Civil Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	CET301	Steel Structures	3	1	0	7	40	60	100	4 Hrs.
2	CEP301	Steel Structures	0	0	2	2	25	25	50	-
3	CET302	Environmental Engineering-II	3	1	0	7	40	60	100	3 Hrs.
4	CET303	Surveying- II	3	1	0	7	40	60	100	3 Hrs.
5	CEP303	Surveying- II	0	0	2	2	25	25	50	-
6	CET304	Transportation Engineering-I	3	1	0	7	40	60	100	3 Hrs.
7	CEP304	Transportation Engineering-I	0	0	2	2	25	25	50	-
8	CET305	Building Design and Drawing	1	1	0	3	25	25	50	3 Hrs.
9	CEP305	Building Design and Drawing	0	0	2	2	25	25	50	-
10	CET306	Hydrology and Water Resources	4	1	0	9	40	60	100	3 Hrs.
11	CEP307	Technical Writing	0	0	2	0	-	-	-	-
		Total	17	6	10	48				

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
VI Semester, B.E. (Civil Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	CET308	Estimating and Costing	3	1	0	7	40	60	100	4 Hrs.
2	CEP308	Estimating and Costing	0	0	2	2	25	25	50	-
3	CET309	RCC Structures	3	1	0	7	40	60	100	4 Hrs.
4	CEP309	RCC Structures	0	0	2	2	25	25	50	-
5	CET310	Geotechnical Engineering-II	3	1	0	7	40	60	100	3 Hrs.
6	CET311	Fluid Mechanics-II	3	1	0	7	40	60	100	3 Hrs.
7	CEP311	Fluid Mechanics-II	0	0	2	2	25	25	50	-
8	CEP312	Computer Application in Civil Engineering	0	0	3	3	50	50	100	-
9	CEP313	Site visits	0	0	2	2	-	-	-	-
10	CET314	Open Elective	3	1	0	7	40	60	100	3 Hrs.
		Total	15	5	11	46				

OPEN ELECTIVE

Course Code	Course Name
CET314-1	Environmental Pollution
CET314-2	Green Building and Vastu Concepts
CET314-3	Appropriate Technology

● For CET 314-3 Appropriate Technology, Section A will be set and evaluated by Mechanical Engineering Department and Section B will be set and evaluated by Civil Engineering Department
● Compulsory one month field training after examination to sites such as flat schemes, bridges, roads, surveying, software etc.

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
VII Semester, B.E. (Civil Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	CET401	Advanced Concrete Structures	3	1	0	7	40	60	100	4 Hrs.
2	CEP401	Advanced Concrete Structures	0	0	2	2	25	25	50	-
3	CET402	Irrigation Engineering	3	1	0	7	40	60	100	3 Hrs.
4	CEP402	Irrigation Engineering	0	0	2	2	25	25	50	-
5	CET403	Contract, Accounts and Works Management	3	1	0	7	40	60	100	3 Hrs.
6	CET404	Elective - I	3	1	0	7	40	60	100	3 Hrs.
7	CET405	Structural Analysis II	3	1	0	7	40	60	100	3 Hrs.
8	CEP405	Structural Analysis II	0	0	2	2	25	25	50	-
9	CEP406	Project and Seminar	0	0	2	4	50	-	50	-
		Total	**15**	**5**	**8**	**45**				

Course Code	Elective I
CET 404 - 1	Advanced Construction Materials
CET 404 - 2	Maintenance and Rehabilitation of Civil Engineering Structures
CET 404 - 3	Advanced Hydraulics
CET 404 - 4	Advanced Geotechnical Engineering

Scheme of Teaching & Examination of Bachelor of Engineering (Civil Engineering)
Semester Pattern
VIII Semester, B.E. (Civil Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	CET 407	Transportation Engineering II	3	1	0	7	40	60	100	3 Hrs.
2	CET 408	Construction Management	3	1	0	7	40	60	100	3 Hrs.
3	CET 409	Elective II	3	1	0	7	40	60	100	3 Hrs.
4	CET 410	Elective III	3	1	0	7	40	60	100	3 Hrs.
5	CET 411	Elective IV	3	1	0	7	40	60	100	3 Hrs.
6	CEP 411	Elective IV	0	0	2	2	25	25	50	-
7	CEP 412	Project	0	0	6	12	75	75	150	-
		Total	**15**	**5**	**8**	**49**				

Course Code	Elective II	Course Code	Elective III	Course Code	Elective IV
CET 409 - 1	Water Power Engineering	CET 410 - 1	Advanced Steel Design	CET 411 - 1/ CEP 411 - 1	Applied Remote Sensing and GIS
CET 409 - 2	Earth and Earth Retaining Structures	CET 410 - 2	Advanced RCC	CET 411 - 2/ CEP 411 - 2	Traffic Engineering
CET 409 - 3	Air Pollution and Solid Waste Management	CET 410 - 3	Bridge Engineering	CET 411 - 3/ CEP 411 - 3	Water and waste Water Treatment
CET 409 - 4	Multi Storied Structures	CET 410 - 4	Pavement Design	CET 411 - 4/ CEP 411 - 4	Water Transmission and Distribution System

Teaching Scheme for Second year (IIIrd semester) Bachelor of Computer Science & Engineering

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MAT202	Engineering Mathematics-III	3	1	0	7	40	60	100	3 Hrs.
2	CST213	Data Structure and Program design	4	1	0	9	40	60	100	3 Hrs.
3	CSP213	Data Structure and Program design lab	0	0	2	2	25	25	50	--
4	CST214	Digital Circuits & Fund. of Microprocessor	3	1	0	7	40	60	100	3 Hrs.
5	CSP214	Digital Circuits & Fund. of Microprocessor lab	0	0	2	2	25	25	50	--
6	CST215	Computer Architecture and Organization	3	1	0	7	40	60	100	3 Hrs.
7	CSP216	Advanced Programming Lab	0	0	2	2	25	25	50	--
8	CSP217	Computer Workshop - I lab	0	0	2	2	25	25	50	--
9	HUT204	Technical Communication	3	1	0	7	40	60	100	3 Hrs.
10	CHT201	Environmental Studies - I (Audit Course)	2	0	0	00	--	--	--	--
		Total	18	05	08	45	300	400	700	

Teaching Scheme for Second year (IVth semester) Bachelor of Computer Science & Engineering

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MAT245	Discrete Mathematics	3	1	0	7	40	60	100	3 Hrs.
2	CST218	Object Oriented Programming	4	1	0	9	40	60	100	3 Hrs.
3	CSP218	Object Oriented Programming lab	0	0	2	2	25	25	50	--
4	CST219	Operating Systems	3	1	0	7	40	60	100	3 Hrs.
5	CSP219	Operating Systems lab	0	0	2	2	25	25	50	--
6	CST220	Theoretical Foundations of Computer Science	4	1	0	9	40	60	100	3 Hrs.
7	CST221	Systems Programming	3	1	0	7	40	60	100	3 Hrs.
8	CSP222	Computer Workshop-II lab	0	0	2	2	25	25	50	--
9	CHT202	Environmental Studies- II (Audit Course)	2	0	0	0	--	--	--	--
		Total	19	05	06	45	275	375	650	

Teaching Scheme for Second year (Vth semester) Bachelor of Computer Science & Engineering

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	CST313	Mobile Application Programming	4	1	0	9	40	60	100	3 Hrs.
2	CSP313	Mobile Application Programming Lab	0	0	2	2	25	25	50	--
3	CST314	Design and Analysis of Algorithms	3	1	0	7	40	60	100	3 Hrs.
4	CST315	Software Engineering	3	1	0	7	40	60	100	3 Hrs.
5	CSP315	Software Engineering lab	0	0	2	2	25	25	50	--
6	CST316	Design Patterns	3	1	0	7	40	60	100	3 Hrs.
7	CST317	Computer Networks	3	1	0	7	40	60	100	3 Hrs.
8	CSP317	Computer Networks lab	0	0	2	2	25	25	50	--
9	CSP318	Software Tech. Lab-1 lab	0	0	2	2	25	25	50	--
		Total	16	05	08	45	300	400	700	

Teaching Scheme for Second year (VIth semester) Bachelor of Computer Science & Engineering under autonomy

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	CST319	Computer Graphics and GUI Design Technologies	3	1	0	7	40	60	100	3 Hrs.
2	CSP319	Computer Graphics & GUI Design Technologies Lab	0	0	2	2	25	25	50	-
3	CST320	Advanced Data Structures	4	1	0	9	40	60	100	3 Hrs.
4	CSP320	Advanced Data Structures Lab	0	0	2	2	25	25	50	--
5	CST321	Database Management System	3	1	0	7	40	60	100	3 Hrs.
6	CSP321	Database Management System lab	0	0	2	2	25	25	50	--
7	CST322	Open Elective	3	1	0	7	40	60	100	3 Hrs.
8	CST323	Artificial Intelligence	3	1	0	7	40	60	100	3 Hrs.
9	CSP324	Software Tech Lab-II lab	0	0	3	3	25	25	50	--
		Total	17	05	07	46	300	400	700	

Course Code	Open Elective	Course Code	Open Elective
CST322-1	Introduction to Mainframes	CST322-5	Mobile Technology
CST322-2	Foundation of Business Intelligence	CST322-6	Insight into Cloud Computing
CST322-3	Salesforce Technology	CST322-7	Security Basics & Cyber Security
CST322-4	Business Intelligence and Its Applications		

Teaching Scheme for Second year (VIIth semester) Bachelor of Computer Science & Engineering

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	CST411	Data Warehousing and Mining	4	1	0	9	40	60	100	3 Hrs.
2	CSP411	Data Warehousing and Mining lab	0	0	2	2	25	25	50	--
3	CST412	Language Processors	4	1	0	9	40	60	100	3 Hrs.
4	CSP412	Language Processors lab	0	0	2	2	25	25	50	--
5	CST413	ELECTIVE-I	4	1	0	9	40	60	100	3 Hrs.
6	CST414	ELECTIVE-II	4	1	0	9	40	60	100	3 Hrs.
7	CSP415	PROJECT & SEMINAR	0	0	2	4	25	25	50	--
		Total	16	04	06	44	235	315	550	

Course Code	Elective -I	Course Code	Elective - II
CST413-1	Web Architecture & Technologies	CST414-1	Internetworking and TCP/IP
CST413-2	Business Intelligence	CST414-2	Machine Learning
CST413-3	Advanced Object Oriented Technologies	CST414-3	Optimization Techniques in Computing

Teaching Scheme for Second year (VIIIth semester) Bachelor of Computer Science & Engineering

Sr. No.	Code	Course	Teaching Scheme L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
8	CST416	Distributed Systems	4	1	0	9	40	60	100	3 Hrs.
9	CSP416	Distributed Systems lab	0	0	2	2	25	25	50	--
10	CST417	Information Security	4	1	0	9	40	60	100	3 Hrs.
11	CSP417	Information Security lab	0	0	2	2	25	25	50	--
12	CST418	ELECTIVE-III	4	1	0	9	40	60	100	3 Hrs.
13	CST419	ELECTIVE-IV	4	1	0	9	40	60	100	3 Hrs.
14	CSP420	PROJECT & SEMINAR	0	0	5	10	75	75	150	--
		Total	16	04	9	50	285	365	650	

Course Code	ELECTIVE - III	Course Code	ELECTIVE - IV
CST418-1	Grid and Cloud Computing	CST419-1	Web Intelligence and Big Data
CST418-2	Distributed and Parallel Database	CST419-2	Natural Language Processing
CST418-3	Parallel Programming Design	CST419-3	Mobile Adhoc Network
CST418-4	Industry Elective - I	CST419-4	Industry Elective - 2

Total Credits (III Sem to VIII Sem) : 275

**Scheme of Examination of Bachelor of Engineering (Electrical Engineering)
Semester Pattern
III Semester, B.E. (Electrical Engineering)**

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MAT203	Engineering Mathematics-III	3	1	0	7	40	60	100	3 Hrs.
2	EET201	Elements of Electromagnetic	4	1	0	9	40	60	100	3 Hrs.
3	EET207	Network Analysis	4	1	0	9	40	60	100	3 Hrs.
4	EEP207	Network Analysis	0	0	2	2	25	25	50	3 Hrs.
5	CST212	Introduction to Computer Concepts	3	1	0	7	40	60	100	3 Hrs.
6	CSP212	Introduction to Computer Concepts	0	0	2	2	25	25	50	3Hrs.
7	ENT206	Electronic Devices & Circuits	4	1	0	9	40	60	100	3 Hrs.
8	ENP206	Electronic Devices & Circuits	0	0	2	2	25	25	50	3 Hrs.
9	CHT201	Environmental studies I	2	0	0	0	-	-	-	-
		TOTAL	20	5	6	47				

**Scheme of Examination of Bachelor of Engineering (Electrical Engineering)
Semester Pattern
IV Semester, B.E. (Electrical Engineering)**

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MAT242	Electrical Engineering Mathematics	3	1	0	7	40	60	100	3 Hrs.
2	HUT202	Principles of Economics and Management	3	1	0	7	40	60	100	3 Hrs.
3	ENT207	Digital and Linear Electronic Circuits	4	1	0	9	40	60	100	3 Hrs.
4	ENP207	Digital and Linear Electronic Circuits	0	0	2	2	25	25	50	3 Hrs.
5	EET203	Electrical Machines-I	4	1	0	9	40	60	100	3 Hrs.
6	EEP203	Electrical Machines-I	0	0	2	2	25	25	50	3 Hrs.
7	EET208	Electrical Measurement and Measuring Instruments.	4	1	0	9	40	60	100	3 Hrs.
8	EEP208	Electrical Measurement and Measuring Instruments.	0	0	2	2	25	25	50	3Hrs.
9	CHT202	Environmental studies II	2	0	0	0	-	-	-	-
		TOTAL	20	5	6	47				

Scheme of Examination of Bachelor of Engineering (Electrical Engineering) Semester Pattern
V Semester, B.E. (Electrical Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	EET301	Power Station Practice	3	1	0	7	40	60	100	3 Hrs.
2	EET302	Electrical Machines-II	4	1	0	9	40	60	100	3 Hrs.
3	EEP302	Electrical Machines-II	0	0	2	2	25	25	50	3 Hrs.
4	EET303	Electrical Power Systems -I	3	1	0	7	40	60	100	3 Hrs.
5	EET304	Elective I	3	1	0	7	40	60	100	3 Hrs.
6	EEP305	Electrical Engineering Workshop	0	0	2	2	25	25	50	3 Hrs.
7	EEP306	Industrial Visit and Case Study	0	0		2	0	-	-	-
8	EET316	Microprocessor & Interfacing	4	1	0	9	40	60	100	3 Hrs.
9	EEP316	Microprocessor & Interfacing	0	0	2	2	25	25	50	3 Hrs.
10	EET317	Self Study	1	0	0	0	--	--	--	--
		TOTAL	18	5	8	45				

Course Code	Elective-I
EET304-1	Electrical Machine Design
EET304-2	Entrepreneurship Development
EET304-3	Energy Management and Audit
EET304-4	Design of Data Acquisition & logic controller

Scheme of Examination of Bachelor of Engineering (Electrical Engineering) Semester Pattern
VI Semester B.E. (Electrical Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	EET307	Control System Engineering	4	1	0	9	40	60	100	3 Hrs.
2	EEP307	Control System Engineering	0	0	2	2	25	25	50	3 Hrs.
3	EET308	Electrical Drives & Their Control	3	1	0	7	40	60	100	3 Hrs.
4	EET309	Power Electronics	4	1	0	9	40	60	100	3 Hrs.
5	EEP309	Power Electronics	0	0	2	2	25	25	50	3 Hrs.
6	EET310	Instrumentation	3	1	0	7	40	60	100	3 Hrs.
7	EET313	Open Elective	3	1	0	7	40	60	100	3 Hrs.
8	EEP311	Computer Aided Electrical Engineering Drawing	0	0	2	2	25	25	50	3 Hrs.
9	EEP312	Mini project	0	0	2	0	-	-	-	-
		TOTAL	17	5	8	45				

Course Code	Open Elective
EET313-1	Automation
EET313-2	Industrial Drives
EET313-3	Energy Management and Audit

Scheme of Examination of Bachelor of Engineering (Electrical Engineering)
Semester Pattern - VII Semester B.E. (Electrical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	EET401	Power System-II	4	1	0	9	40	60	100	3 Hrs.
2	EET402	High Voltage Engineering.	4	1	0	9	40	60	100	3 Hrs.
3	EEP402	High Voltage Engineering.	0	0	2	2	25	25	50	--
4	EET403	Elective -II	3	1	0	7	40	60	100	3 Hrs.
5	EET404	Power Semiconductor based Drive	3	1	0	07	40	60	100	3 Hrs.
6	EET405	Switchgear & Protection	4	1	0	09	40	60	100	3 Hrs.
7	EEP405	Switchgear & Protection	0	0	2	02	25	25	50	--
8	EEP406	Project Phase I	0	0	4	04	100	--	--	--
		TOTAL	18	5	8	49				

Course Code	Elective-II
EET403-1	EHVAC & HVDC Transmission
EET403-2	Utilization of Electrical Energy
EET403-3	Advanced Control System

Scheme of Examination of Bachelor of Engineering (Electrical Engineering)
Semester Pattern - VIII Semester B.E. (Electrical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	EET407	Electrical Installation Design & Practice	3	1	0	07	40	60	100	3 Hrs.
2	EET408	Computer Applications in Power System	4	1	0	09	40	60	100	3 Hrs.
3	EEP408	Computer Applications in Power System	0	0	2	02	25	25	50	3 Hrs
4	EET409	Elective -III	3	1	0	07	40	60	100	3 Hrs.
5	EET410	Elective- IV	3	1	0	07	40	60	100	3 Hrs.
6	EEP411	Project Phase II	0	0	4	08	100	100	200	3 Hrs
7	EEP412	Seminar	0	0	2	02	100	--	100	--
		TOTAL	13	4	08	42	--	--	--	--

Course Code	Elective-III	Course Code	Elective-IV
EET409-1	Embedded Systems	EET410-1	Flexible AC Transmission Systems
EET409-2	Power Quality	EET410-2	Digital Signal Processing
EET409-3	Fuzzy Logic and Neural Networks	EET410-3	EHV Substation Design & Erection

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering)
Semester Pattern - III Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT203	Engineering Mathematics-III	3	1	0	7	40	60	100	3 Hrs.
2	EET205	Network Theory	3	1	0	7	40	60	100	3 Hrs.
3	ECT201	Electronic Devices	3	1	0	7	40	60	100	3 Hrs.
4	ECP201	Electronic Devices Lab.	0	0	2	2	25	25	50	3 Hrs.
5	ECT202	Digital Logic Design	3	1	0	7	40	60	100	3 Hrs.
6	ECP202	Digital Logic Design Lab	0	0	2	2	25	25	50	3 Hrs.
7	PHT201	Electronic Engineering Materials & IC Fabrication	3	1	0	7	40	60	100	3 Hrs.
8	CST211	Object Oriented Data Structure	2	0	0	4	40	60	100	3 Hrs
9	CSP211	Object Oriented Data Struture Lab	0	0	2	2	25	25	50	3 Hrs
10	CHT201	Environmental Studies - I	2	0	0	00	-	-	-	-
		Total	19	5	6	45				

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering)
Semester Pattern - IV Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT243	Engineering Mathematics-IV	3	1	0	7	40	60	100	3 Hrs.
2	ECT203	Electromagnectic Fields	4	1	0	9	40	60	100	3 Hrs.
3	ECT204	Analog Circuits	4	1	0	9	40	60	100	3 Hrs.
4	ECP204	Analog Circuits Lab	0	0	2	2	25	25	50	3 Hrs.
5	ECT205	Electronic Circuits	3	1	0	7	40	60	100	3 Hrs.
6	ECP205	Electronic Circuits Lab.	0	0	2	2	25	25	50	3 Hrs.
7	ECT206	Electronic Measurement and Instrumentation	3	1	0	7	40	60	100	3 Hrs.
8	ECP206	Electronic Measurement and Instrumentation Lab.	0	0	2	2	25	25	50	3 Hrs.
9	CHT202	Environmental Studies- II	2	0	0	00	-	-	-	
		Total	19	5	6	45				

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering)
Semester Pattern - V Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	HUT301	Principles of Economics and Management	3	1	0	7	40	60	100	3 Hrs.
2	EET314	Control System Engineering	4	1	0	9	40	60	100	3 Hrs.
3	ECT301	Fundamentals of Communication Engg.	4	1	0	9	40	60	100	3 Hrs.
4	ECP301	Fundamentals of Communication Engg. Lab.	0	0	2	2	25	25	50	3 Hrs
5	ECT302	Microprocessor & Interfacing	4	1	0	9	40	60	100	3 Hrs.
6	ECP302	Microprocessor & Interfacing Lab.	0	0	2	2	25	25	50	3 Hrs
7	ECT303	Computer Organization	3	1	0	7	40	60	100	3 Hrs.
8	ECP304	System Simulation	0	0	2	00	-	-	-	
		Total	18	5	6	45				

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering)
Semester Pattern - VI Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ECT305/ CST325	Departmental Elective - I	3	1	0	7	40	60	100	3 Hrs.
2	ECT306	Waves and Radiating Systems	4	1	0	9	40	60	100	3 Hrs.
3	ECT307	Statistical Signal Analysis	4	1	0	9	40	60	100	3 Hrs.
4	ECT308	Embedded Systems	4	1	0	9	40	60	100	3 Hrs
5	ECP308	Embedded Systems Lab.	0	0	2	2	25	25	50	3 Hrs.
6	ECT309	Open Elective	3	1	0	7	40	60	100	3 Hrs
7	ECP310	Electronics Workshop	0	0	2	2	25	25	50	3 Hrs
		Total	18	5	4	45				

Departmental Elective – I : ECT305 – 1: Switching Theory and Finite Automata
ECT305 – 2: Television Engineering
CST325 – Operating Systems

Open Elective : ECT309 – 1: Telecommunication Engineering
ECT309 – 2: Introduction to Instrumentation System and Transducers

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering) Semester Pattern - VII Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	ECT401	Digital Communication	3	1	0	7	40	60	100	3 Hrs.
2	ECT402	Computer Communication Networks	4	0	0	8	40	60	100	3 Hrs.
3	ECT403	Digital Signal Processing	4	1	0	9	40	60	100	3 Hrs.
4	ECP403	Digital Signal Processing Lab.	0	0	2	2	25	25	50	3 Hrs.
5	ECT404	Digital System Design with HDL	3	1	0	7	40	60	100	3 Hrs.
6	ECP404	Digital System Design with HDL Lab.	0	0	2	2	25	25	50	3 Hrs.
7	ECT405	Departmental Elective - II	4	0	0	8	40	60	100	3 Hrs.
8	ECP406	Project Phase - I	0	0	4	8*	50	50	100	3 Hrs.
		Total	18	3	8	51				

Departmental Elective – II: ECT405 – 1 Pattern Recognition
ECT405 – 2 Advanced Microprocessor
ECT405 – 3 Advanced Microcontrollers

Scheme of Examination of Bachelor of Engineering (Electronics and Communication Engineering) Semester Pattern - VIII Semester B. E. (Electronics and Communication Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	ECT407	Wireless Communication	3	1	0	7	40	60	100	3 Hrs.
2	ECT408	Microwave Engineering	4	1	0	9	40	60	100	3 Hrs.
3	ECP408	Microwave Engineering Lab	0	0	2	2	25	25	50	3 Hrs.
4	ECT409	Departmental Elective - III	4	0	0	8	40	60	100	3 Hrs.
5	ECT410	Departmental Elective - IV	4	0	0	8	40	60	100	3 Hrs.
6	ECP411	Communication and Networking Lab	0	0	2	2	25	25	50	3Hrs.
7	ECP412	Project Phase - II	0	0	4	8*	50	50	100	3 Hrs.
		Total	15	2	8	44				

Departmental Elective – III: ECT409 – 1 Optical and Satellite Communication
ECT409 – 2 CMOS VLSI Design

Departmental Elective – IV: ECT410 – 1 Digital Image Processing
ECT410 – 2 RF Circuit Design

*For Project Phase – I and II, credits are assigned as: 1 Contact Hour = 2 Credits.

Scheme of Examination of Bachelor of Engineering (Electronics Design Technology) Semester Pattern - III Semester B. E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	MAT203	Engineering Mathematics III	3	1	0	7	40	60	100	3 Hrs
2	EET205	Network Theory	3	1	0	7	40	60	100	3Hrs
3	EDT201	Electronic Devices	4	1	0	9	40	60	100	3Hrs
4	EDP201	Electronic Devices Lab	0	0	2	2	25	25	50	3Hrs
5	EDT202	Digital Logic Design	4	1	0	9	40	60	100	3Hrs
6	EDP202	Digital Logic Design Lab	0	0	2	2	25	25	50	3Hrs
7	PHT201	Electronic Engineering Materials & IC Fabrication	3	1	0	7	40	60	100	3Hrs
8	CSP211	Object Oriented Data Structure Lab	0	0	2	2	25	25	50	3Hrs
9	CHT201	Environmental Studies I	2	0	0					
		Total	19	5	6	45	275	375	650	

Scheme of Examination of Bachelor of Engineering (Electronics Design Technology) Semester Pattern - IV Semester B. E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Maximum Marks			Exam Duration
							Internal Assessment	End Sem Exam	Total	
1	MAT243	Engineering Mathematics IV	3	1	0	7	40	60	100	3 Hrs
2	EDT203	Electromagnetic Fields	4	1	0	9	40	60	100	3 Hrs
3	EDT204	Analog Circuits	4	1	0	9	40	60	100	3 Hrs
4	EDP204	Analog Circuits Lab	0	0	2	2	25	25	50	3 Hrs
5	EDT205	Electronic Circuits	3	1	0	7	40	60	100	3 Hrs
6	EDP205	Electronic Circuits Lab	0	0	2	2	25	25	50	3 Hrs
7	EDT206	Electronic Measurement & Instrumentation	3	1	0	7	40	60	100	3 Hrs
8	EDP206	Electronic Measurement & Instrumentation Lab	0	0	2	2	25	25	50	3 Hrs
9	CHT202	Environmental Studies II	2	0	0					
		Total	19	5	6	45	275	375	650	

Teaching and Examination Scheme Semester Pattern - V Semester B.E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	HUT301	Principles of Economics & Management	3	1	0	7	40	60	100	3Hrs
2	EDT301	Digital Systems Design with HDL	3	1	0	7	40	60	100	3Hrs
3	EDP301	Digital Systems Design with HDL Lab	0	0	2	2	25	25	50	3Hrs
4	EDT302	Statistical Signal Analysis	3	1	0	7	40	60	100	3Hrs
5	EDT303	PCB Technology	4	1	0	9	40	60	100	3Hrs
6	EDP303	PCB Technology Lab	0	0	2	2	25	25	50	3Hrs
7	EDT304	Microprocessor & Interfacing	4	1	0	9	40	60	100	3Hrs
8	EDP304	Microprocessor & Interfacing Lab	0	0	2	2	25	25	50	3Hrs
9	EDP305	Circuit Simulation-I lab	0	0	2					
		Total	17	5	8	45	275	375	650	

Teaching and Examination Scheme Semester Pattern - VI Semester B.E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	EDT306	Field & Radiating System	3	1	0	7	40	60	100	3Hrs
2	EET315	Control System Engineering	3	1	0	7	40	60	100	3Hrs
3	EDT307	Microcontroller based Design	3	1	0	7	40	60	100	3Hrs
4	EDP307	Microcontroller based Design Lab	0	0	2	2	25	25	50	3Hrs
5	EDT308	Computer Organization	3	0	0	6	40	60	100	3Hrs
6	EDT309	Analog communication Engineering	3	1	0	7	40	60	100	3Hrs
7	EDP309	Analog communication Engineering Lab	0	0	2	2	25	25	50	3Hrs
8	EDP310	Electronic Product Design lab	0	0	2	2	25	25	50	3Hrs
9	EDT311	Open Elective - I	3	1	0	7	40	60	100	3Hrs
10	EDP312	Circuit Simulation-II lab	0	0	2					
		Total	18	5	8	47	315	435	750	

Course Code	Open Elective - I
EDT311-1	Industrial Electronic system Design

Teaching and Examination Scheme Semester Pattern - VII Semester B.E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	EDT401	Design of electronic Equipments	4	1	0	9	40	60	100	3 Hrs
2	EDT402	CMOS VLSI Design	3	1	0	7	40	60	100	3 Hrs
3	EDP402	CMOS VLSI Design Lab	0	0	2	2	25	25	50	3 Hrs
4	EDT403	Digital Signal Processing	3	1	0	7	40	60	100	3 Hrs
5	EDP403	Digital Signal Processing Lab	0	0	2	2	25	25	50	3 Hrs
6	EDT404	Elective -I	4	0	0	8	40	60	100	3 Hrs
7	EDT405	Elective -II	4	0	0	8	40	60	100	3 Hrs
8	EDP406	Project Phase -1	0	0	4	8	100	--	100	3 Hrs
9	EDP407	FPGA Based Implementation	0	0	2	0				
		Total	18	3	10	51	350	350	700	

Course Code	Elective - I
EDT404-1	Electronic System Design
EDT404-2	Wireless communication
EDT404-3	Digital Communication

Course Code	Elective - II
EDT405-1	Power Electronics & Industrial Automation
EDT405-2	Optical Communication
EDT405-3	Micro Electro Mechanical Systems

Teaching and Examination Scheme Semester Pattern - VIII Semester B.E. (Electronics Design Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	EDT408	Reliability of Electronic equipments	3	1	0	7	40	60	100	3 Hrs
2	EDT409	Advanced Processors & Embedded Systems	4	1	0	9	40	60	100	3 Hrs
3	EDP409	Advanced Processors & Embedded Systems Lab	0	0	2	2	25	25	50	3 Hrs
4	EDT410	Elective -III	4	0	0	8	40	60	100	3 Hrs
5	EDT411	Elective -IV	4	0	0	8	40	60	100	3 Hrs
6	EDP412	Project Phase II	0	0	4	8	50	50	100	3 Hrs
7	HUT402	Technical Communication	2	0	0	0				
		Total	17	2	6	42	235	315	550	

Course Code	Elective - III
EDT410-1	Advanced Digital Signal Processing
EDT410-2	CMOS & RF Design
EDT410-3	Switching Theory & Finite Automata

Course Code	Elective - IV
EDT411-1	Design For Testability
EDT411-2	EMI /EMC
EDT411-3	Computer Communication Networks

Scheme of Examination of Bachelor of Engineering (Electronics Engineering) Semester Pattern - III Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT203	Engineering Mathematics III	3	1	0	7	40	60	100	3Hrs
2	EET205	Network Theory	3	1	0	7	40	60	100	3Hrs
3	ENT201	Electronic Devices	4	1	0	9	40	60	100	3Hrs
4	ENP201	Electronic Devices lab	0	0	2	2	25	25	50	3Hrs
5	ENT202	Digital Logic Design	4	1	0	9	40	60	100	3Hrs
6	ENP202	Digital Logic Design lab	0	0	2	2	25	25	50	3Hrs
7	PHT201	Electronic Engineering Materials & IC Fabrication	3	1	0	7	40	60	100	3Hrs
8	CSP211	Object Oriented Data Structure lab	0	0	2	2	25	25	50	3Hrs
9	CHT201	Environmental Studies I	2	0	0	0				
		Total	19	5	6	45				

Scheme of Examination of Bachelor of Engineering (Electronics Engineering) Semester Pattern IV Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT243	Engineering Mathematics IV	3	1	0	7	40	60	100	3Hrs
2	ENT203	Electromagnetic Fields	4	1	0	9	40	60	100	3Hrs
3	ENT204	Analog Circuits	4	1	0	9	40	60	100	3Hrs
4	ENP204	Analog Circuits lab	0	0	2	2	25	25	50	3Hrs
5	ENT205	Electronic Circuits	3	1	0	7	40	60	100	3Hrs
6	ENP205	Electronic Circuits lab	0	0	2	2	25	25	50	3Hrs
7	ENT208	Electronic Measurement & Instrumentation	3	1	0	7	40	60	100	3Hrs
8	ENP208	Electronic Measurement & Instrumentation lab	0	0	2	2	25	25	50	3Hrs
9	CHT202	Environmental Studies II	2	0	0	0				
		Total	19	5	6	45				

Scheme of Examination of Bachelor of Engineering (Electronics Engineering) Semester Pattern V Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	HUT301	Principles of Economics & Management	3	1	0	7	40	60	100	3Hrs
2	ENT301	Digital System Design with HDL	3	1	0	7	40	60	100	3Hrs
3	ENP301	Digital System Design with HDL lab	0	0	2	2	25	25	50	3Hrs
4	ENT302	Statistical Signal Analysis	4	1	0	9	40	60	100	3Hrs
5	ENP302	Statistical Signal Analysis lab	0	0	2	2	25	25	50	3Hrs
6	ENT303	Field & Radiating System	3	1	0	7	40	60	100	3Hrs
7	ENT304	Microprocessor & Interfacing	4	1	0	9	40	60	100	3Hrs
8	ENP304	Microprocessor & Interfacing lab	0	0	2	2	25	25	50	3Hrs
9	ENP305	Circuit Simulation lab	0	0	2	0				
		Total	17	5	8	45				

Scheme of Examination of Bachelor of Engineering (Electronics Engineering) Semester Pattern VI Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ENT306	Microwave Engineering	3	1	0	7	40	60	100	3Hrs
2	ENP306	Microwave Engineering lab	0	0	2	2	25	25	50	3Hrs
3	EET315	Control System Engineering	3	1	0	7	40	60	100	3Hrs
4	ENT307	Microcontroller Based Design	3	1	0	7	40	60	100	3Hrs
5	ENT308	Computer Organization	3	0	0	6	40	60	100	3Hrs
6	ENT309	Analog Communication Engineering	3	1	0	7	40	60	100	3Hrs
7	ENP309	Analog Communication Engineering lab	0	0	2	2	25	25	50	3Hrs
8	ENP310	Electronic Product Design lab	0	0	2	2	25	25	50	3Hrs
9	ENT311	Open Elective I	3	1	0	7	40	60	100	3Hrs
10	EDP313	PCB Design	0	0	2					
		Total	18	5	8	47				

VI Sem	Open Electives
ENT311-1	Consumer Electronics
ENT311-2	IC Design Techniques
ENT 311-3	Arduino Playground

Scheme of Examination of Bachelor of Engineering (Electronics Engineering)
Semester Pattern VII Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ENT401	Digital Communication	3	1	0	7	40	60	100	3Hrs
2	ENT402	CMOS VLSI Design	3	1	0	7	40	60	100	3Hrs
3	ENP402	CMOS VLSI Design Lab	0	0	2	2	25	25	50	3Hrs
4	ENT403	Digital Signal Processing	3	1	0	7	40	60	100	3Hrs
5	ENP403	Digital Signal Processing Lab	0	0	2	2	25	25	50	3Hrs
6	ENT404	Elective -I	4	0	0	8	40	60	100	3Hrs
7	ENT405	Elective -II	4	0	0	8	40	60	100	3Hrs
8	ENP406	Project Phase-I	0	0	4	8	100		100	
9	HUT401	Technical Communication	2	0	0	0				
		Total	19	3	8	49				

Elective-I	Elective-II
ENT404-1 Electronic System Design	ENT405-1 Power Electronics & Industrial Automation
ENT404-2 Wireless Communication	ENT405-2 Optical Communication
ENT404- 3 Medical Electronics	ENT405-3 Micro Electro Mechanical Systems

Scheme of Examination of Bachelor of Engineering (Electronics Engineering)
Semester Pattern VIII Semester B.E. (Electronics Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ENT407	Computer Communication Networks	3	1	0	7	40	60	100	3Hrs
2	ENP407	Communication and Networking Lab	0	0	2	2	25	25	50	3Hrs
3	ENT408	Advanced Processors & Embedded Systems	4	1	0	9	40	60	100	3Hrs
4	ENP408	Advanced Processors & Embedded Systems Lab	0	0	2	2	25	25	50	3Hrs
5	ENT409	Elective -III	4	0	0	8	40	60	100	3Hrs
6	ENT410	Elective -IV	4	0	0	8	40	60	100	3Hrs
7	ENP411	Project Phase-II	0	0	4	8	50	50	100	
8	EDT413	Industrial Design & Reliability of Electronic Equipments	2	0	0					
		Total	17	2	8	44				

Elective-III	Elective-IV
ENT409-1 Advanced Digital Signal Processing	ENT410-1 Design for Testability
ENT409-2 CMOS & RF Design	ENT410-2 Mechatronics
ENT409-3 Switching Theory & Finite Automata	ENT410-3 Digital Image Processing

Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern
III Semester, B.E. (Industrial Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
							Maximum Marks		
1	MAT204	Quantitative Methods-I	3	1	0	7	40	60	100
2	INT201	Thermal Engineering	4	1	0	9	40	60	100
3	INT202	Principal of Management & Managerial Economics	4	0	0	8	40	60	100
4	INT203	Metal Working processes	4	1	0	9	40	60	100
5	INP203	Metal Working Processes Lab	0	0	2	2	25	25	50
6	CST210	Data Structures & File handling using C	3	0	0	6	40	60	100
7	CSP210	Data Structures &File handling using C Lab	0	0	2	2	25	25	50
8	INP204	M/c. Drawing & Computer Aided Drafting	0	0	2	2	25	25	50
9	INP205	Industrial Visit	0	0	2	2	Grade A to D (Marks)		
10	CHT201	Environmental Studies- I	2	0	0	0	-	-	-
		TOTAL	20	3	8	47			

Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern
IV Semester, B.E. (Industrial Engineering)

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
							Maximum Marks		
1	MAT244	Quantitative Methods- II	3	1	0	7	40	60	100
2	INT206	Theory of Machines	4	0	0	8	40	60	100
3	INT207	Methods Engineering	4	1	0	9	40	60	100
4	INP207	Methods Engineering Lab	0	0	2	2	25	25	50
5	INT208	Facilities Planning	4	1	0	9	40	60	100
6	INT209	Instrumentation & Metrology	4	1	0	9	40	60	100
7	INP209	Instrumentation & Metrology Lab	0	0	2	2	25	25	50
8	CHT202	Environmental Studies- II	2	0	0	0	-	-	-
		TOTAL	21	4	4	46			

**Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern
V Semester, B.E. (Industrial Engineering)**

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
1	INT301	Operations Research- I	4	1	0	9	40	60	100
2	INP301	Operations Research-I Lab	0	0	2	2	25	25	50
3	INT302	Fluid Power Engineering	3	1	0	7	40	60	100
4	INT303	Machine Design	4	0	0	8	40	60	100
5	INT304	Productivity Measurement and Improvement	4	1	0	9	40	60	100
6	INP304	Productivity Measurement and Improvement Lab	0	0	2	2	25	25	50
7	INT305	Elective-I*	3	1	0	7	40	60	100
8	INT306	Modeling and Simulation	2	0	0	0	-	-	-
		TOTAL	**20**	**4**	**4**	**44**			

Elective - I (List of Subjects)
1) **System Dynamics**
2) **Human Resource Management**
3) **Object Oriented Programming**
4) **Energy Management**

Course Code	Course Name
INT305-1	System Dynamics
INT305-2	Human Resource Management
INT305-3	Object Oriented Programming
INT305-4	Energy Management

**Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern
VI Semester B.E. (Industrial Engineering)**

Sr. No.	Subject Code	Subject Name	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
1	INT307	Operations Research- II	3	1	0	7	40	60	100
2	INP307	Operations Research- II Lab	0	0	2	2	25	25	50
3	INT308	Metal Removal Processes	3	1	0	7	40	60	100
4	INP308	Metal Removal Processes Lab	0	0	2	2	25	25	50
5	INT309	Production Planning and Control	3	1	0	7	40	60	100
6	INT310	Supply Chain Management	3	1	0	7	40	60	100
7	INT311	Open Elective	3	1	0	7	40	60	100
8	INP312	Entrepreneurship Development	0	0	2	0	-	-	-
9	INP313	Project	0	0	4	8	50	-	-
		TOTAL	**15**	**5**	**10**	**47**			

Course Code	Course Name
INT311-1	Six Sigma
INT311-2	Decision Modeling
INT311-3	Organizational Behaviour and Development

**Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern - VII Semester B.E. (Industrial Engineering)**

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
1	INT401	Quality Engineering	4	1	0	9	40	60	100
2	INP401	Quality Engineering Lab	0	0	2	2	25	25	50
3	INT402	Database Management System	4	0	0	8	40	60	100
4	INP402	Database Management System Lab	0	0	2	2	25	25	50
5	INT403	Ergonomics and Value Engineering	4	1	0	9	40	60	100
6	INP403	Ergonomics and Value Engineering Lab	0	0	2	2	25	25	50
7	INT404	Engineering Economy & Cost Control	4	1	0	9	40	60	100
8	INP405	Project Seminar	0	0	4	4	25	25	50
9	INT406	Knowledge Management System	2	0	0	0	-	-	-
		Total	**18**	**3**	**10**	**45**			

**Scheme of Examination of Bachelor of Engineering (Industrial Engineering)
Semester Pattern - VIII Semester B.E. (Industrial Engineering)**

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total
1	INT407	Industrial Automation	4	1	0	9	40	60	100
2	INT408	Management Information System	4	1	0	9	40	60	100
3	INP408	Management Information System Lab	0	0	2	2	25	25	50
4	INT409	Organizational Behavior	2	0	0	0	-	-	-
5	INT410	Elective II	3	1	0	7	40	60	100
6	INT411	Elective III	3	1	0	7	40	60	100
7	INP412	Project	0	0	6	12	75	75	150
		Total	**16**	**4**	**8**	**46**			

Course Code	Elective II
INT410-1	Creativity and Innovation
INT410-2	Research Methodology
INT410-3	Web Technologies
INT410-4	Non Linear Optimization Technique
INT410-5	Tool Design

Course Code	Elective III
INT411-1	Materials Management
INT411-2	Reliability and Maintenance Engg.
INT411-3	Enterprise Resource Planning
INT411-4	Value Engineering

Scheme of Examination of Bachelor of Engineering (Information Technology) Semester Pattern - III Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT202	Engineering Mathematics-III	3	1	0	7	40	60	100	3 Hrs.
2	HUT203	Principles of Management	3	0	0	6	40	60	100	3 Hrs.
3	ITT201	Data Structures and Program Design	4	1	0	9	40	60	100	3 Hrs.
4	ITP201	Data Structures and Program Design	0	0	3	3	25	25	50	-
5	ITT202	Digital Circuits and Fundamentals of Microprocessor	4	1	0	9	40	60	100	3 Hrs.
6	ITP202	Digital Circuits and Fundamentals of Microprocessor	0	0	3	3	25	25	50	-
7	ITT203	Business Information System	4	1	0	9	40	60	100	3 Hrs.
8	CHT201	Environmental Studies-I (Audit Course)	2	0	0	0	-	-	-	-
		TOTAL	20	4	6	46			600	

Scheme of Examination of Bachelor of Engineering (Information Technology) Semester Pattern - IV Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	MAT245	Discrete Mathematics	3	1	0	7	40	60	100	3 Hrs.
2	ITT204	Computer Architecture and Organization	4	1	0	9	40	60	100	3 Hrs.
3	ITT205	Object Oriented Programming	4	1	0	9	40	60	100	3 Hrs.
4	ITP205	Object Oriented Programming	0	0	3	3	25	25	50	-
5	ITT206	IT Infrastructure Services	4	1	0	9	40	60	100	3 Hrs.
6	ITP206	IT Infrastructure Services	0	0	3	3	25	25	50	-
7	HUT201	Technical Communication	3	0	0	6	40	60	100	3 Hrs.
8	CHT202	Environmental Studies-II (Audit Course)	2	0	0	0	-	-	-	-
		TOTAL	20	4	6	46			600	

Scheme of Examination of Bachelor of Engineering (Information Technology) Semester Pattern - V Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ITT301	Microprocessor and Interfacing	4	1	0	9	40	60	100	3 Hrs.
2	ITP301	Microprocessor and Interfacing	0	0	2	2	25	25	50	-
3	ECT311	Digital Communications	3	1	0	7	40	60	100	3 Hrs.
4	ITT302	System Software	4	1	0	9	40	60	100	3 Hrs.
5	ITT303	Theory of Computation	4	1	0	9	40	60	100	3 Hrs.
6	ITT304	Software Engineering	4	1	0	9	40	60	100	3 Hrs.
7	ITP304	Software Engineering	0	0	2	2	25	25	50	-
		TOTAL	19	5	4	47			600	

Scheme of Examination of Bachelor of Engineering (Information Technology) Semester Pattern - VI Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
							Maximum Marks			
1	ITT305	Design and Analysis of Algorithms	4	1	0	9	40	60	100	3 Hrs.
2	ITT306	Database Management Systems	4	1	0	9	40	60	100	3 Hrs.
3	ITP306	Database Management Systems	0	0	2	2	25	25	50	-
4	ITT307	Elective - I	3	1	0	7	40	60	100	3 Hrs.
5	ITT308	Operating Systems	4	1	0	9	40	60	100	3 Hrs.
6	ITP308	Operating Systems	0	0	2	2	25	25	50	-
7	ITT309	Open Elective	3	1	0	7	40	60	100	3 Hrs.
8	ITP310	Animation Workshop (Audit Course)	0	0	4	0	-	-		-
		TOTAL	18	5	08	45			600	

Course Code	Elective - I	Course Code	Open Elective
ITT307-1	Software Project Management	ITT309-1	Internet Technologies
ITT307-2	Computer Graphics	ITT309-2	Information Systems
ITT307-3	Electronic Commerce		
ITT307-4	Software Testing		

Scheme of Examination of Bachelor of Engineering (Information Technology)
Semester Pattern - VII Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	ITT401	Computer Networks	4	1	0	9	40	60	100	3 Hrs.
2	ITP401	Computer Networks	0	0	2	2	25	25	50	-
3	ITT402	Compiler	4	1	0	9	40	60	100	3 Hrs.
4	ITP402	Compiler	0	0	2	2	25	25	50	-
5	ITT403	Virtualization & Cloud Computing	4	1	0	9	40	60	100	3 Hrs.
6	ITT404	Elective - II	4	0	0	8	40	60	100	3 Hrs.
7	ITP405	Project Phase-I and Seminar-I	0	0	2	4	50	50	100	-
8	ITP406	Software Lab (Audit Course)	0	0	2	0	-	-	-	-
		TOTAL	16	3	8	43			600	

Scheme of Examination of Bachelor of Engineering (Information Technology)
Semester Pattern - VIII Semester B. E. (Information Technology)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	ITT407	Introduction to Distributed Systems	4	1	0	9	40	60	100	3Hrs.
2	ITT408	Computer System Security	4	1	0	9	40	60	100	3Hrs.
3	ITP408	Computer System Security	0	0	2	2	25	25	50	-
4	ITT409	Elective - III	4	0	0	8	40	60	100	3Hrs.
5	ITT410	Elective - IV	4	0	0	8	40	60	100	3Hrs.
6	ITP411	Project Phase-II and Seminar-II	0	0	6	12	75	75	150	-
		TOTAL	16	2	8	48			600	

Elective - II		Elective - III		Elective - IV	
ITT404-1	Data Warehousing & Mining	ITT409-1	Mobile Apps Development	ITT410-1	Enterprise Resource Planning
ITT404-2	Mobile Computing	ITT409-2	Business Intelligence	ITT410-2	Web Technologies
ITT404-3	Artificial Intelligence	ITT409-3	Soft Computing	ITT410-3	Information Retrieval

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering)
Semester Pattern - III Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET201	Kinematics of Machinery	4	0	0	8	40	60	100	3 Hrs.
2	MET202	Fluid Mechanics	4	0	0	8	40	60	100	3 Hrs.
3	MET203	Manufacturing Science- I	3	1	0	7	40	60	100	3 Hrs.
4	MEP203	Manufacturing Science- I	0	0	2	2	25	25	50	3 Hrs.
5	MET204	Engineering Metallurgy	4	0	0	8	40	60	100	3 Hrs.
6	MEP204	Engineering Metallurgy	0	0	2	2	25	25	50	3 Hrs.
7	MAT206	Engineering Mathematics-III	3	1	0	7	40	60	100	3 Hrs.
8	CHT201	Environmental Studies-I	2	0	0	0	-	-	SF/USF	-
9	MEP205	Industrial visit	0	0	2	0	-	-	SF/USF	3 Hrs.
10	MEP211	Machine Drawing	0	0	4	4	50	50	100	3 Hrs
		TOTAL	20	2	10	46				

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16.
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering)
Semester Pattern - IV Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET206	Strength of Materials	3	1	0	7	40	60	100	3 Hrs.
2	MET207	Engineering Thermodynamics	3	1	0	7	40	60	100	3 Hrs.
3	MET208	Dynamics of Machinery	3	1	0	7	40	60	100	3 Hrs.
4	MEP208	Dynamics of Machinery	0	0	2	2	25	25	50	3 Hrs.
5	MET209	Hydraulic Machines	3	1	0	7	40	60	100	3 Hrs.
6	MEP209	Hydraulic Machines	0	0	2	2	25	25	50	3 Hrs.
7	MAT246	Engineering Mathematics-IV	3	1	0	7	40	60	100	3 Hrs.
8	CHT202	Environmental Studies-II	2	0	0	0	-	-	SF/USF	-
9	MEP210	Mini Project	0	0	2	2	50	0	50	3 Hrs.
		TOTAL	17	5	6	41				

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16.
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering)
Semester Pattern - V Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET301	Design of Machine Elements-I	4	0	0	8	40	60	100	3 Hrs.
2	MET302	Heat Transfer	3	1	0	7	40	60	100	3 Hrs.
3	MEP302	Heat Transfer	0	0	2	2	25	25	50	3 Hrs.
4	MET303	Mechanical Measurements	3	1	0	7	40	60	100	3 Hrs.
5	MEP303	Mechanical Measurements	0	0	2	2	25	25	50	3 Hrs.
6	MET304	Production Technology	3	1	0	7	40	60	100	3 Hrs.
7	MEP304	Production Technology	0	0	2	2	25	25	50	3 Hrs.
8	INT313	Operations Research	3	1	0	7	40	60	100	3 Hrs.
9	MEP305	Technical Seminar	0	0	2	2	50	0	50	3 Hrs.
10	MEP312	Solid Modeling	0	0	2	0			SF/USF	
		TOTAL	16	4	10	44				

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16.
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering)
Semester Pattern - VI Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET306	Thermal Engineering - I	3	1	0	7	40	60	100	3 Hrs.
2	MET307	Automatic Control	4	0	0	8	40	60	100	3 Hrs.
3	MET308	Manufacturing Science- II	4	0	0	8	40	60	100	3 Hrs.
4	MEP308	Manufacturing Science- II	0	0	2	2	25	25	50	3 Hrs.
5	MET309	Open Elective	3	1	0	7	40	60	100	3 Hrs.
6	MCT321	Computer Applications	3	1	0	7	40	60	100	3 Hrs.
7	MCP321	Computer Applications	0	0	2	2	25	25	50	3 Hrs.
8	MEP311	Industrial Case Study	0	0	2	2	50	0	50	3 Hrs.
		TOTAL	17	3	6	43				

Course Code	Open Elective 1	Course Code	Open Elective 2
MET309-1	Automobile Engineering	MET309-2	Robotics

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16.
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering)
Semester Pattern - VII Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET401	Thermal Engineering-II	4	0	0	8	40	60	100	3 Hrs.
2	MEP401	Thermal Engineering-II	0	0	2	2	25	25	50	3 Hrs.
3	MET402	Design of Machine Elements - II	3	1	0	7	40	60	100	3 Hrs.
4	MEP402	Design of Machine Elements - II	0	0	2	2	25	25	50	3 Hrs.
5	MET403	Elective -I	4	0	0	8	40	60	100	3 Hrs.
6	MET404	Elective- II	3	1	0	7	40	60	100	3 Hrs.
7	MEP404	Elective- II	0	0	2	2	25	25	50	3 Hrs.
8	INT413	Productivity Improvement Techniques	3	1	0	7	40	60	100	3 Hrs.
9	MEP405	Project Phase-I	0	0	2	4	25	25	50	3 Hrs.
		TOTAL	17	3	8	47				

Course Code	Elective I	Course Code	Elective II (With Lab.)
MET403-1	Advanced Manufacturing Techniques	MET404-1	Finite Element Methods
MET403-2	Synthesis of Mechanisms	MET404-2	Stress Analysis
MET403-3	Advanced I. C. Engines	MET404-3	Refrigeration and Air-conditioning
MET403-4	Advanced Material Handling Systems	MET404-4	Modeling and simulation
MET403-5	Composite Materials	MET404-5	Mechatronics
MET403-6	Energy Conservation and Management		

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Bachelor of Engineering (Mechanical Engineering) Semester Pattern - VIII Semester B. E. (Mechanical Engineering)

Sr. No.	Code	Course	L	T	P	Credits	Internal Assessment	End Sem Exam	Total	Exam Duration
1	MET406	Automation in Production	3	1	0	7	40	60	100	3 Hrs.
2	MEP406	Automation in Production	0	0	2	2	25	25	50	3 Hrs.
3	MET407	Computer Aided Design	3	1	0	7	40	60	100	3 Hrs.
4	MEP407	Computer Aided Design	0	0	2	2	25	25	50	3 Hrs.
5	MET408	Elective -III	3	1	0	7	40	60	100	3 Hrs.
6	MET409	Elective-IV	3	1	0	7	40	60	100	3 Hrs.
7	MEP409	Elective-IV	0	0	2	2	25	25	50	3 Hrs.
8	INT414	Industrial Management & Entrepreneurship Development	4	0	0	8	40	60	100	3 Hrs.
9	MEP410	Project Phase- II	0	0	6	12	75	75	150	3 Hrs.
		TOTAL	16	4	12	54				

Course Code	Elective III	Course Code	Elective IV
MET408-1	Tool Design	MET409-1	Industrial Robotics
MET408-2	Automobile Engineering	MET409-2	Renewable Energy Systems
MET408-3	Vibrations in Mechanical Systems	MET409-3	Mechanical system design
MET408-4	Power Plant Engineering	MET409-4	Simulation of Manufacturing Systems
MET408-5	Optimization Techniques	MET409-5	Industrial fluid power
MET408-6	Cryogenics		

(1) New scheme is applicable progressively to students admitted to I year and II year Mech. Engg. from 2015-16
(2) For students admitted to III Semester before 2015-16, old scheme with new syllabus will be applicable from 2015-16.

Scheme of Examination of Open Electives Offered by Non-Engineering Departments to Bachelor of Engineering Semester Pattern VI Semester

Sr. No.	Code	Course	L	T	P	Continuous Assessment	End Sem Exam	Total	Exam Duration
1	ECT309-1	Telecommunication Engineering	3	1	0	40	60	100	3 Hrs.
2	ECT309-2	Introduction to Instrumentation System and Transducers	3	1	0	40	60	100	3 Hrs.
3	ENT311-1	Consumer Electronics	3	1	0	40	60	100	3 Hrs.
4	ENT311-2	IC Design Techniques	3	1	0	40	60	100	3 Hrs.
5	ENT311-3	Arduino Playground	3	1	0	40	60	100	3 Hrs.
6	EDT311-1	Industrial Electronic System Design	3	1	0	40	60	100	3 Hrs.
7	ITT309-1	Internet Technologies	3	1	0	40	60	100	3 Hrs.
8	ITT309-2	Information Systems	3	1	0	40	60	100	3 Hrs.
9	CST310-2	Foundations of Business Intelligence [Conducted by INFOCEPTS Pvt Ltd, Nagpur]	3	1	0	40	60	100	3 Hrs.
10	CST310-3	Saleforce Technology: [Conducted by CSE Department in association with Persistent Systems Pvt. Ltd, Nagpur]	3	1	0	40	60	100	3 Hrs.
11	CST310-5	Mobile Technology by Global Logic [Conducted by Global Logic, Nagpur]	3	1	0	40	60	100	3 Hrs.
12	CST310-6	Insight into Cloud Computing - [Conducted by CSE Department in association with INFOSYS, Nagpur]	3	1	0	40	60	100	3 Hrs.
13	INT311-1	Six Sigma	3	1	0	40	60	100	3 Hrs.
14	INT311-2	Decision Modeling	3	1	0	40	60	100	3 Hrs.
15	INT311-3	Organizational Behaviour and Development	3	1	0	40	60	100	3 Hrs.
16	MET309-1	Automobile Engineering	3	1	0	40	60	100	3 Hrs.
17	MET309-2	Robotics	3	1	0	40	60	100	3 Hrs.
18	CET314-1	Environmental Pollution	3	1	0	40	60	100	3 Hrs.
19	CET314-2	Green Building & Vastu Concepts	3	1	0	40	60	100	3 Hrs.
20	CET314-3	Appropriate Technology	3	1	0	40	60	100	3 Hrs.
21	EET313-2	Industrial Drives	3	1	0	40	60	100	3 Hrs.
22	EET313-3	Energy Management and Audit	3	1	0	40	60	100	3 Hrs.

23	PHT301	Quantum Mechanics for Engg.	3	1	0	40	60	100	3 Hrs.
24	PHT302	Nano Technology	3	1	0	40	60	100	3 Hrs.
25	PHT303	Solid State Lighting	3	1	0	40	60	100	3 Hrs.
26	MAT301	Combinatorial Theories	3	1	0	40	60	100	3 Hrs.
27	MAT302	Numerical Techniques	3	1	0	40	60	100	3 Hrs.
28	MAT303	Statistical Methods for Business and Management	3	1	0	40	60	100	3 Hrs.
29	CHT300-1	Corrosion Science	3	1	0	40	60	100	3 Hrs.
30	CHT300-2	Non Conventional Energy Sources and Environmental Pollution	3	1	0	40	60	100	3 Hrs.
31	HUT300-1	Employability Skills	3	1	0	40	60	100	3 Hrs.
32	HUT300-2	Challenges of HRD	3	1	0	40	60	100	3 Hrs.
33	MBT610-1	Financial Management	3	1	0	40	60	100	3 Hrs.
34	MBT610-2	Entrepreneurship Development	3	1	0	40	60	100	3 Hrs.
35	MCT708	Advanced Data Structures	3	1	0	40	60	100	3 Hrs.

REGULATIONS FOR THE UNDERGRADUATE PROGRAMMES 2016

Regulation No.	Description
R 1. General	
R 1.1	These regulations shall be called as the Regulations for the UG programmes of the Institute.
R 1.2	These regulations shall come into force with effect from the date of its approval by the Academic Council.
R 2. Undergraduate Programmes	
R 2.1	The Institute shall offer Undergraduate programmes as shown in Table 1.
R 2.2	The minimum duration of UG programmes leading to B. E. degree is eight semesters (spread over four years). The duration for the UG programme may be altered in accordance with the decision of the Competent Authority.
R 2.3	Reservation of seats for admission to UG programmes shall be as per the norms of the Government for Minority Institutions.
R 2.4	Direct second year UG admission (lateral entry) shall be made as per norms and procedures of Government for Minority Institutions.
R 2.5	The candidate shall be provisionally admitted to UG programme subject to fulfillment of eligibility criterion as prescribed by the Competent Authority.
R 2.6	In the matter of admissions to the UG programmes, the decision of the competent authority shall be final.
R 2.7	A student should have obtained the eligibility certificate from the University in the first semester at the time of admission.
R 3. Semester System	
R 3.1	The academic programmes in the Institute shall be based on semester system; two semesters (July - December and January - June) in a year with winter and summer vacations.
R 3.2	The curriculum shall consist of credit and audit (non-credit) courses.
R 3.3	Each credit course shall have a certain number of credits assigned to it depending upon the academic load of the course, which would be assessed on the basis of weekly contact hours of theory lecture, tutorial, laboratory classes and field study if required.
R 3.4	The courses, practicals, seminars and projects offered in a semester shall be continuously assessed and evaluated to judge the performance of a student.

R 4. Curriculum Structure	
R 4.1	The programmes will consist of : (a) Courses comprising of basic sciences, engineering sciences, humanities and management; (b) Engineering core courses introducing the student to the foundations of engineering in his / her branch; (c) Electives enabling the students to take up a group of courses of interest to him/her; **Note:** *In general, subjects offered as open electives shall not be offered as departmental electives.* (d) Minor and major projects, and seminar approved by the Department and (e) Other technical industry oriented audit courses/ Environmental Engineering Courses / Industrial visits / Case study / Mini Projects / Site visits / Yoga / Professional skills.
R 4.2	Each UG programme will have a curriculum and course contents (syllabi) for the courses designed by the BOS and approved by Academic Council.
R 4.3	The curriculum of any UG programme is designed to have credits of 362 for award of the degree. In case of direct second year diploma student, credits shall be calculated from second year onwards and the minimum credit requirement for award of degree shall be 275. (Modified in Academic Council Meeting dated 25/04/2016)
R 4.4	The total contact hours for UG programmes shall be as per norms prescribed by the Competent Authority.
R 4.5	The medium of instruction, examination and project reports will be English.
R 4.6	Every UG student will have to earn the credits by passing all the credit courses as specified in R 6 and will have to earn 'SF' grade in all the audit courses to become eligible for award of the Degree.
R 5. Course and Department Codes	
R 5.1	Each course offered shall have an alphanumeric course code consisting of a string of six characters. The first two characters in a course code shall be capital letters identifying the respective department offering the course, Third letter will indicate nature of the course i.e. Theory (T) or Practical (P). and next digit will indicate the (year of the course) 1-4 for UG Programme. viz. : **UG- CET4XX:** CE- Civil Engineering, T-Theory, 4-Fourth Year and XX-Course Number.

R 6. Course Credits	
R 6.1	Each credit course shall have an integer number of credits, which reflects its weight. The student earns credits by passing corresponding courses in minimum 'CD' grade in theory course examination and in minimum 'CC' grade in practical course examination. The number of credits of a course in a semester shall normally be calculated as under (however there may be some exceptions):- (a) Lectures: One lecture hour per week shall be assigned two credits. (b) Practical/Tutorial: One laboratory/Tutorial hour per week shall also be assigned one credit. Not more than four credits may be assigned to a practical course having only laboratory component. (c) Major Project: One project hour will be assigned two credits. (d) Special courses like minor and major projects, seminar, general proficiency in the UG programme shall be treated as any other practical course and shall be assigned such number of credits as reflected in the respective scheme approved by the BOS and Academic Council.

R 7. Incentive credits to the students participating in NCC / NSS / Games & Sports / Cultural Activities / ACEES.

R 7.1	The students admitted to the B.E. programme participating in NCC / NSS / Games & Sports / Cultural Activities / ACEES as per norms of the University will be treated as additional courses and shall be awarded grades as shown below :
	However these will not be the compulsory courses.
	Guidelines for calculation of Grade point for participating in activities NCC/NSS/Games & Sports/Cultural Activities/ACEES in the semester.
	Award of grades and conversion to Grade points shall be done as below

Grade Points	Range of Marks
10	90-100
9	80-89
8	70-79
7	60-69
6	50-59
5	40-49
4	30-39
0	Less than 30

VARIOUS COMPONENTS FOR CALCULATING THE MARKS OUT OF 100 ARE AS BELOW:-

Sr. No.	Components of marks	Eligibility	Marks
1	Attendance / Consistency	All students	5
2	Physical fitness Test / Post holder (University / College team Captain, secretary, branch secretary)	I & II Semester/ III to VIII	5
3	Behavior on field or during competition / event	All students	5
4	Participation in Intra Collegiate / inter branch activities (1st, 2nd, 3rd position).	All students	5 (5, 3, 1)
5	Participation in Inter Collegiate activities.	All team members	30
6	Securing 1st, 2nd, 3rd position in inter collegiate activities.	All team members	50
7	Participation in University / State level activities	All team members	70
8	National / International level activities	All team members	80
9	Organization of Co-curricular & extra-curricular activities	All SRC members	10

Evaluation of student for NCC/NSS/GAMES & SPORTS/ACEES activities shall be done by HOD of Physical Education Department. Evaluation of student for CULTURAL/LITERARY activities shall be done by Dean SRC. Evaluation of co-curricular activities like technical paper presentation / model project exhibition etc. shall be done by H.O.D. of respective department. However compilation of student data for all the activities shall be the responsibility of H.O.D. Physical Education.

Students shall be assessed for the marks mentioned in serial number 5, 6 & 7 of above table and best of three items should only be awarded. Serial No. 1, 2, 3 & 4 are add-on marks that should be added with the marks received by students for serial number 5, 6 & 7.

R 7.2	Community Service Programme (CSP) will be announced by the Sports/Humanities/ NSS department time to time at the start of academic year. The students should register in the concerned department and shall participate in the CSP conducted during that academic year.

R 8. Academic Council

Academic Council shall be constituted as per the guidelines for autonomous colleges prescribed by UGC under plan 11of para 8.

R 8.1	Academic Council shall consist of 1. Principal (Chairman) 2. All Heads of the Departments in the Institute. 3. Four teachers of the Institute representing different categories of teaching staff by rotation on the basis of seniority of service in the Institute. 4. Not less than four experts from outside the Institute representing such areas as Industry, Commerce, Law, Education, Medicine, Engineering etc. to be nominated by the Board. 5. Three nominees of the University. 6. A Faculty member nominated by the Principal (member secretary).

R 8.2	Without prejudice to the generality of functions mentioned the Academic Council will have powers to: a) Scrutinize and approve the proposals with or without modifications of the Board of Studies with regard to course of study, academic regulations, curricula, syllabi and modifications. Thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc. *provided* that where the Academic Council differs on any proposal, it will have to return the right to any matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so. b) Make regulations regarding the admission of students to different programmes of study in the college. c) Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels. d) Recommend to the Board proposals for institution of new programmes of study. e) Recommend to the Board of scholarships, studentship, fellowships, prizes and medals, and to frame regulations for the award of the same. f) Advise to the Board on suggestion(s) pertaining to academic affairs made by it. g) Perform such other functions as may be assigned by the Board. h) Any other matters time to time thought necessary by the Principal and the Board.

R 9. Course Coordination Committees

R 9.1	Every HOD will appoint a coordination committee for each subject group which shall contain the senior departmental faculty related to the subject/group and invited members from other departments and industry if required.

R 10. Board of Studies (BOS)

R 10.1	Every programme shall have its own Board of Studies (BOS) to look after all matters pertaining to that particular programme. **Composition :** a) Head of the department concerned (Chairman) b) The entire faculty of each specialization c) Two experts in the subject from outside the Institute to be nominated by the Academic Council. d) One expert to be nominated by the Vice Chancellor from a panel of six recommended by the Principal. e) One representative from the industry/ corporate sector/allied area relating to placement. f) One post graduate meritorious alumnus to be nominated by the Principal. The Chairman BOS, may with the approval of the Principal, co-opt i. Expert from outside the college whenever sufficient courses of studies are to be formulated. ii. Other members of staff of the same faculty. *Provided* that in case of Applied sciences the Chairman of the Board will be HOD of Physics, Chemistry, Mathematics and Humanities by rotation. Remaining composition of the Board will be the same.

R 10.2	**Functions :**
	BOS of a department in the Institute shall :
	a) Prepare syllabi for various courses keeping in view the objectives of the Institute, interest of the stakeholders and national requirement for consideration and approval of the Academic Council ;
	b) Suggest methodologies for innovative teaching and evaluation techniques ;
	c) Suggest panel of names to the Academic Council for appointment of examiners ; and
	d) Coordinate research, teaching, extension and other academic activities in the department/Institute.
R 10.3	The Principal of the Institute shall appoint the BOS in consultation with the respective Head of the Department. In case of vacancies in BOS replacement shall be done by Chairman BOS with the approval of the Principal. For an interdisciplinary programme, an ad-hoc board shall be constituted by Dean Academics. A Programme Coordinator shall be appointed by the Principal in consultation with the Dean Academics and the Heads of the concerned Departments to look after all the administrative and academic matters related to the interdisciplinary programme.
	The Programme/Course Coordinator shall exercise the functions of the Chairman, of such ad-hoc Boards.

R 11. Courses of Special Nature

R 11.1	**(a) Minor-Project**
	A curriculum may contain a minimum 2-credit course on minor project, which may be offered in fifth/sixth semester onwards to carry out a design, fabrication, site visits, market survey, etc. Not more than four students may carry out the minor project together.
	(b) Major Project
	A curriculum shall contain (4 + 12) a 16-credit component of project seminar and major project, offered in the seventh (4 credits) and eighth semester (12 credits) of the UG programme. Not more than four students may carry out the major project together. The batch formation norms and allotment of guide shall be carried out by concerned Department.
	(c) Offering an Elective
	An elective course in a department shall run only if minimum of 15 students register for it in a regular semester. However, under special circumstances, a course may run with fewer students with prior permission of the Chairman, Board of Studies. If additional full time faculty is required, approval of the Principal is necessary.

R 12. Starting a New Programme

R 12.1	(a) An Institute is free to start diploma (UG and PG) or certificate courses without the prior approval of the university. Diplomas and certificates shall be issued under the seal of the college.
	(b) An Institute is free to start a new degree or postgraduate programme with the approval of the academic council. Such programmes shall fulfill the minimum standards prescribed by the University/UGC in terms of number of hours, curricular content and the university shall be duly informed of such programmes.
	(c) An Institute may rename the existing programme after restructuring/ redesigning it with the approval of the academic council as per UGC norms. The university should be duly informed of such proceedings so that it may award new degrees in place of the old.
	(d) An interdisciplinary programme may be proposed by a Department in consultation with other participating Department(s), or by a group of Department(s), or by a Committee appointed by the Principal.
	(e) A new programme proposed by Department(s) shall be placed before the APEC and the Academic Council for their recommendation to the Board / Government /AICTE for obtaining its approval.

R 13. Registration

R 13.1	Every student admitted shall have his/her unique Student ID. The Student ID of a student shall consist of alpha-numerals nnPPPSmmmPPPS where, nn: Indicates year of admission, PPP: Indicates programme, S: Indicates shift and mmm: Indicates serial number in a programme. Example, 15EEU1001EEU1; 15--- year of admission, EEU--- programme in which admitted, 1 --- shift, 001---his serial number, EEU--- programme in which admitted and 1 --- shift. If his branch is changed to, let us say CS in second shift, then his ID will change as; 15EEU1001CSU2. Advantage of this is the first 9 alpha-numerals remain same throughout the course. Hence, in the software they can be used for his coding.
R 13.2	Registration at the beginning of each year, on the prescribed dates announced from time to time, by payment of the stipulated fees along with duly filled in admission form is compulsory for every student till he/she completes the Programme.
R 13.3	Registration, according to rules, should be carried out on the first four days of each year. Late registration may be permitted only for valid reasons and on payment of a late registration fee. In any case, registration must be completed before the prescribed last date for registration, failing which his/her studentship is liable to be cancelled. Students having outstanding dues to the Institute or hostel shall be permitted to register only after clearing the dues.
R 13.4	In-absentia registration may be allowed only in rare cases at the discretion of the Dean Academic in case of circumstances beyond the control of students.

R 13.5	For admission to III Semester the student must have earned all the credits of I semester (i.e. He/ she shall have to secure passing grade in all the courses offered in I semester) and at least 60% of the total credits (rounded off to nearest lower integer) of immediate last year (i.e. I & II Semester put together) failing which he/she shall not be eligible for admission to III semester.
	For admission to V Semester the student must have earned all the credits of I, II and III semester (i.e. He/ she shall have to secure passing grade in all the courses offered in I, II and III semester) and at least 60% of the total credits (rounded off to nearest lower integer) of immediate last year (i.e. III & IV Semester put together) failing which he/she shall not be eligible for admission to V semester.
	For admission to VII Semester the student must have earned all the credits of I, II, III, IV and V semester (i.e. He/ she shall have to secure passing grade in all the courses offered in I, II, III, IV and V semester) and at least 60% of the total credits (rounded off to nearest lower integer) of immediate last year (i.e. V & VI Semester put together) failing which he/she shall not be eligible for admission to VII semester.

R 14. Equivalence and Absorption of students

R 14.1	The students from University pattern, desirous of seeking admission to III, V and VII semester in autonomous pattern, has to fulfill the prevailing ATKT norms of University, to become eligible for admission. However, such students have to clear backlog subjects (courses) if any, by appearing for the respective examinations of University. In addition the student also has to register and pass new courses, if any, introduced in earlier semesters of the autonomous pattern in three attempts. The norms of absorption/equivalence shall be decided by the Academic Council on the recommendations of the Equivalence Committee from time to time.
R 14.2	The student, desirous of seeking readmission to II, IV, VI and VIII semester in particular academic year (because of detention in university pattern) will have to register and pass in I, III, V and VII semester of the same academic year for all such courses which have not been covered (fully or partially) in previous semester in university pattern.
R 14.3	While switching from University pattern to autonomous pattern the CGPA of such student shall be calculated as per the table below.

CGPA	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Percentage	40	50	60	70	80	90	100

The intermittent percentages should be calculated based upon the extrapolation of the values in the table.

R 14.4	When a student switches from a University to the Institute, the additional courses offered in previous semester of that programme in Autonomous pattern of the institute and not covered in the corresponding University curriculum, such additional courses shall be treated as audit courses and he/she will have to earn 'Satisfactory Grade' in those courses.
	Provided that the/she clears all the backlog subjects in a university and earns 'Satisfactory' grade for the additional course/s in the institute, which is/are not covered in university curriculum, prior to switch over.
	Provided further that, for a student/s seeking transfer from an autonomous college to the Institute will have to clear all the backlogs of his parent institute and all those additional courses offered in previous semester/s of the Institute.
R 14.5	For direct admission to second year (lateral entry)/transfer the calculation of CGPA and award of credits shall be governed by R 14.3 and R 14.4, In that case percentage of the diploma certificate shall be considered for the absolute grading system instead of the first year.
R 14.6	The students from any University/ Autonomous college desirous of seeking admission to III/ V/ VII semester is eligible to take admission as per norms laid down by the Equivalence Committee of the college after obtaining the permission from the competent authority.

R 15. Change of Branch

R 15.1	A student seeking change of branch at III semester must have earned all the credits of I and II semesters.
	The change of branch shall be effected as per the rules and norms approved by the Government from time to time.

R 16. Discipline and Conduct

R 16.1	Every student is required to observe discipline and decorous behavior both inside and outside the campus and not to indulge in any activity, which will tend to bring down the prestige of the Institute.
R 16.2	The following acts of omission and/or commission by the students within or outside the college campus shall constitute gross violation of 'Code of Conduct' punishable as indiscipline.
	a) Lack of courtesy and decorum, as well as indecent behavior;
	b) Willful damage of property of Institute/ Hostel or of fellow students;
	c) Possession/ Consumption/ Distribution of alcoholic drink and banned drugs;
	d) Mutilation or unauthorized possession of library materials like books, journals etc.
	e) Noisy and Unseemly behavior disturbing peace in Institute and Hostel;
	f) Hacking in Computer system, either hardware or software or both;
	g) Any other act considered by the Institute as a gross indiscipline.

R 16.3	Any act of indiscipline of a student reported to the Dean, Student Affairs, will be discussed in a Complaint Redressal Committee constituted by the Academic Council.
	The Committee will enquire into the charges and recommend suitable punishment if the charges are substantiated. The concerned Heads of the Departments/ First Year Coordinator will consider the recommendations of the Complaint Redressal Committee and authorize the Dean, Student Affairs to take appropriate action.
	Also the Academic Council will duly and transparently form a Grievance Redressal Committee. In case of any issue the student has to submit his grievance in writing with a copy to the Dean Student Affairs.
	The committee will look into the matter and forward the action taken to the Dean Student Affairs and the student.
R 16.4	**Appeal :** The student may appeal to the Chairman, Academic Council whose decision will be final; and will be conveyed to the Dean, Student Affairs. The Dean, Student Affairs will report the action taken at the next meeting of the Academic Council.
R 16.5	If the student while studying in the Institute is found indulging in anti-national activities contrary to the provisions of acts and laws enforced by Government he / she will be liable to be expelled from the Institute without any notice.
R 16.6	If a student is involved in any kind of ragging, the student shall be liable for strict action as per Maharashtra anti-ragging act 1999, which is in effect from 15th May 1999.
R 16.7	If any statement/information supplied by the student in connection with his/her admission is found to be false/ incorrect at any time, his/ her admission shall be cancelled and he/she shall be expelled from the Institute and fees paid shall be forfeited.
R 16.8	Student once admitted in the Institute has to follow dress code, if any, as well as other instructions issued by the administration from time to time, failing which disciplinary action shall be initiated against such student.
R 16.9	If a student is found guilty of overall misconduct during his/her stay in the Institute, he/she will be punished as per the recommendations of the Dean, Student Affairs. The maximum punishment may be expulsion from the Institute.
R 16.10	If a student is found guilty of malpractice in examination he/she will be punished as per the recommendations of the COE in consultation with EXC.

R 17. Attendance, Absence, Leave Rules and Dismissals	
R 17.1	All the students are expected to be present in every lecture, tutorial, practical, NCC / NSS / CSP /Games & Sports / Yoga scheduled for them. Attendance will be closely monitored during a semester as per the guidelines.
R 17.2	If a student is continuously absent from the classes for more than four weeks without informing the Course Coordinator, the Coordinator shall immediately bring it to the notice of First Year Coordinator/ the Head of the concerned department as the case may be and they in turn will inform the same to the Office of Dean Academic.
R 17.3	The names of the students who have remained absent, for more than 25% of the actual classes held in a course will be intimated by the Course Coordinator himself on the last teaching day of each month of the respective semester, to the students in the class with written intimation to the HOD / First Year Coordinator, who will arrange to consolidate the list for all such students for all the courses and display it on the notice board of the department with an intimation to Dean Academics.
R 17.4	A student must have an overall 75 % attendance of the total number of classes including lectures/ tutorials and practicals.
	Student is not permitted to appear for the end semester examination if the shortfall of attendance exists. He/ She shall be awarded `Z' grade in that semester. This grade shall appear in the grade card till the successful completion of course requirements in that semester. The decision in this regard taken by the Academic Council will be final.
R 17.5	Condonation of Attendance: Condonation of attendance can only be considered in case the overall attendance of the student is minimum 60%.
	A deficiency of overall attendance to the extent of 15% may be condoned by the Principal on the recommendation of Head of the Department/ First Year Incharge on being satisfied that the same deficiency in attendance was due to circumstances beyond the control of the student.
	For availing such condonation, a student will have to apply to the Head of concerned department along with requisite documents. However the decision in this matter will be finally taken by the Principal. (Modified regulation as approved by Academic Council in its meeting dated 25th April 2015).
R 17.6	In case the overall attendance is below 60 %, his/her attendance in individual courses shall be considered. If in any course his/her attendance is minimum 60%, he/she shall be eligible to appear in end semester examination of that course.
	However the decision in this matter will be finally taken by the Principal. (Modified regulation as approved by Academic Council in its meeting dated 25th April 2015).
R 17.7	Student who is not permitted to appear for the end semester examinations due to shortfall in attendance in a course shall be awarded 'Z' grade in that course. This grade shall appear on the Grade Card till the successful completion of course requirements in that course.

R 18. Withdrawals	
R 18.1	A student who wants to withdraw from a semester shall apply through the HOD to the Principal, on a prescribed form within one week from the end of the Test I Examination and it will be recorded in the registration record of the student. The student will be awarded a withdrawal grade 'W' at the end of the semester.
R 18.2	In case a student is unable to attend classes for more than four weeks in a semester, he/she may apply to the Principal through HOD for withdrawal from the semester. However, such application shall be made as early as possible and latest before the start of the End Semester Examination.
R 18.3	In case the period of absence on medical grounds is more than fourteen working days during the semester, a student may apply for withdrawal from the semester, if he/she so desires. But such an application must be made to the Principal through HOD, as early as possible and latest before the beginning of End Semester Examination.
R 18.4	The maximum duration for completion of a UG degree programme will be eight years. In case of direct Second Year admitted, diploma student, the maximum duration for completion of a UG degree programme will be six years. In case, a student is absorbed in autonomy from university, the maximum duration for completion of a UG degree programme will be twice the remaining duration of the programme. In case, a student is unable to complete a programme as per the duration mentioned above, the student may be declared as not fit for technical education on the recommendations of Academic Council. (Modified in Academic Council Meeting dated 25/04/2016)

R 19. Examination Scheme	
In a semester a student shall be evaluated for his/her academic performance in a theory (Lecture / Tutorial) course through Mid Semester Examinations and one End Semester Examination. All the examinations shall be conducted as per the syllabi prescribed by the respective BOS and approved by the Academic Council	
R .19.1	a) Three test examinations covering 15% evaluation each will be conducted as per schedule in the Academic Calendar. The best two scores, amongst the three tests shall be considered. Test examination will be normally of one-hour duration. The duration of examination may vary as per the need of the theory course. Valued answer books shall be shown to the students within six working days after the last day of the theory examination. Grievances, if any, shall be addressed by the HOD on application of the students within next two days.
	b) Teachers' assessment of students' performance covering 10% evaluation shall be done on the basis of any two heads such as home assignments, tutorials, open book tests, seminars, group discussions, projects, quizzes etc. The course coordinator shall declare the two heads chosen for each course, within the date prescribed by the Dean Academics.
	c) End Semester Examination shall be conducted as per schedule in academic calendar. End semester examinations will be of three-hour duration. The duration of examination may vary as per the need of the theory course. Valued answer books shall be shown to the students within six working days after the last day of the theory examination. Grievances, if any, shall be addressed by the HOD on application of the students within next two days. Correction in marks, if any, should be communicated to the office of COE in the format prescribed within ten working days after the day of examination.

R 19.2	A student who skips teachers' assessment or a part thereof shall be awarded zero marks under the respective head.
R 19.3	A student who remains absent for End Semester examination, shall be awarded zero marks in end semester examination. If a student is eligible for 'FF' or 'I' grade shall be allowed to appear for the make-up examination. The make-up examination shall be conducted within one month from the declaration of results of the end semester examination. Make up examination shall be for end semester examination of that academic year only (Modified in Academic Council Meeting Dated 25/04/2016).
R 19.4	A student shall be evaluated for his/ her academic performance in a practical course on the basis of continuous evaluation and one end semester practical examination. a) Continuous assessment covering 50% evaluation on the basis of his/ her performance in each practical examination, journal completion and viva-voce/ objective examination. b) There shall be one end semester practical examination covering 50% evaluation. In case of performance oriented practical, the evaluation shall be done on the basis of performance in practical examination and viva-voce/objective test. Mode of examination for non-performance type of practical shall be declared by the course coordinator in the beginning of the session. Type of practical course i.e. performance type or non performance type shall be decided by the respective BOS.
R 19.5	The seminar shall be evaluated through the quality of work carried out, the report submission and presentation/s as per the guidelines prescribed by the respective BOS from time to time.
R 19.6	Project work shall be evaluated by mid-term seminar/s, the quality of work carried out, project report submission and the viva-voce examination.
R 19.7	Notwithstanding contained in above, any specific norms in respect of examination, criterion of passing, results, valuation, grading, discipline, award of degree, attendance will be prepared by the respective departmental faculty board, approved by BOS and Academic Council, if required.
R 19.8	An examinee securing 'FF' or 'Z' grade in any course of an examination of an Under Graduate programme shall have an option to forego his/her continuous assessment marks in a course or courses. In such cases he/she shall be examined for a total marks comprising theory/practical end semester examination and continuous assessment together, at his/her successive attempt at the examination such an option can be availed by an examinee incase he/she is appearing for the successive attempts at the examination as ex-student for that particular course. The Option of forego cannot be availed by examinee in an examination incase he/she is appearing for the examination

as regular student for that particular course. A student who is detained from appearing in an examination in a course(s) for lack of attendance can exercise the option of forego in successive attempts at the examination.

To avail this, the examinee would indicate the same in his or her 'Application for the examination' and the option once exercised, shall be 'Final and Binding' on the examinee concerned for all the subsequent examinations in that course. *(Modified regulation as approved by Academic Council in its meeting dated 15th April 2014).*

For the examinee opting for forego, his/her marks in continuous assessment shall be ascertained proportionately on the basis of his/her marks in the end semester examination of that course.

a.   For example, in case of a theory course wherein out of a total of 100 marks, 60 marks and 40 marks are allotted to end semester examination and continuous assessment respectively, the proportion would be 1.5:1 i.e. for every 1.5 marks scored in end semester examination, 1 mark would be assigned to continuous assessment.

b.   For example, in case of a practical course wherein out of a total of 50 marks, 25 marks each are allotted to end semester practical examination and continuous assessment respectively, the proportion would be 1:1 i.e. for every 1 mark scored in end semester practical examination, 1 mark would be assigned to continuous assessment.

An examinee can opt for forego of his/her marks in continuous assessment of a practical course only after submission of 'Term work completion' certificate issued by the concerned head of the department along with the 'Application for the examination'.

R 20. The Grading System

R 20.1	For every course taken by a student he/she is assigned a grade based on his/her combined performance in all components of evaluation scheme of a course/practical. The grade indicates a qualitative assessment of the student's performance and is associated with equivalent number called a grade point.
R 20.2	The academic performance of a student shall be graded on a ten-point scale following guidelines Table 2.

R 20.3	The letter Grades (up to 'CD' only in theory courses and up to 'CC' grade in practical courses) awarded to a student in all the credit courses shall be converted into a SGPA and CGPA, to be calculated as given in R 28.
R 20.4	For computation of Standard Relative Grades, for the evaluation of the academic performance of an examinee in a course, in Makeup Examination, the Mean and the Standard Deviation would be the same as the Mean and Standard Deviation in the End Semester Examination for which the Makeup Examination was conducted.
R 20.5	A student passing a course in Makeup examination shall be treated as having cleared the course in First Attempt.
R 20.6	In case, an ex-student appears for examination of the course along with regular students appearing in that course then the cut-off marks of the regular examination shall be applicable. In all other cases the cut-off marks of the previous regular examination shall be applicable.

R 21. Grade Moderation Committee

R 21.1	The Grade Moderation Committee for the programmes except those for the first year shall be appointed semester wise by the Chairman, BOS. This committee shall be responsible for adherence to the guidelines for the award of grades and shall include all the concerned Course Coordinators. The Chairman, Grade Moderation Committee shall be responsible for the display of grades in the department and for forwarding the final grades to the COE.
R 21.2	The Grade Moderation Committee for the first and second semester (first year) shall consist of all the Course Coordinators of the courses offered to the first and second semester students in a semester, with the Coordinator (First year In-charge) as the Chairman. The Chairman, Grade Moderation Committee shall be responsible for the display of grades and for forwarding the final grades to the COE.

R 22. Award of Degree

R 22.1	The Degrees shall be awarded by the Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur along with the name of College, on recommendations of the Academic Council/ Board.

R 23. Grade Card	
R 23.1	The grade card shall be issued at the end of the semester to each student and will contain the following : a) The credits for each course registered for that semester. b) The grade points and letter grades obtained in each course. c) The total number of credits earned by the student up to the end of that semester in each of the course. d) The SGPA and the CGPA. Refer R. 28 and R. 31 for computation of grades from the marks and conversion to the SGPA & CGPA.
R 23.2	Grade card will not indicate class or division or rank.
R 23.3	Wherever required the conversion of CGPA to percentage of marks will be done using following table. | CGPA	4.0	5.0	6.0	7.0	8.0	9.0	10.0
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Percentage	40	50	60	70	80	90	100	 The intermittent percentages should be calculated based upon the extrapolation of the values in the table.

R 24. Minimum Requirements for the Award of the Degree	
R 24.1	The student should have taken and passed all the prescribed courses including seminar and projects under the general institutional and departmental requirements.
R 24.2	A student, who has earned all the credits for the degree but fails to obtain the minimum specified CGPA for this purpose, shall take additional courses or repeat the courses mentioned in program till the minimum CGPA is attained subject to maximum duration of program as specified in R 18.4 and R 25.1.
R 24.3	The credits for the courses in which a student has obtained 'CD' grade or higher shall be counted as credits earned by him/her. The grades awarded for successful and unsuccessful completion shall be 'Satisfactory' and 'Unsatisfactory' respectively. The grades shall be denoted by 'SF' and 'USF' respectively. The student should also have 'Satisfactory' grade in all the audit courses otherwise he/she will have to repeat the audit course provided that a student should have no case of indiscipline pending against him/her.

R 25. Extension of Maximum Period for Completion of a programme	
R 25.1	The maximum duration for any programme may be extended by at the most one semester for genuine cases and unavoidable circumstances as verified by the BOS and approved by Academic Council and the Board. Genuine cases on confirmation of valid reasons may be subjected to the said procedure. The decision of the administrative bodies will be final.

R 26. Award of Medals / Scholarships	
R 26.1	Awards available under excellent performances in sports, cultural, extra-curricular, debate, etc. shall be given to the students as per prevailing norms.
R 26.2	The award of scholarships / freeships and other benefits will be in accordance with rules framed by the Government of Maharashtra and Govt. of India.
R 26.3	The award of merit scholarships / Medals, if any, to the students will be governed by the regulations framed by the Board / Academic Council from time to time.
R 26.4	Students clearing all courses offered in a programme in regular examination in first attempt shall be considered for the award of merit / medal. In case, a student has cleared any course offered in a programme in Makeup examination he / she shall not considered for the award of merit / medal.

R 27. Academic Calendar	
R 27.1	The Academic Calendar will be designed, updated and followed up by Dean Academics from time to time. The academic activities of the Institute are regulated by Academic Calendar approved by the Principal on the recommendation of Dean Academics from time to time and made available to the students/ Faculty members and all other concerned in printed and electronics form. It is mandatory for students / Faculty to strictly adhere to the Academic Calendar for completion of academic activities until and unless permitted by the competent authorities.

R 28. Calculation of SGPA and CGPA

(i) Calculation of Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by a number called SGPA. The SGPA is the weighted average of the grade points obtained in all the courses registered by the student during the semester. The Grades as specified in R 20.3 will be used for calculating the CGPA and SGPA.

$$SGPA = \frac{\sum_{i-1}^{n} C_i P_i + C_a P_a}{\Sigma C_i}$$

Where,

C_i = The number of credits offered in the ith course of a semester for which SGPA is to be calculated

P_i = Grade Point earned in the ith course

i = 1,2,........, n represent the number of courses in which a student is registered in the concerned semester

C_a = 1 ; Incentive credit per activity

P_a = Grade point for participating in activities NCC/NSS/Games & sports/Cultural Activities/ACEES.

SGPA is rounded up to two decimal places and SGPA shall not exceed 10.

(ii) Calculation of Cumulative Grade Point Average (CGPA)

Up-to-date assessment of the overall performance of a student from the time of his first registration is obtained by calculating a number called CGPA, which is weighted average of the grade points obtained in all the courses registered by the student since he/she entered the Institute.

$$CGPA = \frac{\sum_{j-1}^{m} C_j P_j + \sum_{l-0}^{k} C_{al} P_{al}}{C_j}$$

Where,

C_j = The number of credits offered in the jth course up to the semester for which CGPA is to be calculated

P_j = Grade point earned in the jth course.

j = 1,2,........, m represent the number of courses in which a student is registered up to the semester for which the CGPA is to be calculated

C_{al} ; Incentive credit in semester

P_{al} = Grade point for participating in activities NCC/NSS/Games & Sports/Cultural Activities/ACEES in the semester.

l = number of semester of participation

CGPA is rounded up to two decimal places and shall not exceed 10.

R 29. Guidelines for Award of Grades

Following are the general guidelines for the award of grades:

(i) In general standard relative grading system will be followed.

(ii) In case of subject if the number of students offering a given elective is less than 30, the grades will be awarded as per absolute grading system.

(iii) For each student, evaluation in different components of a course shall be done in absolute marks considering the weightage in the scheme.

(iv) The marks of various components shall be added to get total marks secured on a 100-points scale. The rounding off shall be done on the higher side.

(v) The provisional grades shall be awarded by the Examination Committee. The grades shall be finalized within fifteen working days after the End Semester Examination.

(vi) If required, the grades so awarded shall be moderated by a Grade Moderation committee within next three working days. This committee will finalize the grades and display a copy of the grades awarded on the Notice Board of the Department. All the final grades shall be communicated to the Controller of Examinations within three working days from the date of display of grades.

The procedures for evaluation and award of grades for project, training, seminar and group discussion shall be decided by the respective DFB.

(vii) In case of audit courses the students would be awarded grades as follows

i. Satisfactory

ii. Unsatisfactory

The grades shall be awarded by the course coordinators and communicated to the controller of examinations. The course coordinator shall decide and declare the mode of evaluation for the audit courses within the date prescribed by the Dean Academics.

R 29.1 Standard Relative Grading System

Computation of Standard Relative Grades

The Mean and Standard Deviation would be calculated for the course based upon the marks obtained by the students in that course

Formula for Mean $(\overline{X})$

$$\overline{X} = \frac{\sum\limits_{i=1}^{n} X_i}{n}$$

Formula for standard Deviation(s)

$$s = \sqrt{\frac{\sum\limits_{i=1}^{N} (x_i - x)^2}{N-1}}$$

For UG Courses having 30 or more students

Grades	Grade Points	Range for Grade Calculation
AA	10	$\geq \overline{x} + 1.5\,s$
AB	9	$< AA$ and $\geq \overline{x} + 1.0\quad s$
BB	8	$< AB$ and $\geq \overline{x} + 0.25\,s$
BC	7	$< BB$ and $\geq \overline{x} - 0.5\,s$
CC	6	$< BC$ and $\geq \overline{x} - 1.0\,s$
CD	5	$< CC$ and $\geq \overline{x} - 1.5\,s$
FF	0	$< \overline{x} - 1.5\,s$

R 30. Guidelines for Project Evaluation

- Every student has to undertake a project of professional interest. The project may be related to a theoretical analysis, an experimental investigation, a proto-type design, a new correlation and analysis of data, fabrication and setup of new equipment. The Project Coordinator appointed by the department normally assigns the project towards the end of the pre-final year and the work is done uniformly during both the semesters of the final year.

- The first phase of project work to be carried out in seventh semester and will be assessed at the end of the semester under the head of seminar.

- The assessment of the project phase-II work is evaluated on the following basis;
    - The 1st stage of progressive project work carries 50% of the total weightage,
    - The final stage of project work carries 50% weightage,
    - At each stage of progressive project work, a report should be submitted and the

work should be presented which will be assessed by the panel of examiners as an internal assessment.

- The final project report should be submitted by the prescribed date. The final project report and the work should be presented, which will be assessed by the examiner at the End Semester Examination.

- Submission of the project cannot be postponed beyond the date specified in the calendar. If the project cannot be completed due to valid reasons, the course can be dropped in consultation with the project co-coordinator and the guide on or before the last date for dropping of courses. Re-registration for the same is required in the following semester in which it should be completed.

- Student who does not submit the project report for assessment by the due date due to unavoidable circumstances beyond his control, will be temporarily awarded 'I' grade at the time of finalization of grades.

    The 'I' grade will be converted to a performance grade when he/she submits the report and undergo the oral examination as per syllabi notified by project coordinator in consultation with HOD. In case of non-compliance of these provisions, 'I' grade shall automatically be converted into 'FF' grade.

R 31. Award of Grade Based on Absolute Marks System (Equivalence of University scheme)

The award of grades based on absolute marks out of 100 shall be made as follows for transfer of marks of university scheme to the Grades. Grade points will be computed as earlier.

Percentage of Marks	Grade
$\geq 90\,\%$	AA
80-89 %	AB
70-79 %	BB
60-69 %	BC
50-59 %	CC
40-49 %	CD
Less than 40 %	FF

R 32. Indication of Attempt on Grade Card

The following Characters will be displayed in the Grade Card to indicate the attempts. The Degree will not have any such indication. Single Grade Card will be provided for the regular and makeup examinations. The Grade Cards of successive attempts will be separately provided. However a single Grade Card for a semester may be provided after all the subjects of that semester are passed in more than one attempt. But it will be marked 'N' as already said. The student will have to separately apply to the Controller of Examinations for the single semester Grade Card with copies of all the intermediate semester Grade Card along with a fees decided by the Finance Committee.

M - With Makeup Examination

N - Not in the First Attempt

IG - Improvement Grade

R 33. (a) Improvement of Grade/CGPA while undertaking a Programme

Student shall be permitted to improve their grade under the following conditions.

1. The examination for improvement of grades shall hereafter be termed as 'Improvement Examination'.

2. A candidate admitted to the institute prior to the commencement of this ordinance, shall also be allowed to avail provisions as per this ordinance.

3. The facility for improvement of grades will be available to the students having CGPA below **6.00** *(Modified regulation as approved by Academic Council in its meeting dated 15th April 2014).*

4. The improvement is possible only in theory papers. No improvement is permissible in practicals/lab courses, projects, workshops and assignments.

5. The improvement examination shall be conducted along with the Makeup Examination.

6. The Improvement Examination can be undertaken only for the courses in which a candidate had appeared as a regular student in the end term examination for which the Makeup is being conducted.

7. Additional examination fees will be paid by the student for appearing in the examination for improvement in the grade. The fee payable shall be as prescribed by the Finance Committee.

8. After the improvement examination result of the course taken for improvement of grade, better of the two grades, that is grade already awarded and the grade secured in the improvement examination will be considered.

9. A candidate who has reappeared for the above examinations under the provision of this ordinance and fails to improve his/her grade, his/her performance at such reappearance shall be ignored.

10. Student having undertaken Improvement Examination will not be eligible for the award of any medal/merit position.

11. The student shall be issued a fresh replacement grade card indicating the new grade with a mark which shall be explained as 'Improved Grade' only if he/she has improved the grades.

12. For calculation of standard relative grade for evaluation of the academic performance of an examinee in a course in improvement examination, the mean and standard deviation of that course in the regular examination shall be applicable.

R 33. (b) Improvement of Grade/CGPA after successful completion of a Programme

1. The facility of improving CGPA at Bachelors' Degree Level through re-appearance shall be available only to the candidates who have earned all credits offered in the programme and have secured not less than 5 CGPA similarly at Masters' Degree Level through re-appearance shall be available only to the candidates who have earned all credits offered in the programme and secured not less than 6 CGPA.

2. A Candidate who desires to improve the CGPA will be permitted at his / her option to reappear again for the courses of his/ her choice.

3. A candidate will be allowed to reappear for the examination for improvement of CGPA within a period of two years from the date of his/her passing Bachelor's / Master's degree examination.

4. A candidate shall have to reappear for any number of theory courses offered in the programme as per the scheme prevalent at the time of his appearance.

5. A candidate appearing for the improvement of CGPA shall not be entitled to get any prize/ medal/ scholarship/award etc.

6. A candidate who desires to apply for improvement of CGPA should submit his/her examination application form prescribed for improvement of CGPA from the College along with the prescribed fee for improvement and relevant documents.

7. A person eligible to take the examination under the provisions of this Ordinance shall pass the entire examination in maximum three attempts within two years from the date he/she first applies for improvement of CGPA.

8. Candidate will not be allowed to change any paper or papers which he had opted for improvement at subsequent reappearances. Further, all the papers of reappearance shall have to be cleared at one and the same sitting.

9. If an applicant fails in any of the papers opted for improvement, he/she will have to appear again for all those papers he/she had applied for improvement including the papers in which he/she had already passed during re-appearance.

10. Each examination for which candidate appears for improvement shall be considered as one attempt.

11. The result of the candidate appearing for improvement of CGPA shall be declared and communicated to him/her even if he/she does not obtain the required CGPA higher than the CGPA he/she already possesses.

12. A candidate who has reappeared for the examination under the provision of this Ordinance for improvement of his / her CGPA and improves his CGPA by such re-appearance, he / she shall have to return the original grade cards to the College, within one month from the date of declaration of result.

13. A candidate shall be issued revised grade card only after he/she surrenders his /her original grade cards to the College.

14. In the revised grade card, mention will be made of the fact that he/she has improved his/her CGPA under this Ordinance.

15. On award of a fresh grade card under this scheme, his/her previous grade card shall be treated as cancelled.

16. A candidate who has re-appeared for the above examination/s under the provision of this Ordinance and fails to improve his / her CGPA, his / her performance at such re-appearance shall be ignored.

17. Candidate, who has passed his/her degree examination under the old course / syllabus or scheme of examination which is not in existence, shall have to seek absorption/equivalence certificate regarding the absorption/equivalence of old courses

	with the existing ones from the respective Board of Studies. *(Regulation introduced as directed by Academic Council in its meeting dated 15th April 2014).*

R 33. (c) Credit Transfer Scheme

	1. Third year UG Engineering students, without any backlog i.e. having earned all the credits offered up to second year and having secured minimum CGPA of 8 shall be eligible to apply under this scheme.
	2. Students absorbed under absorption scheme in autonomy at RCOEM, shall not be eligible for C.T.S.
	3. Eligible and interested students shall apply in the prescribed format and based on the merit, students may be issued offer letter from RCOEM.
	4. The performance of the students transferred under Credit Transfer Scheme (CTS) in a particular semester shall be considered as it is in lieu of the requirement of RCOEM, Nagpur.
	5. The student availing the facility of student exchange and credit transfer will be abide by the rules, regulations and amendments of the host institute from where the student is transferred and to institute where he/she is transferred.
	6. The student will be required to register for courses offered at the institution for respective semester. Transfer of credit shall be governed by the equivalence and absorption scheme as proposed by the Board of Studies at RCOEM. In case of less number of Credits offered than the credits of RCOEM in the respective semester, student shall have to opt for additional course and earn additional credits at RCOEM. In case of more credits earned under CTS, the additional credits will be considered for calculation of SGPA/CGPA.
	7. Promotion rule of RCOEM shall be applicable to the students.
	8. In case the student fails in the courses during CTS in a particular semester, he/she shall be required to pass an equivalent course at RCOEM as per the equivalence and absorption scheme.
	9. Student will not be allowed to leave the semester in between. In case, he/she leaves or gets detained in the respective semester, he/she shall take fresh admission at RCOEM with r e g u l a r fees in the respective semester in next academic year.
	10. On selection for CTS the student along with his/her parent/guardian will have to submit the undertaking (Annexure-I).
	11. Student availing facility of CTS will make his own staying arrangement at the venue of concerned institute.
	12. On completion of evaluation by the institution, the student shall submit the score to RCOEM following which RCOEM will issue the grade card.

R 34. Emergent Cases

R. 34.1	Notwithstanding anything contained in the above regulations, the Chairman of the Academic Council may, in emergent situations, take action on behalf of the Academic Council as he thinks necessary and shall at the earliest opportunity, report it in the next meeting of the Academic Council.

R 35. Interpretation of Regulations

R.35.1	In case of any dispute, difference of opinion in interpretation of these regulations or any other matter not covered in these regulations, the decision of the Chairman, Academic Council shall be final and binding.

R 36. Power to Modify

R.36.1	Notwithstanding all that has been stated above, the Board has the right to modify any of the above regulations from time to time.

TABLE-1: UG PROGRAMMES LEADING TO BACHELOR'S DEGREE

Sr. No.	Branch	Degree	Code
1	Civil Engineering	B.E. (Civil Engineering)	CEU
2	Computer Science & Engineering	B.E. (Computer Science & Engineering)	CSU
3	Electrical Engineering	B.E. (Electrical Engineering)	EEU
4	Electronics Engineering	B.E. (Electronics Engineering)	ENU
5	Electronics Designing Technology	B.E. (Electronics Design Technology)	EDU
6	Electronics and Communication Engineering	B.E. (Electronics and Communication Engineering)	ECU
7	Information Technology	B.E. (Information Technology)	ITU
8	Industrial Engineering	B.E. (Industrial Engineering)	INU
9	Mechanical Engineering	B.E. (Mechanical Engineering)	MEU

TABLE 2: STRUCTURE OF GRADING OF ACADEMIC PERFORMANCE (UG)

Academic Performance	Grades	Grade Points
Outstanding	AA	10
Excellent	AB	9
Very Good	BB	8
Good	BC	7
Satisfactory	CC	6
Average	CD	5
Poor	FF	0
Incomplete	I	Subsequently to be changed into the grade earned.
Withdrawal	W	-
Non completion of course requirement	Z	-
Extension (in projects only)	X	-

Explanation :

'FF' Grade

- The 'FF' grade denotes poor performance amounting to failure.

- A student has to repeat all courses in which he/ she obtains 'FF'grade, till a passing grade is obtained within the prescribed duration.

- For the elective courses in which 'FF' grade has been obtained, the student may take the same course or any other course from the same elective group. If the course is not offered / available in the current semester he will have to take it whenever it is offered by the department and then appear for the examination.

'I' Grade

This grade indicates an 'Incomplete' course requirement due to absence in End Semester Examination. The grade is required to be converted into a regular letter grade as per the regulations.

'W' Grade

This refers to withdrawal from the course as per the regulations.

'X' Grade

This grade is awarded for incomplete Project work and will be converted to a regular grade on the completion of the Project work and its evaluation.

'Z' Grade

This grade stands for non-completion of course requirement.