SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR - 440013

An Autonomous College affiliated to
Rashtrasant Tukadoji Maharaj Nagpur University,
Nagpur, Maharashtra (INDIA)

UNDER GRADUATE ORDINANCES / REGULATIONS

2019 - 2020

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ISO 9001 : 2015 CERTIFIED ORGANISATION

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 Integrated Programme 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 July and ends in December; the 2nd Semester (Even Semester) starts in January and ends in June.

1.2 Departments

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

S.No.	Name of 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
17	Board Interdisciplinary Studies	ID

1.3 Programmes Offered

RCOEM Nagpur offers academic programmes namely Engineering at UG and PG levels, MBA, MCA, and MBA (Integrated). In undergraduate programmes and in MBA (Integrated), 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. Admission to all these programmes are based on 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	Electronics 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 Programme in Management

Sr. No.	Department	Programme Title	Programme Code	Eligibility for admission
1	Management Technology	MBA (Integrated)	MBI	Eligibility Criteria as laid down by the competent authority from time to time

2. ORDINANCES FOR THE U. G. PROGRAMMES 2019

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 of RCOEM, Nagpur 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 & II) BACHALOR OF ENGG
GROUP 1: SEMESTER-I/ GROUP 2: SEMESTER-II

Sr. No.	Code	Course	Branches	Hours/week L	T	P	Credits	Maximum Marks: Continual Assessment	End Sem Examination	Total	ESE Duration (Hours)
1.	PHT151	Mechanics	Civil; Industrial	3	1	0	4	40	60	100	03
	PHT152	Oscillations, waves & Optics	Electrical								
			Mechanical								
	PHT153	Semiconductor Physics	Electronics; EDT; Electronics & Comm								
			Computer Science Engg; Information Tech.								
2.	PHP151	Mechanics Lab	Civil; Industrial	0	0	3	1.5	25	25	50	–
	PHP152	Oscillations, Waves & Optics Lab	Electrical								
			Mechanical								
	PHP153	Semiconductor Physics Lab	Electronics; EDT; Electronics & Comm.								
			Computer Science Engg; Information Tech.								
3.	MAT152/ MAT151	Differential Equations, Linear Algebra, Statistics & Probability / Calculus	All Branches	3	0/1	0	3/4	40	60	100	03
4.	MAP151	Computational Mathematics Lab	All Branches	0	0	2	1	25	25	50	–
5.	EET151	Basic Electrical Engineering	All Branches	3	1	0	4	40	60	100	03
6.	EEP151	Basic Electrical Engineering Lab	All Branches	0	0	2	1	25	25	50	–
7.	MET151	Engineering Graphics & Design	All Branches	1	0	0	1	40	60	100	03
8.	MEP151	Engineering Graphics & Design Lab	All Branches	0	0	4	2	50	50	100	–
9.	HUT152	Constitution of India	All Branches	2	0	0	0	--	–	–	–
10.	PEP151	Yoga/Sports	All Branches	0	0	2	0	--	–	–	–
			Total	12	2/3	13	**17.5/18.5**			**650**	

GROUP 2: SEMESTER-I / GROUP 1: SEMESTER-II

Sr. No.	Code	Course	Branches	Hours/week L	T	P	Credits	Maximum Marks: Continual Assessment	End Sem Examination	Total	ESE Duration (Hours)
1.	CHT151	Chemistry	All Branches	3	1	0	4	40	60	100	03
2.	CHP151	Chemistry Lab	All Branches	0	0	3	1.5	25	25	50	--
3.	MAT151/ MAT152	Calculus / Differential Equations, Linear Algebra, Statistics & Probability	All Branches	3	1/0	0	4/3	40	60	100	03
4.	CST151	Programming for Problem Solving	All Branches	4	0	0	4	40	60	100	03
5.	CSP151	Programming for Problem Solving Lab	All Branches	0	0	2	1	25	25	50	--
6.	IDT151	Creativity, Innovation & Design Thinking	All Branches	1	0	0	1	20	30	50	1.5
7.	INT151	Workshop/Manufacturing Practices	All Branches	1	0	0	1	20	30	50	1.5
8.	INP151	Workshop/Manufacturing Practices Lab	All Branches	0	0	2	1	25	25	50	--
9.	HUT151	English	All Branches	2	0	0	2	40	60	100	03
10.	HUP151	English Lab	All Branches	0	0	2	1	25	25	50	--
			Total	14	2/1	9	**20.5/19.5**			**700**	

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT251	Maths III (Transform and Discrete Maths)	4	0	0	4	40	60	100	3
2	CET 251	Construction Materials	3	0	0	3	40	60	100	3
3	CEP 251	Construction Materials Lab	0	0	2	1	25	25	50	--
4	CET 252	Fluid Mechanics I	3	0	0	3	40	60	100	3
5	CEP 252	Fluid Mechanics I Lab	0	0	2	1	25	25	50	--
6	CET 253	Environmental Engineering I	3	0	0	3	40	60	100	3
7	CEP 253	Environmental Engineering I Lab	0	0	2	1	25	25	50	--
8	CET 254	Engineering Mechanics	3	1	0	4	40	60	100	3
9	CET 255	Solid Mechanics	3	0	0	3	40	60	100	3
10	CEP 255	Solid Mechanics Lab	0	0	2	1	25	25	50	--
		TOTAL	**19**	**1**	**8**	**24**				

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CET 256	Fluid Mechanics II	3	1	0	4	40	60	100	3
2	CEP 256	Fluid Mechanics II Lab	0	0	2	1	25	25	50	--
3	CET 257	Geotechnical Engineering	3	1	0	4	40	60	100	3
4	CEP 257	Geotechnical Engineering Lab	0	0	2	1	25	25	50	--
5	CEP 258	Computer Aided Civil Engineering Drawing Lab	0	0	2	1	25	25	50	--
6	CET 259	Structural Analysis	3	1	0	4	40	60	100	3
7	CEP 259	Structural Analysis Lab	0	0	2	1	25	25	50	--
8	CET 260	Environmental Engineering II	3	0	0	3	40	60	100	3
9		Open Elective I	3	0	0	3	40	60	100	3
10	HUT260	Effective Technical Communication	3	0	0	3	40	60	100	3
		TOTAL	**18**	**3**	**8**	**25**				

Open Elective I	
Course Code	**Course Name**
CET299-1	Basic Building Components
CET299-2	Basics of Environmental Pollution

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CET 351	Surveying and Geomatics	3	1	0	4	40	60	100	3
2	CEP 351	Surveying and Geomatics Lab	0	0	2	1	25	25	50	--
3	CET 352	RCC Structures	3	1	0	4	40	60	100	3
4	CEP 352	RCC Structures Lab	0	0	2	1	25	25	50	--
5	CET 353	Transportation Engineering	3	0	0	3	40	60	100	3
6	CEP 353	Transportation Engineering Lab	0	0	2	1	25	25	50	--
7	CET 354	Foundation Engineering	3	0	0	3	40	60	100	3
8		Open Elective II (Humanities)	3	0	0	3	40	60	100	3
9	HUT356	Organizational Behavior	3	0	0	0	--	--	--	--
		TOTAL	**18**	**2**	**6**	**20**				

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CET 357	Estimation and Costing	3	0	0	3	40	60	100	3
2	CEP 357	Estimation and Costing Lab	0	0	2	1	25	25	50	--
3	CET 358	Steel Structures	3	0	0	3	40	60	100	3
4	CEP 358	Steel Structures Lab	0	0	2	1	25	25	50	3
5	CET 359	Hydrology & Water Resource Engineering	3	0	0	3	40	60	100	3
6	CET 360	Elective I	3	0	0	3	40	60	100	3
7	CET 361	Elective II	3	0	0	3	40	60	100	3
8		Open Elective III	3	0	0	3	40	60	100	3
9	CEP 363	Comprehensive Viva	0	0	2	1	25	25	50	--
		TOTAL	**18**	**0**	**6**	**21**				

Open Elective III	
Course Code	**Course Name**
CET399-1	Metro Systems and Engineering.

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CET 451	Elective III	3	0	0	3	40	60	100	3
2	CET 452	Elective IV	3	0	0	3	40	60	100	3
3	CEP 452	Elective IV Lab	0	0	2	1	25	25	50	--
4	CET 453	Contracts Works Accounts and Management	2	0	0	2	40	60	100	3
5	CET 454	Construction Engineering and Management	3	0	0	3	40	60	100	3
6		Open Elective IV	3	0	0	3	40	60	100	3
7	CEP 456	Project Phase I	0	0	12	6	50	50	100	--
8	CEP 457	Industry Internship Evaluation (6-8 weeks)	0	0	2	0	--	--	--	--
		TOTAL	**14**	**0**	**16**	**21**				

Open Elective IV	
Course Code	**Course Name**
CET498-1	Green Building & Vastu Concepts

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CET 457	Elective V	3	0	0	3	40	60	100	3
2	CET 458	Elective VI	2	0	0	2	40	60	100	3
3	CEP 459	Project Phase II / One Semester Industry Project / Incubation	0	0	12	6	100	100	200	--
		TOTAL	**5**	**0**	**12**	**11**				

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization (Civil Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CETH41	Construction Technology	4	0	0	4	40	60	100	3
2	CETH51	Geotechnical Design	4	0	0	4	40	60	100	3
3	CETH61	Fire-fighting system	4	0	0	4	40	60	100	3
4	CETH71	Foundation Design	4	0	0	4	40	60	100	3
5	CETH81-1	Design of Environmental Structures	4	0	0	4	40	60	100	3
6	CETH81-2	Geometric Design of Highways	4	0	0	4	40	60	100	3

Note: Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Specialization (Civil Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CETM41	Basics of Civil Engineering	4	0	0	4	40	60	100	3
2	CETM51	Basics of Surveying in Civil Engineering	4	0	0	4	40	60	100	3
3	CETM61	Basics of Soil Engineering	4	0	0	4	40	60	100	3
4	CETM71-1	Plumbing System	4	0	0	4	40	60	100	3
	CETM71-2	Intelligent Transport System	4	0	0	4	40	60	100	3
6	CETM81-1	Instrumentation	4	0	0	4	40	60	100	3
7	CETM81-2	Rural Water Supply & Sanitation	4	0	0	4	40	60	100	3

Note:-If any of the above course is accessible to a student in his/her parent branch or Open electives then Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD.

List of Electives						
Semester	VI	VI	VII	VII	VII	VII
Course Code	CET 360	CET 361	CET 451	CET 452 / CEP 452	CET 457	CET 458
Elective Group	Elective I (Theory)	Elective II (Theory)	Elective III (Theory)	Elective IV (Theory + Practical)	Elective V (Theory)	Elective VI (Theory)
Structural Engineering	CET 360-1 Advanced Structural Analysis	CET 361-1 Advanced Concrete Technology	CET 451-1 Design of Concrete Structures	CET 452-1/CEP452-1 Computer Aided Design & Drafting	CET 453-1 Earthquake Resistant Design of RCC Structures	CET 454-1 Industrial Structures
Water Resources Engineering	CET 360-2 Irrigation Engineering	CET 361-2 Open Channel Flow	CET 451-2 Ground Water Engineering	CET452-2/ CEP452-2 Pipe line Engineering	CET 458-2 Design of Hydraulic Structures	CET 457-2 Watershed Management
Environmental Engineering	CET 360-3 Air Pollution & Control	CET 361-3 Solid Waste Management	CET 451-3 Environment Modeling	CET 452-3/CEP452-3 Water and Waste Water Treatment	CET457-3 Industrial Waste Water Treatment	CET458-3 Environm-ental Impact Assessment
Geotechnical Engineering	CET 360-4 Advanced Foundation Engineering	CET 361-4 Ground Improvement	CET 451-4 Earth & Earth Retaining Structures	CET 452-4/CEP452-4 Geotechnical Explorations	CET 457-4 Advanced Geotechnical Engineering	CET 454-4 Rock Mechanics
Transportation Engineering	CET 360-5 Pavement Design	CET 361-5 Urban Transportation Planning	CET 451-5 Railway Engineering	CET 452-5/CEP452-5 Traffic Engineering and Management	CET 457-5 Airport Planning	CET 458-5 Highway Construction & Management
Construction Engineering	CET 360-6 Advanced Construction Materials	CET 361-6 Repairs & Rehabilitation of Structures	CET 451-6 Contracts Management	CET 452-6/CEP452-6 Construction Project Planning & Systems	CET 457-6 Building Services	CET 458-6 Energy Efficient buildings
General	CET 360-7 Biology for Engineers	CET 361-7 Finite Element Method for Civil Engineers	CET 451-7 Numerical Methods for Civil Engineers	CET-452-7/CEP 452-7 Remote Sensing and GIS	CET 457-7 Disaster Preparedness and Planning	CET 458-7 Reuse of Industrial Wastes
	–	–	–	–	CET 457-8 Industry Elective I	CET 458-8 Industry Elective II

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST251	Fundamentals of Digital Logic and Computer Architecture	4	0	0	4	40	60	100	3 Hrs.
2	CSP251	Fundamentals of Digital Logic and Computer Architecture Lab	0	0	2	1	25	25	50	-
3	CST252	Data Structures & Algorithms	3	0	0	3	40	60	100	3 Hrs.
4	CSP252	Data Structures & Algorithms Lab	0	0	4	2	25	25	50	-
5	CSP253	Systems Lab-1	0	0	4	2	25	25	50	-
6	MAT252	Linear Algebra and Statistics	2	1	0	3	40	60	100	3 Hrs.
7	HUT253	Business Communication	3	0	0	3	40	60	100	3 Hrs.
8	HUT257	Cyber Laws & Ethics in IT	2	0	0	2	40	60	100	3 Hrs.
		Total	**14**	**1**	**10**	**20**	**275**	**375**	**650**	**-**

Scheme of Teaching & Examination of Bachelor of Engineering
IV Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST254	Discrete Mathematics and Graph Theory	3	1	0	4	40	60	100	3 Hrs.
2	CST255	Operating Systems	3	0	0	3	40	60	100	3 Hrs.
3	CSP255	Operating Systems Lab	0	0	4	2	25	25	50	-
4	CST256	Object Oriented Programming	3	0	0	3	40	60	100	3 Hrs.
5	CSP256	Object Oriented Programming Lab	0	0	2	1	25	25	50	-
6	CST257	Formal Language & Automata Theory	3	0	0	3	40	60	100	3 Hrs.
7	CST258	System Programming & Device Drivers	3	0	0	3	40	60	100	3 Hrs.
8	CSP258	System Programming & Device Drivers Lab	0	0	2	1	25	25	50	-
9	CSP259	Systems Lab-II	0	0	4	2	40	60	100	3 Hrs.
10	CST299	**Open Elective-I**	3	0	0	3	40	60	100	3 Hrs.
11	CHT252	Environment Sciences	2	-	-	0	-	-	-	-
		Total	**20**	**1**	**12**	**25**	**355**	**495**	**850**	

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST351	Database Management Systems	3	0	0	3	40	60	100	3 Hrs.
2	CSP351	Database Management Systems Lab	0	0	4	2	25	25	50	-
3	CST352	Design & Analysis of Algorithms	3	1	0	4	40	60	100	3 Hrs.
4	CSP352	Design & Analysis of Algorithms Lab	0	0	2	1	25	25	50	-
5	CST353	Computer Networks	3	0	0	3	40	60	100	3 Hrs.
6	CSP353	Computer Networks Lab	0	0	2	1	25	25	50	-
7	CSP354	Mobile Programming Lab	0	0	4	2	25	25	50	-
8		**Open Elective - II**	3	0	0	3	40	60	100	3 Hrs.
9	CST355	Elective -I	3	0	0	3	40	60	100	3 Hrs.
10	HUT353	Indian Traditional Knowledge	2	-	-	0	-	-	-	-
		Total	**17**	**1**	**12**	**22**	**300**	**400**	**700**	**-**

Course Code	Elective - I
CST355-1	Computer Graphics
CST355-2	Embedded Systems
CST355-3	Information Theory & Coding
CST355-4	Design Pattern

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST356	Artificial Intelligence	3	0	0	3	40	60	100	3 hrs.
2	CSP356	Artificial Intelligence Lab	0	0	2	1	25	25	50	-
3	CST357	Software Engineering	3	0	0	3	40	60	100	3 Hrs.
4	CSP357	Software Engineering Lab	0	0	2	1	25	25	50	-
5	CST358	Complier Design	3	0	0	3	40	60	100	3 Hrs.
6	CSP358	Complier Design Lab	0	0	4	2	25	25	50	-
7	CST359	Elective-II	3	0	0	3	40	60	100	3 Hrs.
8		**Open Elective-III**	3	0	0	3	40	60	100	3 Hrs.
9	CSP360	Project-1	0	0	6	3	25	25	50	-
10	CSP361	Comprehensive Viva	0	0	2	1	25	25	50	-
		Total	**15**	**0**	**16**	**23**	**325**	**425**	**750**	**-**

Course Code	Elective - II
CST359-1	Advanced Algorithm
CST359-2	Distributed Systems
CST359-3	Digital Signal Processing
CST359-4	Data warehousing & Mining

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST451	Elective - III	3	0	0	3	40	60	100	3 Hrs.
2	CSP451	Elective - III Lab	0	0	2	1	25	25	50	-
3	CST452	Elective - IV	3	0	0	3	40	60	100	3 Hrs.
4	CSP452	Elective IV Lab	0	0	2	1	25	25	50	-
5		**Open Elective - IV**	3	0	0	3	40	60	100	3 Hrs.
6	IDT451	Bio-Informatics	2	1	0	3	40	60	100	3 Hrs.
7	CSP454	Project-II	0	0	12	6	50	50	100	-
8	CSP455	Industry Internship Evaluation	0	0	2	0	-	-	-	-
		Total	**11**	**1**	**18**	**20**	**260**	**340**	**600**	**-**

Course Code	Elective - III	Course Code	Elective - IV
CST451-1	Machine Learning	CST452-1	Digital Image & Video Processing
CST451-2	Web Intelligence and Big Data	CST452-2	Distributed and Parallel Database
CST451-3	Data Visualization & Analytics	CST452-3	Game Theory
CST451-4	Fundamentals of Augmented Reality	CST452-4	Cloud Computing

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Computer Science Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CST456	Elective-V	3	0	0	3	40	60	100	3 Hrs.
2	CST457	Elective-VI	3	0	0	3	40	60	100	3 Hrs.
3	CSP458	Project - III / One Semester Industry Project / Incubation	0	0	12	6	50	50	100	-
		Total	**6**	**0**	**12**	**12**	**130**	**170**	**300**	**-**

Course Code	Elective - V	Course Code	Elective - VI
CST456-1	Neural Network & Deep Learning	CST457-1	Information Retrieval
CST456-2	Robotics : Perception & Estimation	CST457-2	Natural Language Processing
CST456-3	Multi Agent Intelligent Systems	CST457-3	Data Warehousing for Business Intelligence
CST456-4	Cryptography & Network Security	CST457-4	Internet of Things

Open Elective - I	CST299-1	1. Java Programming and UI design concepts
	CST299-2	2. Design Thinking for innovation
Open Elective - II	CST399-1	Python and Data Analysis
Open Elective - III	CST399-2	Recent trends in Computing
Open Elective - IV	CST499-1	Data Analytics for Business Applications

Total Credits (III Sem to VIII Sem) : 122

Scheme of Teaching & Examination of Bachelor of Engineering
Honor's Scheme

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CSTH41	Programming for Advanced Computing	4	0	0	4	40	60	100	3
2	CSTH51	Pattern Recognition	4	0	0	4	40	60	100	3
3	CSTH61	Graph Mining	4	0	0	4	40	60	100	3
4	CSTH71	Statistical Machine Learning	4	0	0	4	40	60	100	3
5	CSTH81	Big Data Analysis	4	0	0	4	40	60	100	3

Scheme of Teaching & Examination of Bachelor of Engineering
Minor's Scheme

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	CSTM41	Data Structures & Algorithms	4	0	0	4	40	60	100	3
2	CSTM51	Software Engineering & Project Management	4	0	0	4	40	60	100	3
3	CSTM61	AI and Machine Learning	4	0	0	4	40	60	100	3
4	CSTM71	Mobile Application Programming	4	0	0	4	40	60	100	3
	CSTM81	Database Management System								

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT256	Electrical Engineering Mathematics	3	0	0	03	40	60	100	3
2	CET271	Engineering Mechanics & Strength of Materials	3	0	0	03	40	60	100	3
3	EET251	Network Analysis	3	1	0	04	40	60	100	3
4	EEP251	Network Analysis Lab	0	0	2	01	25	25	50	3
5	ENT259	Analog Electronic Circuits	3	0	0	03	40	60	100	3
6	ENP259	Analog Electronic Circuit Lab	0	0	2	01	25	25	50	3
7	EET252	Electrical Measurements & Instrumentation	2	1	0	03	40	60	100	3
8	EEP252	Electrical Measurements & Instrumentation Lab	0	0	2	01	25	25	50	3
9	HUT251	Principles of Economics & Management	3	0	0	03	40	60	100	3
10	CHT251	Environmental Sciences	2	0	0	00	-	-	-	-
		TOTAL	**19**	**02**	**06**	**22**				

Scheme of Teaching & Examination of Bachelor of Engineering
IV Semester B.E. (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET271	Signals & Systems	2	1	0	03	40	60	100	3
2	ENT260	Digital Circuits & Micro Processor	3	0	0	03	40	60	100	3
3	ENP260	Digital Circuits & Micro Processor Lab	0	0	2	01	25	25	50	3
4	EET272	Electrical Machines - I	3	1	0	04	40	60	100	3
5	EEP272	Electrical Machines - I Lab	0	0	2	01	25	25	50	3
6	EET273	Programming for EE Applications	3	0	0	03	40	60	100	3
7	EEP273	Programming for EE Applica- - tions Lab	0	0	2	01	25	25	50	3
8	EET299	**Open Elective - I**	3	0	0	03	40	60	100	3
9	EET275	Electromagnetic Fields	3	0	0	03	40	60	100	3
10	HUT252	Indian Traditional Knowledge	2	0	0	00	--	--	--	--
		TOTAL	**19**	**02**	**06**	**22**				

Open Elective - I	
EET 299-1	Consumer Electrical Appliances
EET 299-2	Renewable Energy Systems

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET351	Power System-I	3	0	0	03	40	60	100	3
2	EET352	Electrical Machines-II	3	1	0	04	40	60	100	3
3	EEP352	Electrical Machines-II Lab	0	0	2	01	25	25	50	3
4	EET353	Microcontroller	3	0	0	03	40	60	100	3
5	EEP353	Microcontroller Lab	0	0	2	01	25	25	50	3
6	EET354	Program Elective-I	3	0	0	03	40	60	100	3
7	EET355	Power Electronics	3	1	0	04	40	60	100	3
8	EEP355	Power Electronics Lab	0	0	2	01	25	25	50	3
9	EET398	**Open Elective-II**	3	0	0	03	40	60	100	3
10	EEP357	Electrical Workshop & CAEED Lab	0	0	2	01	25	25	50	3
		Total	18	02	08	24				

Program Elective - I		Open Elective - II	
EET354-1	Electrical Machine Design	EET398-1	Energy Management & Audit
EET354-2	Non Conventional Energy Sources	EET398-2	Microcontroller Applications
EET354-3	Electric Energy Conservation & Audit	EET398-3	Industrial Instrumentation
EET354-4	Industry Offered Elective - I		

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET371	Power System-II	3	0	0	03	40	60	100	3
2	EEP371	Power System - II Lab	0	0	2	01	25	25	50	3
3	EET372	Control System	3	1	0	04	40	60	100	3
4	EEP372	Control System Lab	0	0	2	01	25	25	50	3
5.	EET373	Program Elective - II	3	0	0	03	40	60	100	3
6.	EET374	Program Elective-III	3	0	0	03	40	60	100	3
7.	EET399	**Open Elective-III**	3	0	0	03	40	60	100	3
8.	EEP376	E Circuit Design & Testing Lab	0	0	2	01	25	25	50	3
9.	EEP377	Comprehensive Viva	0	0	2	01	25	25	50	3
		TOTAL	**15**	**01**	**08**	**20**				

Program Elective - II		Program Elective - III		Open Elective - III	
EET373-1	PLC & SCADA	EET374-1	Electrical Drives & Control	EET 399-1	Solar Photovoltaic Systems
EET373-2	Power Station Practice	EET374-2	HVDC Transmission System		
EET373-3	Utilization of Electrical Energy	IDT352	Biology for Engineers	EET 399-2	Automation with PLC
EET373-4	Industry Offered Elective - II	EET374-3	Industry Offered Elective - III		

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET451	High Voltage Engineering	3	0	0	03	40	60	100	3
2	EEP451	High Voltage Engineering Lab	0	0	2	01	25	25	50	3
3	EET452	Program Elective-IV	3	0	0	03	40	60	100	3
4	EET498	**Open Elective-IV**	3	0	0	03	40	60	100	3
5	MBT451	Entrepreneurship Development	3	0	0	03	40	60	100	3
6	EEP454	Industry Internship Evaluation	0	0	2	00	50	--	50	--
7	EEP455	Project Phase - I	0	0	6	03	100	--	100	--
		TOTAL	**12**	**00**	**10**	**16**				

Program Elective - IV		Open Elective - IV	
EET452-1	Advance Electric Drives & Vehicles	EET498-1	Electrical Vehicles
EET452-2	Computer Application in Power System	EET498-2	Industrial IOT Instrumentation & Connectivity
EET452-3	Advanced Control Systems		
EET452-4	EHVAC Transmission Systems		
EET452-5	Industry Offered Elective - IV		

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET471	Power System Protection	3	0	0	3	40	60	100	3
2	EEP471	Power System Protection Lab	0	0	2	1	25	25	50	3
3	EET472	Program Elective - V	3	0	0	3	40	60	100	3
4	EET473	Program Elective-VI	3	0	0	3	60	40	100	3
5	EET474	Project Phase-II/One Semester Industry Project / Incubation	0	0	16	8	100	100	200	-
		TOTAL	**9**	**00**	**18**	**18**				

Program Elective - V		Program Elective-VI	
EET472-1	Digital Signal Processing	EET473-1	Power Quality & FACTS
EET472-2	EHV Substation Design & Erection	EET473-2	Industrial Electrical System
EET472-3	Mechatronics	EET473-3	Fuzzy Logic & Neural Networks
EET472-4	Industry Offered Elective - V	EET473-4	Industry Offered Elective - VI

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EETH41	DC Microgrid	4	0	0	4	40	60	100	3
2	EETH51	Introduction to Smart Grid	4	0	0	4	40	60	100	3
3	EETH61	Advance Power Electronics and Control	4	0	0	4	40	60	100	3
4	EETH71	Mathematical Methods and Techniques in Signal Processing	4	0	0	4	40	60	100	3
5	EETH81-1	Advanced Linear Continuous Control Systems: Applications with MATLAB Programming and Simulink	4	0	0	4	40	60	100	3
6	EETH81-2	Mapping Signal Processing Algorithms to DSP Architectures	4	0	0	4	40	60	100	3
7	EETH81-3	Power System Analysis	4	0	0	4	40	60	100	3
8	EETH81-4	Power System Dynamics, Control and Monitoring	4	0	0	4	40	60	100	3

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Specialization (Electrical Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EETM41	Electrical Machines	4	0	0	4	40	60	100	3
2	EETM51	Power Semiconductor Based Drives	4	0	0	4	40	60	100	3
3	EETM61	Renewable Energy Sources	4	0	0	4	40	60	100	3
4	EETM71	Power system	4	0	0	4	40	60	100	3
5	EETM81	Power system protection	4	0	0	4	40	60	100	3

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT 251	Electronic Devices	3	1	0	4	40	60	100	3
2	ECP 251	Electronics Devices Lab	0	0	2	1	25	25	50	3
3	ECT 252	Digital System Design	3	0	0	3	40	60	100	3
4	ECP 252	Digital System Design Lab	0	0	2	1	25	25	50	3
5	ECT 253	Signals and Systems	3	1	0	4	40	60	100	3
6	ECT 254	Network Theory	3	0	0	3	40	60	100	3
7	ECP 255	Electronic Measurement Lab	0	0	2	1	25	25	50	3
8	MAT255	Engineering Mathematics	3	0	0	3	40	60	100	3
9	HUT256	Indian Traditional Knowledge	2	0	0	0	--	--	--	--
		TOTAL	**17**	**2**	**6**	**20**				

Scheme of Teaching & Examination of Bachelor of Engineering
IV Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT 256	Analog and Digital Communication	3	0	0	3	40	60	100	3
2	ECP 256	Analog and Digital Communication Lab	0	0	2	1	25	25	50	3
3	ECT 257	Analog Circuits	3	0	0	3	40	60	100	3
4	ECP 257	Analog Circuits Lab	0	0	2	1	25	25	50	3
5	ECT 258	Microprocessors	3	0	0	3	40	60	100	3
6	ECP 258	Microprocessors Lab	0	0	2	1	25	25	50	3
7	ECT 259	Probability Theory and Stochastic Processes	3	1	0	4	40	60	100	3
8	PHT251	Introduction to Electromagnetic Theory	3	0	0	3	40	60	100	3
9	ECT299	**Open Elective - I**	3	0	0	3	40	60	100	3
10	CHT252	Environmental Science	2	0	0	0	--	--	--	--
		TOTAL	**20**	**1**	**6**	**22**				

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT 351	Electromagnetic Waves	3	0	0	3	40	60	100	3
2	ECP 351	Electromagnetic Waves Lab	0	0	2	1	25	25	50	3
3	ECT 352	Control Systems	3	0	0	3	40	60	100	3
4	ECT 353	Microcontrollers & Interfacing	3	0	0	3	40	60	100	3
5	ECP 353	Microcontrollers & Interfacing Lab	0	0	2	1	25	25	50	3
6	ECT 354	Digital Signal Processing	3	1	0	4	40	60	100	3
7	ECP 354	Digital Signal Processing Lab	0	0	2	1	25	25	50	3
8	ECT 355	Program Elective - 1	3	0	0	3	40	60	100	3
9	ECT 398	**Open Elective - 2**	3	0	0	3	40	60	100	3
10	HUP357	Personality Development	0	0	2	1	25	25	50	3
TOTAL			**18**	**1**	**8**	**23**				

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT 357	Computer Architecture	3	0	0	3	40	60	100	3
2	ECT 358	Computer Network	3	0	0	3	40	60	100	3
3	ECP 358	Computer Networks Lab	0	0	2	1	25	25	50	3
4	CST 364	Object Oriented Data Structure	2	0	0	2	40	60	100	3
5	CSP 364	Object Oriented Data Structure Lab	0	0	2	1	25	25	50	3
6	ECP 359	Mini Project / Electronics Design workshop	0	0	4	2	25	25	50	3
7	ECT 360	Program Elective - 2	3	0	0	3	40	60	100	3
8	ECT 399	**Open Elective - 3**	3	0	0	3	40	60	100	3
9	IDT 353	Biology for Engineers	3	0	0	3	40	60	100	3
10	ECP 361	Comprehensive Viva	0	0	2	1	25	25	50	3
	TOTAL		**17**	**0**	**10**	**22**				

List of Program Elective Courses (PEC) for V and VI Semesters

Sr. No.	Course Code	Course Title	Preferred Semester
1.	ECT 355 - 1	Information Theory and Coding	V
2.	ECT 355 - 2	CMOS Design	V
3.	ECT 355 - 3	Power Electronics	V
4.	ECT 355 - 4	Scientific computing	V
1.	ECT 360 - 1	Speech and Audio Processing	VI
2.	ECT 360 - 2	Introduction to MEMS	VI
3.	ECT 360 - 3	Bio-Medical Electronics	VI
4.	ECT 360 - 4	Nano electronics	VI

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT451	Program Elective - 3	3	0	0	3	40	60	100	3
2	ECT452	Program Elective - 4	3	0	0	3	40	60	100	3
3	ECT453	Program Elective - 5	3	0	0	3	40	60	100	3
4	HUT498-1	**Open Elective - 4**	3	0	0	3	40	60	100	3
5	HUT452	Engineering Economics	3	0	0	3	40	60	100	3
6	ECP 454	Industry Internship Evaluation (6-8 weeks)	0	0	2	0	--	--	--	--
7	ECP 455	Project Stage - I	0	0	10	5	50	50	100	3
		TOTAL	**15**	**0**	**12**	**20**				

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECT456	Program Elective - 6	3	0	0	3	40	60	100	3
2	ECT457	Program Elective - 7	3	0	0	3	40	60	100	3
3	ECP458	Project Stage-II / 1 One Semester Industry Project / Incubation	0	0	18	9	50	50	100	3
		TOTAL	**6**	**0**	**18**	**15**				

List of Program Elective Courses (PCE) for VII and VIII Semesters

Sr. No.	Course Code	Course Title	Preferred Semester
1.	ECT 451-1	Microwave Theory and Techniques	VII
2.	ECT 451-2	Adaptive Signal Processing	VII
3.	ECT 452-1	Antennas and Propagation	VII
4.	ECT 452-2	Digital Image & Video Processing	VII
5.	ECT 452-3	High Speed Electronics	VII
6.	ECT 453-1	Wireless Sensor Networks	VII
7.	ECT 453-2	Mixed Signal design	VII
8.	ECT 453-3	Embedded Systems	VII
1.	ECT 456-1	Error correcting codes	VIII
2.	ECT 456-2	Fiber Optic Communications	VIII
3.	ECT 457-1	Satellite Communication	VIII
4.	ECT 457-2	Mobile Communication and Networks	VIII
5.	ECT 457-3	Wavelets	VIII

List of Open Electives

Sr. No.	Semester	Course Code	Courses
1.	IV	ECT 299	ECT 299-1 : Renewable Energy
			ECT 299-2 : Evolution in communication Technologies
2.	V	ECT 398	ECT 398-1 : Engineering for Agriculture
			ECT 398-2 : Sensors and Transducers
3.	VI	ECT 399	ECT 399-1 : Python Programming for Machine Learning
			ECT 399-2 : Rural Technology
4.	VII	HUT 498-1	HUT 498-1: Technical Communication

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECTH41	Communication System Analysis	4	0	0	4	40	60	100	3
2	ECTH51	Radio Frequency Circuit Design	4	0	0	4	40	60	100	3
3	ECTH61–1	Wireless Channel	4	0	0	4	40	60	100	3
	ECTH61–2	Broadband Communication								
4	ECTH71–1	Smart Antennas	4	0	0	4	40	60	100	3
	ECTH71–2	Cryptography and Inform- - ation Security								
5	ECTH81–1	Evolution of Air Interface towards 5G	4	0	0	4	40	60	100	3
	ECTH81–2	Artificial Intelligence and Machine Learning								

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Specialization (Electronics & Communication Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ECTM41-1	Electromagnetic Fields	4	0	0	4	40	60	100	3
2	ECTM41-2	Analog and Digital Communication	4	0	0	4	40	60	100	3
3	ECTM51-1	Electromagnetic Waves	4	0	0	4	40	60	100	3
	ECTM51-2	Digital Signal Processing								
4	ECTM61-1	Antennas	4	0	0	4	40	60	100	3
	ECTM61-2	Computer Communication Networks								
5	ECTM71-1	Microwave Engineering Evaluation (6-8 weeks)	4	0	0	4	40	60	100	3
	ECTM71-2	Wireless Sensor Network								
6	ECTM81-1	Satellite Communication	4	0	0	4	40	60	100	3
	ECTM81-2	Mobile Communication								

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT253	Engineering Mathematics	3	0	0	3	40	60	100	3Hrs
2	EET261	Network Theory	3	0	0	3	40	60	100	3Hrs
3	EDT251	Electronic Devices and Circuits	3	1	0	4	40	60	100	3Hrs
4	EDP251	Electronic Devices and Circuits Lab	0	0	2	1	25	25	50	
5	EDT252	Digital Circuit Design	3	0	0	3	40	60	100	3Hrs
6	EDP252	Digital Circuit Design Lab	0	0	2	1	25	25	50	
7	EDT253	Signals and Systems	3	1	0	4	40	60	100	3Hrs
8	IDT253	Biological Science	3	0	0	3	40	60	100	3Hrs
9	CHT251	Environmental Studies	2	0	0	0				
	TOTAL ACADEMIC ENGAGEMENT		**20**	**2**	**4**	**22**				

Scheme of Teaching & Examination of Bachelor of Engineering
IV Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	PHT251	Electromagnetic Field	3	0	0	3	40	60	100	3Hrs
2	EDT254	Digital Signal Processing	3	0	0	3	40	60	100	3Hrs
3	EDP254	Digital Signal Processing lab	0	0	2	1	25	25	50	
4	EDT255	Analog Circuits	3	1	0	4	40	60	100	3Hrs
5	EDP255	Analog Circuit Lab	0	0	2	1	25	25	50	
6	EDT256	Microprocessor and Microcontroller	3	0	0	3	40	60	100	3Hrs
7	EDP256	Microprocessor and Microcontroller Lab	0	0	2	1	25	25	50	
8	EDT257	PCB Technology	3	0	0	3	40	60	100	3Hrs
9	EDP257	PCB Technology Lab	0	0	2	1	25	25	50	
10	OE	Open Elective - 1	3	0	0	3	40	60	100	3Hrs
11	HUT252	Indian traditional knowledge	2	0	0	0				
	TOTAL ACADEMIC ENGAGEMENT		**20**	**1**	**8**	**23**				

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET361	Control System	3	0	0	3	40	60	100	3Hrs
2	EDT351	Electromagnetic Waves	3	0	0	3	40	60	100	3Hrs
3	EDT352	CMOS Digital Circuit Design	3	1	0	4	40	60	100	3Hrs
4	EDP352	CMOS Digital Circuit Design Lab	0	0	2	1	25	25	50	
5	EDT353	Electronics Instrumentation	3	0	0	3	40	60	100	3Hrs
6	EDP354	Instrumentation and Control lab	0	0	2	1	25	25	50	
7	EDT355	Program Elective - 1	3	0	0	3	40	60	100	3Hrs
8	EDP355	Program Elective - 1 Lab	0	0	2	1	25	25	50	
9	EDT356	Open Elective – 2	3	0	0	3	40	60	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT		**18**	**1**	**6**	**22**				

Sr. No.	Course Code	Program Elective – 1
1	EDT355-1	Embedded Systems Design and RTOS
2	EDT355-2	Electronic System Design
3	EDT355-3	Shell Scripting and Python

Open Elective - 2	
EDT356	PCB Design

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	HUT355	Principles of Economics and Management	3	0	0	3	40	60	100	3Hrs
2	EDT357	Object Oriented Programming	2	0	0	2	40	60	100	3Hrs
3	EDP357	Object Oriented Programming Lab	0	0	2	1	25	25	50	
4	EDT358	Electromagnetic Compatibility	2	0	0	2	40	60	100	3 Hrs
5	EDT359	Analog and Digital Communication	3	1	0	4	40	60	100	3Hrs
6	EDP359	Analog and Digital Communication lab	0	0	2	1	25	25	50	
7	EDT360	Program Elective – 2	3	0	0	3	40	60	100	3Hrs
8	EDP360	Program Elective - 2 Lab	0	0	2	1	25	25	50	3Hrs
9	EDP361	Electronics Product Design Lab	0	0	2	1	25	25	50	
10	EDP362	Comprehensive Viva	0	0	2	1	25	25	50	
11	EDT363	Open Elective - 3	3	0	0	3	40	60	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT		**16**	**1**	**10**	**22**				

Sr. No.	Course Code	Program Elective – 2
1	EDT360-1	Computer Architecture and Organization
2	EDT360-2	Digital System Design
3	EDT360-3	Designing the IOT
4	EDT360-4	Machine Learning

Open Elective - 3	
EDT363	Microcontroller Based Design

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EDT451	Design of Electronic Equipments	3	0	0	3	40	60	100	3Hrs
2	EDT452	Reliability of Electronic Equipments	3	0	0	3	40	60	100	3Hrs
3	EDT453	Program Elective - 3	3	0	0	3	40	60	100	3Hrs
4	EDT454	Program Elective - 4	3	0	0	3	40	60	100	3Hrs
5	EDP455	Project Phase - 1	0	0	8	4	100		100	
7	EDP456	Industry Internship Evaluation (6-8 weeks)	0	0	2	0	50		50	
8	OE	Open Elective - 4	3	0	0	3	40	60	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT		**15**	**0**	**10**	**19**				

Sr. No.	Course Code	Program Elective–3	Course Code	Program Elective–4
1	EDT453-1	Wireless Sensor Network	EDT454 -1	Testing and Verification of Digital Systems
2	EDT453-2	Wireless Communication	EDT454 -2	Fibre Optics Communication
3	EDT453-3	Computer Networks	EDT454-3	Micro Electro Mechanical System

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EDT457	Program Elective - 5	3	0	0	3	40	60	100	3Hrs
2	EDT458	Program Elective - 6	3	0	0	3	40	60	100	3Hrs
3	EDP459	Project Phase-II/ Internship Incubation (Six months)	0	0	16	8	50	50	100	
	TOTAL ACADEMIC ENGAGEMENT		**6**	**0**	**16**	**14**				

Sr. No.	Course Code	Program Elective - 5	Course Code	Program Elective - 6
1	EDT457-1	CMOS Subsystem Design	EDT458-1	Switching Theory and Finite Automata
2	EDT457-2	Microwave theory and Technique		
3	EDT457-3	Biomedical Electronics	EDT458-2	SOC Design
			EDT458-3	Power Electronics

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Specialization (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EDTM41	Fundamentals of Electronic Devices & Circuits	4	0	0	4	40	60	100	3Hrs
2	EDTM51	Digital Circuits & Fundamentals of Microcontroller Based Design	4	0	0	4	40	60	100	3Hrs
3	EDTM61	PCB Technology	4	0	0	4	40	60	100	3Hrs
4	EDTM71	Design of electronic Equipments	4	0	0	4	40	60	100	3Hrs
5	EDPM81	Mini Project	0	0	4	4	50	50	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT					**20**				

Note: If any of the above course is accessible to a student in his/her parent branch or Open electives then Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD.

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization (Electronics Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ENTH41	Digital System Design	4	0	0	4	40	60	100	3Hrs
2	ENTH51	VLSI Technology	4	0	0	4	40	60	100	3Hrs
3	ENTH61	VLSI Signal Processing	4	0	0	4	40	60	100	3Hrs
4	ENTH71	Low Power VLSI	4	0	0	4	40	60	100	3Hrs
5	ENTH81	VLSI Design Automation	4	0	0	4	40	60	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT					**20**				

Note: Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD

Sr. No.	Course Code	Program Elective - 5	Course Code	Program Elective - 6
1	EDT457-1	CMOS Subsystem Design	EDT458-1	Switching Theory and Finite Automata
2	EDT457-2	Microwave theory and Technique		
3	EDT457-3	Biomedical Electronics	EDT458-2	SOC Design
			EDT458-3	Power Electronics

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Specialization (Electronics Design Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EDTM41	Fundamentals of Electronic Devices & Circuits	4	0	0	4	40	60	100	3Hrs
2	EDTM51	Digital Circuits & Fundamentals of Microcontroller Based Design	4	0	0	4	40	60	100	3Hrs
3	EDTM61	PCB Technology	4	0	0	4	40	60	100	3Hrs
4	EDTM71	Design of electronic Equipments	4	0	0	4	40	60	100	3Hrs
5	EDPM81	Mini Project	0	0	4	4	50	50	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT					**20**				

Note: If any of the above course is accessible to a student in his/her parent branch or Open electives then Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD.

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization (Electronics Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ENTH41	Digital System Design	4	0	0	4	40	60	100	3Hrs
2	ENTH51	VLSI Technology	4	0	0	4	40	60	100	3Hrs
3	ENTH61	VLSI Signal Processing	4	0	0	4	40	60	100	3Hrs
4	ENTH71	Low Power VLSI	4	0	0	4	40	60	100	3Hrs
5	ENTH81	VLSI Design Automation	4	0	0	4	40	60	100	3Hrs
	TOTAL ACADEMIC ENGAGEMENT					**20**				

Note: Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Electronics Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT254	Complex Variables and Partial Differential Equation	2	0	0	2	40	60	100	3hrs
2	EET261	Network Theory	3	0	0	3	40	60	100	3Hrs
3	ENT251	Electronic Devices and Circuits	3	1	0	4	40	60	100	3Hrs
4	ENP251	Electronic Devices and Circuits Lab	0	0	2	1	25	25	50	
5	ENT252	Digital Circuit Design	3	0	0	3	40	60	100	3Hrs
6	ENP252	Digital Circuit Design Lab	0	0	2	1	25	25	50	
7	ENT253	Signals and Systems	3	1	0	4	40	60	100	3Hrs
8	CST261	Data structures and Algorithms	2	0	0	2	40	60	100	3Hrs
9	CSP261	Data structures and Algorithms lab	0	0	2	1	25	25	50	
10	CHT251	Environmental Studies	2	0	0	0				
	TOTAL academic engagement		**18**	**2**	**6**	**21**				

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ENT254	Digital Signal Processing	3	0	0	3	40	60	100	3Hrs
2	ENP254	Digital Signal Processing Lab	0	0	2	1	25	25	50	
3	ENT255	Analog Circuits	3	1	0	4	40	60	100	3Hrs
4	ENP255	Analog Circuits Lab	0	0	2	1	25	25	50	
5	ENT256	Microprocessor and Microcontroller	3	0	0	3	40	60	100	3Hrs
6	ENP 256	Microprocessor and Microcontroller Lab	0	0	2	1	25	25	50	
7	ENT257	Electromagnetic Fields	3	0	0	3	40	60	100	3Hrs
8		Open Elective 1	3	0	0	3	40	60	100	3Hrs
9	IDT254	Biological Science	3	0	0	3	40	60	100	3Hrs
	TOTAL academic engagement		**18**	**1**	**6**	**22**				

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	EET361	Control Systems	3	0	0	3	40	60	100	3Hrs
2	ENT351	Electromagnetic Waves	3	0	0	3	40	60	100	3Hrs
3	ENT352	CMOS Digital Circuit Design	3	1	0	4	40	60	100	3Hrs
4	ENP352	CMOS Digital Circuit Design lab	0	0	2	1	25	25	50	
5	ENT353	Electronic Instrumentation	3	0	0	3	40	60	100	3Hrs
6	ENP354	Instrumentation and control Lab	0	0	2	1	25	25	50	
7	ENT355	Program Elective – 1	3	0	0	3	40	60	100	3Hrs
8	ENP355	Program Elective – 1 lab	0	0	2	1	25	25	50	
9		Open Elective 2	3	0	0	3	40	60	100	3Hrs
10	HUT351	Professional Skill Development	2	0	0	0				
		TOTAL Academic Engagement	**20**	**1**	**6**	**22**				

Program Elective – 1 (V Semester)	
ENT 355-1	Embedded System Design and RTOS
ENT 355-2	Mechatronics
ENT 355-3	Digital Image Processing
ENT 355-4	Object Oriented Programming

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1.	MBT351	Business management and entrepreneurship	3	0	0	3	40	60	100	3Hrs
2.	ENT357	Analog and Digital Communication	3	1	0	4	40	60	100	3Hrs
3.	ENP357	Analog and Digital Communication Lab	0	0	2	1	25	25	50	
4.	ENT358	Probability Theory and Stochastic processes	3	0	0	3	40	60	100	3Hrs
5.	ENP359	Electronic Design workshop	0	0	2	1	25	25	50	
6.	ENT360	Computer Architecture and Organization	3	0	0	3	40	60	100	3Hrs
7.	ENP360	Computer Architecture and Organization lab	0	0	2	1	25	25	50	
8.	ENT361	Program Elective – 2	3	0	0	3	40	60	100	3Hrs
9.	ENP361	Program Elective – 2 lab	0	0	2	1	25	25	50	
10.		Open Elective 3	3	0	0	3	40	60	100	3Hrs
11.	ENP363	Comprehensive Viva	0	0	2	1	25	25	50	
		TOTAL Academic Engagement	**18**	**1**	**10**	**24**				

Program Elective – 2 (VI Semester)	
ENT 361-1	Designing the IoT
ENT 361-2	Microwave Theory & Techniques
ENT 361-3	Machine Learning
ENT 361-4	Database Management System

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ENT451	Computer Networks	3	0	0	3	40	60	100	3Hrs
2	ENP451	Computer Networks Lab	0	0	2	1	25	25	50	
3	ENT452	Program Elective -3	3	0	0	3	40	60	100	3Hrs
4	ENT453	Program Elective -4	3	0	0	3	40	60	100	3Hrs
5		Open Elective 4	3	0	0	3	40	60	100	3Hrs
6	ENP455	Project Stage-I	0	0	10	5	100		100	
7	ENP456	Industry internship evaluation(6-8 weeks)	0	0	2	0	50		50	
		TOTAL academic engagement	**12**	**0**	**14**	**18**				

Program Elective -3 (VII Semester)		Program Elective -4 (VII Semester)	
ENT 452-1	Digital System Design	ENT 453-1	Testing and Verification of digital systems
ENT 452-2	Wireless communication	ENT 453-2	Fiber Optics Communication
ENT 452-3	Analog IC Design	ENT 453-3	Micro-Electro Mechanical System

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

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ENT457	Program Elective - 5	3	0	0	3	40	60	100	3Hrs
2	ENT458	Program Elective - 6	3	0	0	3	40	60	100	3Hrs
3	ENP459	Project Stage-II/ Internship / Incubation(Six months)	0	0	18	9	50	50	100	
TOTAL Academic Engagement			**6**	**0**	**18**	**15**				

Program Elective -5 (VIII Semester)		Program Elective -6 (VIII Semester)	
ENT 457-1	CMOS Subsystem Design	ENT 458-1	Nano Electronics
ENT 457-2	Information Theory and Coding	ENT 458-2	SoC Design
ENT 457-3	Biomedical Electronics	ENT 458-3	Power Electronics

Open Elective Pool-1(V/VII semester)		Open Elective Pool-2(IV/VI semester)	
ENT298-1/ENT398-1	Smart Agriculture	ENT299-1/ENT399-1	Industrial automation
ENT298-2/ENT398-2	Arduino Playground	ENT 299-2/ENT399-2	Micro Nano system
ENT298-3/ENT389-3	Consumer Electronics	ENT299-3/ENT399-3	Designing with Raspberry pi

Scheme of Teaching & Examination of Honors Specialization in Electronics Engineering

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1.	ENTH41	Digital System Design	4	0	0	4	40	60	100	3Hrs
2.	ENTH51	VLSI Technology	4	0	0	4	40	60	100	3Hrs
3.	ENTH61	VLSI Signal Processing	4	0	0	4	40	60	100	3Hrs
4.	ENTH71	Low Power VLSI	4	0	0	4	40	60	100	3Hrs
5.	ENTH81	VLSI Design Automation	4	0	0	4	40	60	100	3Hrs
TOTAL academic engagement							**20**			

Note: Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD

Scheme of Teaching & Examination of Minor Specialization in Electronics Engineering

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1.	ENTM41	Fundamentals of Electronic Devices and Circuits	4	0	0	4	40	60	100	3Hrs
2.	ENTM51	Digital Circuits	4	0	0	4	40	60	100	3Hrs
3.	ENTM61	Microprocessors and Micro-controller based Design	4	0	0	4	40	60	100	3Hrs
4.	ENTM71	Electronic Instrumentation	4	0	0	4	40	60	100	3Hrs
5.	ENPM81	Mini Project	0	0	4	4	50	50	100	3Hrs
TOTAL academic engagement						**20**				

Note: If any of the above course is accessible to a student in his/her parent branch or Open electives then Credit transfer against above courses may be allowed if an appropriate MOOC course is completed by student after prior permission from HOD.

Scheme of Teaching & Examination of Bachelor of Engineering
III Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT258	Introduction to Statistics & Probability-I	3	0	0	3	40	60	100	3
2	INT251	Principles of Mechanical Engineering-1	3	0	0	3	20	30	50	2
3	INP251	Principles of Mechanical Engineering-1lab	0	0	2	1	25	25	50	--
4	INT252	Manufacturing Engineering-1	3	0	0	3	40	60	100	3
5	INP252	Manufacturing Engineering-1 Lab	0	0	2	1	25	25	50	--
6	INP253	Machine Drawing Laboratory	0	0	2	1	25	25	50	--
7	INT254	Facilities Planning	3	0	0	3	40	60	100	3
8	INT255	Object Oriented Programming Methods	2	0	0	2	40	60	100	3
9	INP255	Object Oriented Programming Methods Lab	0	0	2	1	25	25	50	--
10	IDT252	Biology	2	0	0	2	25	25	50	2
11	INP255	Industrial Visit	0	0	2	0	SF/USF Grade			--
12	HUP258	Personality Development	0	0	2	1	25	25	50	2

Scheme of Teaching & Examination of Bachelor of Engineering
IV Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MAT261	Introduction to Statistics & Probability - II	3	0	0	3	40	60	100	3
2	INT261	Principles of Mechanical Engineering - II	2	0	0	2	20	30	50	3
3	INP261	Principles of Mechanical Engineering - II Lab	0	0	2	1	25	25	50	--
4	INT262	Manufacturing Engineering-II	3	0	0	3	40	60	100	3
5	INP262	Manufacturing Engineering-II Lab	0	0	2	1	25	25	50	--
6	INT263	Work System Design	3	0	0	3	40	60	100	3
7	INP263	Work System Design Lab	0	0	2	1	25	25	50	1
8	INT264	**Open Elective - I**	3	0	0	3	40	60	100	3
9	INT265	Instrumentation & Metrology	3	0	0	3	40	60	100	3
10	INP265	Instrumentation & Metrology Lab	0	0	2	1	25	25	50	--
11	HUT259	Leadership Skills	2	0	0	2	40	60	100	2
12	CHT252	Environmental Science	2	0	0	0	SF/USF Grade			--

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INT351	Operations Research-I	3	0	0	3	40	60	100	3
2	INP351	Operations Research-I Lab	0	0	2	1	25	25	50	--
3	INT352	Production Planning & Control	3	0	0	3	40	60	100	3
4	INT353	Organizational Behavior	2	0	0	2	25	25	50	2
5	INP353	Organizational Behavior Lab	0	0	2	1	25	25	50	--
6	INT354	Relational DBMS	3	0	0	3	40	60	100	3
7	INP354	Relational DBMS Lab	0	0	2	1	25	25	50	--
8	INT354	Modeling and Simulation	3	0	0	3	40	60	100	3
9	INP355	Modeling and Simulation Lab	0	0	2	1	25	25	50	--
10		**Open Elective-II**	3	0	0	3	40	60	100	3
11	HUT353	Essence of Indian Traditional Knowledge	2	0	0	0	SF/USF Grade			

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INT361	Operations Research - II	3	0	0	3	40	60	100	3
2	INP361	Operations Research-II Lab	0	0	2	1	25	25	50	--
3	INT362	Supply Chain Management	3	0	0	3	40	60	100	3
4	INT363	Quality Engineering	3	0	0	3	40	60	100	3
5	INP363	Quality Engineering Lab	0	0	2	1	25	25	50	--
6	INT364	Elective-I	3	0	0	3	40	60	100	3
7	INT365	Elective-II	3	0	0	3	40	60	100	3
8		**Open Elective-III**	3	0	0	3	40	60	100	3
9	INP367	Mini Project	0	0	4	2	25	25	50	--
10	INP368	Comprehensive Viva	0	0	2	1	25	25	50	--

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INT451	Industrial Automation	3	0	0	3	40	60	100	3
2	INP451	Industrial Automation Lab	0	0	2	1	25	25	50	
3	INT452	Managerial Economics and Cost Management	3	0	0	3	40	60	100	3
4	INT453	Ergonomics	3	0	0	3	40	60	100	3
5	INP453	Ergonomics Lab	0	0	2	1	25	25	50	3
6	INT454	Elective - III	3	0	0	3	40	60	100	3
7	INT455	Elective - IV	3	0	0	3	40	60	100	3
8		**Open Elective - IV**	3	0	0	3	40	60	100	3
9	INP457	Major Project Seminar	0	0	4	2	25	25	50	--
10	INP458	Industry Internship (6-8 weeks) Evaluation	0	0	2	0	--	--	--	--

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INT461	Elective-V	3	0	0	3	40	60	100	3
2	INT462	Elective-VI	3	0	0	3	40	60	100	3
3	INP463	Project/ One Semester Industry Project / Incubation	0	0	12	6	100	100	200	

Total Credits	
Sem III	21
Sem IV	23
Sem V	21
Sem VI	23
Sem VII	22
Sem VIII	12
Total	**122**

Semester / Year	Course	Course Name
4th Sem	Open- Elective-1	INT264-1:- Organizational Behavior Development INT264-2:- Decision Modeling INT264-3:- Six sigma
5th Sem	Open- Elective-2	INT356-1:- Productivity Improvement Techniques
6th Sem	Open- Elective-3	INT366-1 :-Industrial Psychology INT366-2:- Industrial Engineering for IT
7th Sem	Open- Elective-4	INT456-1:- Total Quality Management INT456-2:- Maintenance Engineering INT456-2:- Design of Experiments

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Specialization. (Industrial Engineering)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INTH41	Industry 4.0	4	0	0	4	40	60	100	3
2	INTH51	Soft Computing Methods	4	0	0	4	40	60	100	3
3	INTH61	Taguchi Methods for Experimentation	4	0	0	4	40	60	100	3
4	INTH71	Supply Chain Optimization	4	0	0	4	40	60	100	3
5	INTH81-1	Business Analytics	4	0	0	4	40	60	100	3
6	INTH81-2	Strategic Information Management System	4	0	0	4	40	60	100	3

Scheme of Teaching & Examination of Bachelor of Engineering Minors Specialization. (Industrial Engineering)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	INTM41	Methods Engineering	4	0	0	4	40	60	100	3
2	INTM51-1	Material Management	4	0	0	4	40	60	100	3
3	INTM51-2	Production Planning and Control	4	0	0	4	40	60	100	3
4	INTM61	Operations Research	4	0	0	4	40	60	100	3
5	INTM71	Quality Engineering and Management	4	0	0	4	40	60	100	3
6	INTM81	Project Engineering & Management	4	0	0	4	40	60	100	3

Scheme of Teaching & Examination of Bachelor of Engineering III Semester B.E. (Information Technology)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT251	Object Oriented Programming	2	0	0	2	40	60	100	03
2	ITP251	Object Oriented Programming	0	0	4	2	25	25	50	–
3	ITT252	Data Structures	3	0	0	3	40	60	100	03
4	ITP252	Data Structures	0	0	4	2	25	25	50	–
5	ITT253	Digital Circuits & Fundamentals of Microprocessor	2	1	0	3	40	60	100	03
6	ITP253	Digital Circuits & Fundamentals of Microprocessor	0	0	4	2	25	25	50	–
7	ITP254	IT Workshop	0	0	4	2	25	25	50	–
8	MAT252	Linear Algebra & Statistics	3	0	0	3	40	60	100	03
9	HUT254	Technical Communication	3	0	0	3	40	60	100	03
10	CHT251	Environmental Science	2	0	0	0	–	–	–	–
		TOTAL	**32 Hrs**			**22**				

Scheme of Teaching & Examination of Bachelor of Engineering IV Semester B.E. (Information Technology)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT255	Discrete Mathematics	2	1	0	3	40	60	100	03
2	ITT256	Computer Organization and Architecture	3	0	0	3	40	60	100	03
3	ITP256	Computer Organization and Architecture	0	0	2	1	25	25	50	–
4	ITT257	Software Engineering	3	0	0	3	40	60	100	03
5	ITP257	Software Engineering	0	0	4	2	25	25	50	–
6	ITT258	Design and Analysis of Algorithms	3	0	0	3	40	60	100	03
7	ITP258	Design and Analysis of Algorithms	0	0	4	2	25	25	50	–
8	HUT255	Organizational Behavior	3	0	0	3	40	60	100	03
9		Open Elective - I	3	0	0	3	40	60	100	03
10	HUT252	Essence of Indian Traditional Knowledge	2	0	0	0	–	–	–	–
		TOTAL	**30 Hrs**			**23**				

Open Elective - I	
Code	**Course Title**
ITT259	Linux Fundamentals

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Information Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT351	Operating Systems	3	0	0	3	40	60	100	03
2	ITP351	Operating Systems	0	0	4	2	25	25	50	--
3	ITT352	Formal Languages and Automata Theory	2	1	0	3	40	60	100	03
4	ITT353	Computer Networks	3	0	0	3	40	60	100	03
5	ITP353	Computer Networks	0	0	4	2	25	25	50	--
6	HUT354	Managerial Economics	3	0	0	3	40	60	100	03
7	ITT354	Elective-I	3	0	0	3	40	60	100	03
8		Open Elective-II	3	0	0	3	40	60	100	03
		TOTAL	**26 Hrs**			**22**				

Elective - I	
Code	**Course Title**
ITT354 - 1	Adv. Data Structures
ITT354 - 2	Web Technologies

Open Elective - II	
Code	**Course Title**
ITT355 - 1	Python Programming
ITT355 - 2	Client Server Computing & Applications

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Information Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT356	Wireless Communication	3	0	0	3	40	60	100	03
2	ITT357	Compiler Design	3	0	0	3	40	60	100	03
3	ITP357	Compiler Design	0	0	4	2	25	25	50	--
4	ITT358	Database Management System	2	1	0	3	40	60	100	03
5	ITP358	Database Management System	0	0	4	2	25	25	50	--
6	ITT359	Elective - II	3	0	0	3	40	60	100	03
7		Open Elective-III	3	0	0	3	40	60	100	03
8	ITP361	Project-I	0	0	4	2	50	50	100	--
9	ITP362	Comprehensive Viva	0	0	2	1	25	25	50	--
		TOTAL	**26 Hrs**			**22**				

Elective - II	
Code	**Course Title**
ITT359 - 01	IT Infrastructure Services
ITT359 - 02	Mobile Application Development

Open Elective - III	
Code	**Course Title**
ITT360 (self study)	Cyber Security and laws

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Information Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT451	Artificial Intelligence	3	0	0	3	40	60	100	03
2	ITT452	Elective-III	3	0	0	3	40	60	100	03
3	ITT453	Elective- IV	3	0	0	3	40	60	100	03
4		Open Elective-IV	3	0	0	3	40	60	100	03
5	IDT452	Computational Biology	2	1	0	3	40	60	100	03
6	ITP455	Industry Internship Evaluation*	0	0	2	0	--	--	--	--
7	ITP456	Project - II	0	0	12	6	75	75	150	--
		TOTAL	**29 Hrs**			**21**				

*Industry Internship evaluation (6 - 8 weeks, undergone during 3rd to 6th semester)

Elective - III		Elective - IV	
Code	**Course Title**	**Code**	**Course Title**
ITT452 - 01	Distributed Systems	ITT453-01	Image Processing
ITT452 - 02	Virtualization and Cloud Computing	ITT453-02	Information Security

Open Elective - IV	
Code	**Course Title**
ITT 454-1	Internet Technologies
ITT 454-2	E-Commerce

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Information Technology)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	ITT457	Elective - V	3	0	0	3	40	60	100	03
2	ITT458	Elective-VI	3	0	0	3	40	60	100	03
3	ITP459	Project-III / One Semester Industry Project/Incubation	0	0	12	6	75	75	150	--
		TOTAL	**18 Hrs**			**12**				

Elective - V		Elective - VI	
Code	**Course Title**	**Code**	**Course Title**
ITT457 - 01	Information Retrieval	ITT458-01	Data Warehousing & Business Intelligence
ITT457 - 02	Machine Learning	ITT458-02	Internet of Things

Scheme of Teaching & Examination of Honors Specialization in Information Technology

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1.	ITTH41	Foundation to Computer System Design	3	1	-	04				
2.	ITTH51-1	Applied data Science with Python	3	1	-	04				
3.	ITTH51-2	Capstone : Retrieving, Pro- - cessing and Visualizing Data using Python	3	1	-	04				
4.	ITTH61	Data Mining	3	1	-	04				
5.	ITTH71	Big Data Computing	3	1	-	04				
6.	ITTH81	Block Chain Architecture and use cases.	3	1	-	04				

Note: The above courses are to be opted as MOOC courses with prior permission and consultation with Head, Information Technology Department.

Scheme of Teaching & Examination of Minors Specialization in Information Technology

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE Duration (Hrs)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1.	ITTM41	Python for Everybody	3	1	-	04				
2.	ITTM51	Object Oriented Programming in Java	3	1	-	04				
3.	ITTM61	Web Design for Everybody	3	1	-	04				
4.	ITTM71-1	Machine Learning	3	1	-	04				
5.	ITTM71-2	The Bits and Bytes of Computer Networking	3	1	-	04				
6.	ITTM81	Emerging Technologies : IOT, Wireless and Cloud Computing	3	1	-	04				

Scheme of Teaching & Examination of Bachelor of Engineering III Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET251	Materials Engineering	3	0	0	3.00	40	60	100	3 Hrs.
2	MEP251	Materials Engineering	0	0	1	0.50	25	25	50	-
3	MEP252	M/C Drawing & Solid Modeling	0	0	2	1.00	50	50	100	-
4	MET253	Engineering Mechanics	3	0	0	3.00	40	60	100	3 Hrs.
5	MET254	Manufacturing Processes	3	0	0	3.00	40	60	100	3 Hrs.
6	MEP254	Manufacturing Processes	0	0	2	1.00	25	25	50	-
7	MAT257	Mathematics III (Mech.Engg.)	3	1	0	4.00	40	60	100	3 Hrs.
8	IDT251	Biology	2	0	0	2.00	40	60	100	3 Hrs.
9	MEP260	Industry Visit	0	0	2	0.00	-	-	-	-
		Total	**14**	**1**	**7**	**17.5**			**700**	

Scheme of Teaching & Examination of Bachelor of Engineering IV Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET261	Kinematics & Dynamics of Machinery	3	1	0	4.00	40	60	100	3 Hrs.
2	MEP261	Kinematics & Dynamics of Machinery	0	0	2	1.00	25	25	50	-
3	MET262	Thermodynamics	3	1	0	4.00	40	60	100	3 Hrs.
4	MET263	Strength of Materials	3	1	0	4.00	40	60	100	3 Hrs.
5	MET264	Fluid Mechanics & Hydraulic Machines	3	1	0	4.00	40	60	100	3 Hrs.
6	MEP264	Fluid Mechanics & Hydraulic Machines	0	0	2	1.00	25	25	50	-
7	MEP265	Mech Engg. Software Lab	0	0	2	1.00	25	25	50	-
8	MET266	**Open Elective - I**	3	0	0	3.00	40	60	100	3 Hrs.
9	CHT252	Environmental Science	2	0	0	0.00	-	-	-	-
10	MEP270	Mini Project	0	0	2	0.00	-	-	-	-
		Total	**17**	**4**	**8**	**22.00**			**650**	

Open Elective - I	
Course Code	**Course Name**
MET266-1	Basic Mechanical Engineering
MET266-2	Non Conventional Energy Sources

Scheme of Teaching & Examination of Bachelor of Engineering
V Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET351	Applied Thermodynamics-I	3	1	0	4.00	40	60	100	3 Hrs.
2	MET352	Heat Transfer	3	0	0	3.00	40	60	100	3 Hrs.
3	MEP352	Heat Transfer	0	0	2	1.00	25	25	50	3 Hrs.
4	MET353	Design of Machine Elements-I	3	1	0	4.00	40	60	100	3 Hrs.
5	MET354	Manufacturing Technology	3	0	0	3.00	40	60	100	3 Hrs.
6	MEP354	Manufacturing Technology	0	0	2	1.00	25	25	50	-
7	MET355	Operations Research	3	0	0	3.00	40	60	100	3 Hrs.
8	MET356	**Open Elective - II**	3	0	0	3.00	40	60	100	3 Hrs.
9	HUT353	Essence of Indian Traditional Knowledge	2	0	0	0.00	-	-	SF/USF	-
10	MEP360	Project-I	0	0	2	1.00	50	-	50	-
Total			**18**	**2**	**8**	**23.00**		**750**		

Open Elective - II	
Course Code	**Course Name**
MET356-1	Project Management
MET356-2	Automobile Engineering

Scheme of Teaching & Examination of Bachelor of Engineering
VI Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET361	Applied Thermodynamics-II	3	0	0	3.00	40	60	100	3 Hrs.
2	MEP361	Applied Thermodynamics-II	0	0	2	1.00	25	25	50	-
3	MET362	Instrumentation & Control	3	0	0	3.00	40	60	100	3 Hrs.
4	MEP362	Instrumentation & Control	0	0	1	0.50	25	25	50	-
5	MET363	Finite Element Analysis	3	0	0	3.00	40	60	100	3 Hrs.
6	MEP364	Design of Machine Elements-II	0	0	2	1.00	25	25	50	-
7	MET365	Elective-I	3	0	0	3.00	40	60	100	3 Hrs.
8	MEP365	Elective-I Lab	0	0	1	0.50	25	25	50	-
9	MET366	Elective-II	3	0	0	3.00	40	60	100	3 Hrs.
10	NET367	**Open Elective - III**	3	0	0	3.00	25	25	50	-
11	MEP368	Comprehensive Viva Voce	0	0	2	1.00	25	25	50	-
12	MEP370	Project-II	0	0	2	1.00	50	-	50	-
Total			**18**	**0**	**10**	**23**			**800**	

	Elective I		
Course Code	**Course Name**	**Course Code**	**Course Name**
MET365-1	Introduction to Computational Fluid Dynamics	MEP365-1	Introduction to Computational Fluid Dynamics
MET356-2	Internal Combustion Engines	MEP365-2	Internal Combustion Engines
MET365-3	Computer Graphics	MEP365-3	Computer Graphics
MET365-4	Synthesis of Mechanisms	MEP365-4	Synthesis of Mechanisms
MET365-5	Soft Computing Techniques in Mechanical Engineering	MEP365-5	Soft Computing Techniques in Mechanical Engineering
MET365-6	Additive Manufacturing	MEP365-6	Additive Manufacturing

	Elective II		
Course Code	**Course Name**	**Course Code**	**Course Name**
MET366-1	Advanced Manufacturing Techniques	MET366-2	Industrial Fluid Power
MET366-3	Automobile Engineering	MET366-4	Machine Dynamics
MET366-5	Failure Analysis and Design	MET366-6	Numerical Methods for Mechanical Engineering
MET366-7	Production Planning and Control	MET366-8	Geometric Dimensioning and Tolerance
MET366-9	Biomechanics		

Open Elective - III	
Course Code	**Course Name**
MET367-1	World Class Manufacturing
MET367-2	Safety and Hazard Analysis
MET367-3	Energy Auditing

Scheme of Teaching & Examination of Bachelor of Engineering
VII Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET451	Elective-III	3	0	0	3.00	40	60	100	3 Hrs.
2	MEP451	Elective-III Lab	0	0	1	0.50	25	25	50	-
3	MET452	Elective-IV	3	0	0	3.00	40	60	100	3 Hrs.
4	MET453	Elective-V	3	0	0	3.00	40	60	100	3 Hrs.
5	MET454	Elective-VI	3	0	0	3.00	40	60	100	3 Hrs.
6	MET455	**Open Elective - IV**	3	0	0	3.00	40	60	100	3 Hrs.
7	MEP456	Internship Evaluation (6 to 8 Week)	0	0	2	0.00	-	-	-	-
8	MEP460	Project-III	0	0	10	5.00	100	100	200	-
Total			**15**	**0**	**13**	**20.5**			**750**	

Elective III			
Course Code	**Course Name**	**Course Code**	**Course Name**
MET451-1	Stress Analysis	MEP451-1	Stress Analysis
MET451-2	Advanced Finite Element Methods	MEP451-2	Advanced Finite Element Methods
MET451-3	Industrial Robotics	MEP451-3	Industrial Robotics
MET451-4	Engineering Economics and Cost Estimation	MEP451-4	Engineering Economics and Cost Estimation
MET451-5	Refrigeration and Air-conditioning	MEP451-5	Refrigeration and Air-conditioning
MET451-6	Solar Energy Utilization	MEP451-6	Solar Energy Utilization
MET451-7	Design of Transmission Systems	MEP451-7	Design of Transmission Systems
MET451-8	Mechatronic Systems	MEP451-8	Mechatronic Systems
MET451-9	Modeling and Simulation of Production Systems	MEP451-9	Modeling and Simulation of Production Systems
MET451-10	CAD/CAM/CIM	MEP451-10	CAD/CAM/CIM
MET451-11	IoT & Industry 4.0	MEP451-11	IoT & Industry 4.0

Elective-IV			
Course code	**Course name**	**Course code**	**Course name**
MET452-1	Mechanical Vibrations	MET452-2	Power Plant Engineering
MET452-3	Vehicle Dynamics	MET452-4	Supply Chain Management
MET452-5	Energy Conservation and Management	MET452-6	Alternate Fuels
MET452-7	Micro and Nano-machining	MET452-8	Maintenance Engineering

Elective-V			
Course code	**Course name**	**Course code**	**Course name**
MET453-1	Microprocessors in Automation	MET453-2	Principles of Management
MET453-3	Total Quality Management	MET453-4	Renewable Sources of Energy
MET453-5	Composite Materials	MET453-6	Advanced Heat Transfer
MET453-7	Super-finishing and Grinding		

Elective-VI			
Course code	**Course name**	**Course code**	**Course name**
MET454-1	Design of Mechanical Systems	MET454-2	MEMS
MET454-3	Auto Mechatronics	MET454-4	Material Handling Systems
MET454-5	Product Design	MET454-6	Vehicle Body Engineering and Aerodynamics
MET454-7	Project Management	MET454-8	Introduction to Aerospace Engineering

Open Elective - IV	
Course Code	**Course Name**
MET455-1	Mechatronics
MET455-2	Industrial Robotics
MET455-3	Functional Safety
MET455-4	Condition Monitoring
MET455-5	Steam and Hydro Turbines

Scheme of Teaching & Examination of Bachelor of Engineering
VIII Semester B.E. (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET461	Industrial Management & Entrepreneurship Development	3	0	0	3.00	40	60	100	3 Hrs.
2	MET462	Productivity Improvement Techniques	3	0	0	3.00	40	60	100	3 Hrs.
3	MET463	Automation in Manufacturing	3	0	0	3.00	40	60	100	3 Hrs.
4	MEP463	Automation in Manufacturing	0	0	2	1.00	25	25	50	-
5	MEP470	Project - IV / One Semester Industry Project / Incubation	0	0	12	6.00	150	150	300	-
		Total	**9**	**0**	**14**	**16.00**			**650**	

SEM	III	IV	V	VI	VII	VIII	Total
Credits	17.5	22	23	23	20.5	16	122

Scheme of Teaching & Examination of Bachelor of Engineering
Honors Scpecialization (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET267	Digital Manufacturing	4	0	0	4.00	40	60	100	3 Hrs.
2	MET357	Tool Design	4	0	0	4.00	40	60	100	3 Hrs.
3	MET371	Turbo Machinery	4	0	0	4.00	40	60	100	3 Hrs.
4	MET457	Design of Heat Exchangers	4	0	0	4.00	40	60	100	3 Hrs.
5	MET464-1	Tribology	4	0	0	4.00	40	60	100	3 Hrs.
6	MET464-2	Robotics	4	0	0	4.00	40	60	100	3 Hrs.

Scheme of Teaching & Examination of Bachelor of Engineering
Minors Scpecialization (Mechanical Engineering)

Sr. No.	Course Code	Course Name	Hours/ Week			Credits	Maximum Marks			ESE Duration (Hrs.)
			L	T	P		Continuous Evaluation	End Sem Exam	Total	
1	MET268	Automotive Engineering	4	0	0	4.00	40	60	100	3 Hrs.
2	MET358	Computer Aided Design	4	0	0	4.00	40	60	100	3 Hrs.
3	MET372	Automation and Robotics	4	0	0	4.00	40	60	100	3 Hrs.
4	MET458	Solar Energy Technology	4	0	0	4.00	40	60	100	3 Hrs.
5	MET466-1	Manufacturing Engineering	4	0	0	4.00	40	60	100	3 Hrs.
6	MET466-2	Mechanical Engineering Design	4	0	0	4.00	40	60	100	3 Hrs.

List of Open Elective (UG) 2018-19 batch

Sr	Department	Semester	Open Elective
1	Computer Science & Engineering	4 th Sem	CST299-1: Java Programming and UI design concepts.
			CST299-2: Design Thinking for innovation
		5 th Sem	CST399-1: Python and Data Analysis
		6 th Sem	CST399-2: Recent trends in Computing
		7 th Sem	CST499-1: Data Analytics for Business Applications
2	Electrical Engineering	4 th Sem	EET299-1 : Consumer Electrical Appliances
			EET299-2 : Renewable Energy Systems
		5 th Sem	EET398-1 : Energy Management & Audit
			EET398-2 : Microcontroller Applications
			EET398-3 : Industrial Instrumentation
		6 th Sem	EET399-1 : Solar photovoltaic Systems
			EET399-2 : Automation with PLC
		7 th Sem	EET498-1 : Electrical Vehicles
			EET498-2 :Industrial IOT Instrumentation &Connectivity
3	Electronics & Communication	4 th Sem	ECT299 – 1 : Renewable Energy
			ECT299 – 2: Evolution in Communication Technologies
		5 th Sem	ECT398 – 1: Engineering for Agriculture
			ECT398 – 2: Sensors and Transducers
		6 th Sem	ECT399 – 1 : Python Programming for Machine Learning
			ECT399 – 1 : Rural Technology
4	Electronics Design Technology	5 th Sem	PCB Design
		6 th Sem	Microcontroller based Design
5	Electronics Engineering	(V/VII) Sem	ENT 298-1/ ENT 398-1 Smart Agriculture
			ENT 298-1/ ENT 398-2 Arduino Playground
			ENT 298-1/ ENT 398-3 Consumer Electronics
		(IV/VI) Sem	ENT 299-1/ ENT 399-1 Industrial automation
			ENT 299-1/ ENT 399-2 Micro Nano system
			ENT 299-1/ ENT 399-3 Designing with Raspberry pi
6	Industrial Engineering	4 th	INT264-1: Organizational Behaviour Development
			INT264-2: Decision Modeling
			INT264-3: Six Sigma
		5 th	INT356-1: Productivity Improvement Techniques
		6 th	INT366-1: Industrial Psychology
			INT366-2: Industrial Engineering for IT
		7th	INT456-1: Total Quality Management
			INT456-1: Maintenance Engineering
			INT456-1: Design of Experiments

	Technology	7 Information	4 th ITT259: Linux Fundamental
		5 th	ITT355-1: Python Programming
			ITT355-2: Client Server computing and Applications
		6 th	ITT360: Cyber security and laws
		7 th	ITT454-1: Internet Technologies ITT454-2: E-Commerce
8	Mechanical Engineering	4 th	MET266-1: Basic Mechanical Engineering
			MET266-2: Non-Conventional Energy Sources
		5 th	MET356-1: Project Management
			MET356-2: Automobile Engineering
		6 th	MET367-1: World Class Manufacturing MET367-2: Safety and Hazard Analysis MET367-3: Energy Auditing
		7 th	MET455-1: Mechatronics
			MET455-2: Industrial Robotics
			MET455-3: Functional Safety
			MET455-4: Condition Monitoring
			MET455-5: Steam and Hydro Turbine
9	Civil Engineering	4 th	299-1: Basic Building components
			299-2: Basics of Environmental Pollution
		6 th	CET399-1: Metro System & Engineering
		7 th	CET498-1: Green Building & Vastu Concepts
10	Humanities	---	HUT250-1: Human Relationship Dynamics
			HUT250-2: Applied Psychology
			Employability Skills for Engineers
			Challenges of human resource development
			Psychology for professional Growth
			Orientation in German Language
			Sanskrit Pravesh
			Gender & Cultural Studies
			HUT498-1: Technical Communication
11	Physics	---	Introduction to Quantum Computing
			Quantum Mechanics for Engineers
			Nano Technology
			Solid State Lighting
			Solar Cells: Principles and Materials
12	Chemistry	4 th	Introduction to Nano-Material Science and Engineering
		5 th	Modern Waste Management Techniques
		6 th	Renewable Energy Sources

13	Mathematics	---	Combinatorial Theories
			Numerical techniques
			Statistical Methods for Business and Management
14	Board of Interdisciplinary Studies	---	Smart Agriculture
15	Management Technology	---	Financial Management
			Entrepreneurship Development
16	Computer Applications	---	Introduction to Object Oriented Programming

Note:

1) The above list of Open Elective courses is subject to change depending upon the availability of resource person, technological developments and need of industry/society.
2) Offering of open elective courses which are not segregated semester wise will be notified at the start of respective semester depending on the availability of resources.

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 160 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 122. (Modified in Academic Council Meeting dated 14/07/2018)
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 / Board offering the course, Third letter will indicate nature of the course i.e. Theory (T) or Practical (P). & 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. in case of Honors or Minor courses, fourth digit contains H/M in Honors and Minor courses respectively. Fifth letter indicates semester in which it is offered. Sixth letter indicates course number. viz. : CETH41 is offered by Civil dept. under Honors scheme in 4th Semester

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 & Tutorial : One lecture or tutorial hour per week shall be assigned one credits.
(b) Practical : One laboratory hour per week shall be assigned half credit. Not more than two credits may be assigned to a practical course having only laboratory component.
(c) Project: One project hour per week will be assigned half 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.

R7. Incentive to the Students for Achievement/ Participation in R&D, SRC, Sports, NSS, NCC, TBI, T&P, Swachch Bharat Internship, Co-curricular/Extra-curricular Activities and GATE Examination

R 7.1

The achievement/participation of any undergraduate or postgraduate student (admitted to any UG or PG programme), in various co-curricular/ extra-curricular activities will be treated as additional course and shall be awarded grade points as follows from the academic year 2018-19.

For award of incentive marks, student shall be required to submit an application with required proofs/certificates/endorsement received from respective Professor Incharge to the HoD of parent department. Evaluation of student for SRC, NCC/NSS/Sports, TBI, T&P, Swachch Bharat Internship shall be done by Dean-Student Affairs, HoD (Physical Education), Professor Incharge-III Cell, Dean-T&P and Nodal Officer-Swachch Bharat Internship respectively. Evaluation for achievement/participation in remaining activities, compilation of all incentive marks and submission of final incentive marks to CoE shall be done by parent department of the student. Summation of all incentive marks put together for different achievements/activities should not go above 100 marks in a semester. Students will not be eligible for incentive if any of the parameter for which the incentive marks are claimed by student, is a part of curriculum.

The award of grade points based on absolute marks out of 100 shall be made as follows:

For 160 credit schemes of UG programmes, all M.Tech , MCA, MBA & MBA (Integrated)		**For 362 credit schemes of UG programmes,**	
Grade Points	**Range of Marks**	**Grade Points**	**Range of Marks**
10	91-100	20	91-100
9	81-90	18	81-90
8	71-80	16	71-80
7	61-70	14	61-70
6	51-60	12	51-60
5	41-50	10	41-50
4	31-40	8	31-40
0	Less than 31	0	Less than 31

The guidelines for award of incentive marks for all above activities are detailed as under:

(A) R and D activities: The student participating in Co-curricular Learning, Research and Consultancy is eligible for award of incentives as per the following table:

Sr. No.	***Particular**	**Incentive Marks**
A.	**Co-curricular Learning :**	
**1	Offline or online certificate course of minimum 30 Hrs duration offered by IITs/IIMs/IIITs/NITs/Department of Ministries, Govt. of India/MOOCs/ Premier organizations/Professional bodies (Course Passed/Course Attended)	80/60
**2	Offline or online certificate course of minimum 20 Hrs duration offered by IITs/IIMs/IIITs/NITs/Department of Ministries, Govt. of India/MOOCs/ Premier organizations/Professional bodies(Course Passed/Course Attended)	60/40
B.	**Research/Consultancy Projects:**	
1	Winner in research/innovation competitions of repute, organized by IITs/IIMs/IIITs/NITs/other institutes having NIRF rank/Departments of Ministries, Govt. of India/ Premier organizations/Professional bodies	80
2	Participation in research/innovation competitions of repute, organized by IITs/IIMs/IIITs/NITs/other institutes having NIRF rank/Departments of Ministries, Govt. of India/ Premier organizations/Professional bodies	60
3	Participation in Research/Consultancy projects of the college	60
4	Patent filed jointly with RCOEM	100
C.	**Research Publications:**	
1	Research Paper accepted for publication in journal indexed in Science Citation Index (SCI)/ Scopus / Emerging Sources of Citation Index (ESCI)	100
3	Research Paper accepted for publication in Indexed journal other than SCI, SCOPUS, ESCI	80
4	Research Paper accepted and presented in conference organized by IITs/ IIMs/IIITs/NITs/other institutes having NIRF rank/Premier organizations/ Professional bodies	60

* Student will not be eligible for incentive in case, if any of the above stated parameters is a part of curriculum.

* If more than one student is involved, the marks awarded will be divided equally amongst the students.

** Incentives shall be awarded subject to approval of the online / offline MOOCs by the concerned department and passing of the examination conducted for that course in the environment created by that department.

(B) Extra-curricular and T&P activities: The student participating in extra-curricular activity is eligible for the award of incentives as per the following table: Extra-Curricular Activities: Cultural Activities (For 362 Credit scheme and 160 credit scheme)

1	All office bearers of Departmental societies	40
2	Participation in Inter collegiate competitions (University)	60
3	Winners in Inter collegiate competitions (University)	80
4	SRC team	80
5	Participation in Inter University/National level competitions	100
6	Branch wise student placement coordinators (excluding central student placement committee)	40
7	Central student placement committee members	80

(C) Sports / NSS / NCC activities: The student participating in Sports/NSS/NCC related activity etc. is eligible for the award of incentives as per the following:

Sr. No.	Parameter	Incentive marks
1	Participation in Inter collegiate activities/NSS Regular Volunteer/NCC	51-60
2	Securing III/II/I Place in University, Sport -NSS Joint Secretary, Sports -NSS Secretary	71-80
3	West Zone/National level Participation (Sports/NSS/NCC)	100
4	Completion of Swachcha Bharat Summer Internship (Allowed once per year)	100

(D) TBI related activities: The students participating in TBI related activities are eligible for the award of incentives as per the following.

Sr. No	Parameter	Incentive Marks
A	**Incubation Stages :**	
	i) Idea Pre-incubation Stage	40
	ii) Incubation Stage	60
	iii) Start-up Phase	80
B	Participation in Inter collegiate BP Competitions organised by IIMs/IITs and any other nationally renowned TBI/ Organization / Professional Bodies	60
	Participation and securing top 3 positions held at IIMs/IITs and any other nationally renowned TBI/Organization/Professional Bodies	80
C	i) RCOEM TBI Foundation core Committee	60
	ii) RCOEM TBI Foundation President/Vice President / Secretary/ Jt. Secretary	80
D	**Seed Funding Support Received for start-ups in Lakhs :**	
	i) 2 to 5 Lakhs	60
	ii) 5 to 10 Lakhs	80
	iii) 10 to 25 Lakhs	100
E	Selection for Incubation/acceleration phase at IIM/IITs/ Nationally Renowned TBI / acquisition by VC	100

Note: Incentives for start-up related activities shall be offered subject to fulfilment of the criteria & guidelines decided and revised by RCOEM TBI Foundation from time to time and after due scrutiny by Team TBI on case to case basis.

(Academic Council Meeting dt. 14th July 2018)

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 7.3 " Incentive Scheme for Performance in GATE"

- A student of RCOEM who is pursuing B. E. programme, and who has qualified GATE examination with valid pass or higher score as certified by the competent authority, shall be eligible for the award of GATE incentive-grade points (IP_G) after the completion of VIII Semester subject to submission of written request by the student along-with necessary supporting documents. This will be effective from academic year 2019-20.

- The GATE incentive grade points (IP_G) awarded after qualifying GATE shall be over and above the incentive marks / grade points awarded as per UG Regulation R7.1 (for achievements/ participation in R & D, SRC, Sports, NSS, NCC, TBI, T & P, Swachcha Bharat Internship, Co-curricular / extra-curricular activities).

- The GATE incentive grade points (IP_G) will be decided such that there should be an addition of 0.1 in CGPA with a maximum limit of CGPA equal to 10. It will be different for the existing and revised schemes of 362 and 160 credits as under :

Sr. No	Teaching Scheme	GATE incentive-grade points (IP_G)	Rise in $CGPA_{VIII}$ due to (IP_G)
1.	Exisiting UG schemes of 362 credits	36.2	0.1
2.	Revised UG schemes of 160 credits (implemented progressively from 2018-19)	16	0.1

- The incentive-grade points (IP_G) shall be used for the calculation of CGPA of VIII Semester as under, after successful completion of the programme in which the student was admitted, as per regulations :

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

Where.

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

P_j = Grade points earned in the jth course

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

C_{al} = Incentive credit in a semester as per UG Regulation R28

P_{al} = Grade points for involvement in various activities in a semester as per UG Regulation R7.1

l = *0,1.....K* represent number of semester of participation.

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, 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 department shall have its own Board of Studies (BOS) to look after all matters pertaining to the programmes offered by that department.

	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 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 a credit component of project seminar and major project, offered in the seventh and eighth semester 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) The 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) The 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) The 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

The number of attempts and promotion rules for all undergraduate programs for existing and incoming batches to be implemented from academic year 2018-19 and onwards shall be as follows. The attempts pattern tabulated below shall be implemented from 2018-19 followed by the implementation of promotion rules from 2019-20.

Semester	Regular Winter	Makeup Winter	Regular Summer	Makeup Summer
I	Yes	Yes	Yes	Yes
II	Yes	Yes	Yes	Yes
III	Yes	Yes	Yes	--
IV	Yes	--	Yes	Yes
V	Yes	Yes	Yes	--
VI	Yes	--	Yes	Yes
VII	Yes	Yes	Yes	--
VIII	Yes	--	Yes	Yes

Promotion Rules:

- For being eligible to register for (or take admission in) Semester III, student must have secured at least 60% of the total credits (rounded off to nearest lower integer) in first year (Semester I & II together).
- For being eligible to register for (or take admission in) Semester V, student must have completed successfully all courses & earned all the credits offered in first year and secured at least 60% of the total credits (rounded off to nearest lower integer) in second year (Semester III & IV together).
- For being eligible to register for (or take admission in) Semester VII, student must have completed successfully all courses & earned all the credits offered in first & second year and secured at least 60% of the total credits (rounded off to nearest lower integer) in third year (Semester V & VI together).

(Academic Council Meeting dt. 14th July 2018 and 15th May 2019)

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 student's indiscipline will be addressed by Discipline Committee duly constituted and notified by the Principal. The Committee will enquire into the charges of indiscipline and recommend appropriate measures/punitive action to the Principal. The Discipline committee may inform the recommendations to the students. Decision of the Principal would be final.
R 16.4	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 16.5	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 16.6	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 16.7	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 16.8	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 16.9	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 Continuous Evaluation and End Semester Examination (ESE). 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) For Theory courses, out of total 100% weightage, 40% shall be based on continuous evaluation out of which 30% evaluation shall be through Tests and 10% shall be by Teachers' assessment of students' performance. Remaining 60% evaluation shall be based on End Semester Examination. Valued answer books of theory courses shall be shown to the students within six working days after the last day of theory examination (Test as well as ESE). b) Teachers' assessment of students' performance covering 10% evaluation of Theory courses shall be done on the basis of any two heads such as home assignment, tutorials, open-book test, seminars, group discussion, project, quizzes etc. The Course Coordinator shall declare the two heads chosen for each course, within the date prescribed by the Dean Academics. c) The marks on attendance if awarded as a part of Teachers' assessment, shall be given to those students having attendance more than or equal to 75% in that course. However, to assign marks on student attendance will not be mandatory and will be declared in the beginning of the semester by course coordinators. This will be applicable for existing and forthcoming batches with effect from 2018-19. d) End Semester examination shall be conducted as per the schedule in Academic Calendar. Detail time-table of End Semester Examinations shall be prepared and disseminated by the office of Controller of Examination. End Semester examination 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 theory examination. Grievances, if any, shall be addressed by the HoD on application of the students within next two days. After Grievance redressal, the answer book can be seen by the student within the time period notified by the course coordinator and correction in marks, if any, should be communicated to the office of COE by the course coordinator in the format prescribed within ten working days after the day of examination. (Academic Council Meeting dt. 14th July 2018)
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 'I' Grade in end semester examination. A student 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 21/08/2019).
R 19.4	A student shall be evaluated for his / her academic performance in a practical course on the basis of continuous evaluation & one end semester practical examination or as per teaching scheme. 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 examines 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'. For the courses (compulsory/ elective/any other course) of all PG and UG programmes which are closed by the respective department in a semester before 2017-18 academic session, maximum four consecutive available attempts will be provided starting from Regular Winter 2017 examination (as and when the examination is conducted) to pass these courses. For the courses (compulsory/elective/any other) of all PG and UG programs which are closed by the respective department in a semester from 2017-18 academic session and onwards, after the immediate make-up examination from closure of course, maximum four consecutive available attempts will be provided (as and when the examination is conducted) to pass these courses.
R 19.9	Thereafter, the End Semester evaluation pattern/ conduction method for courses which are closed by the department shall be decided by respective Board of Studies for such courses only. On successful completion of the course as per the evaluation pattern decided by BoS, the student shall be awarded grade not higher than 'BC' based on his/her performance. (Academic Council Meeting dt. 14th July 2018)
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 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 (as prescribed in the teaching & examination scheme of respective programme), shall take additional courses or repeat the courses mentioned in the 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 for genuine cases and unavoidable circumstances only, as verified by concerned BOS Chairman and a Special Power Committee at central level and approved by Academic Council. Genuine cases on confirmation of valid reasons may be subjected to the said procedure. The decision of academic bodies will be final. (Modified in Academic Council Meeting Dt. 16th Sept. 2017)
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.

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

Where,

C_i = The number of credits offered in the i^{th} course of a semester for which SGPA is to be calculated

P_i = Grade Point earned in the i^{th} 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.

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

Where,

C_j = The number of credits offered in the j^{th} course up to the semester for which CGPA is to be calculated

P_j = Grade point earned in the j^{th} 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, IP_G = GATE incentive grade points

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) Standard relative grading system is followed.

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

(iii) 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.

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

(v) 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.

(vi) 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 $(\overline{X})$ $\overline{X} = \frac{\sum_{i=1}^{n} X_i}{n}$

Formula for standard Deviation(s) $s = \sqrt{\frac{\sum_{i=1}^{N} (x_i - x)^2}{N-1}}$

For UG Courses having 30 or more students

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

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

- 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

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
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 for completion of one semester in other institute.

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 abide by the rules, regulations & 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 regular 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.
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.

R. 37 Internship	
R. 37	The internship scheme will be available to undergraduate students of the institute during the VIII Semester of respective programme. This scheme will provide students to undergo internship with stream majors at industry / well known academic institutions /R&D Laboratory premises and earn real world exposure. This scheme will incorporate Academic Component and Industry Component. The academic component will be completed in the respective department of the institute before the student is relieved for Internship. This will include conduction of classes and internal evaluation of the theory and lab courses of compulsory subjects of VIII semester. The student will be relieved for his/her internship on the start of the VIII semester. Such students will appear for End Semester Examination along with other regular students of VIII semester as per the time - table provided by the institute. The industry component will be conducted and evaluated by industry partner in coordination with the institute. It will cover electives and Project work of VIII Semester. The head of concerned department will assign a Mentor Faculty for a group comprising maximum four students each. The mentor faculty will also act as the Internal Supervisor for their respective projects in the industry. This internship scheme during VIII Semester shall be offered subject to fulfillment of selection criteria by the student as decided by concerned department, grant of permission by industry / organization where internship is to be carried out, approval by head of department at RCOEM, availability of faculty and other requirements/constraints if any. On selection, it will be mandatory for the student to abide by the guidelines issued by respective department and the industry regarding internship. (Academic Council Meeting Dt. 16th Sept. 2017)

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

R 38	**Swachha Bharat Summer Internship for UG & PG Students:** Student who completes the Swachha Bharat Summer Internship as per the guidelines of Ministry of Human Resource Development, Department of Higher Education, Government of India as communicated through the websites of UGC, New Delhi and AICTE, New Delhi, and submits a copy of Swachch Bharat Internship Certificate to Head of parent department through Nodal Officer of RCOEM shall be eligible to get incentives as per the regulation R7.1. (Academic Council Meeting dt. 14th July 2018)
R 39	**Mandatory Internship (06-08 weeks) for UG Students:** Students admitted in B.E. Semester-I during 2018-19 and thereafter (or admitted laterally in Sem-III during 2019-20 and thereafter) are required to complete minimum six week internship in industry/research organization/IIT/IISc/IIIT/NIT/In-house research internship at RCOEM during the winter/summer vacations prior to the commencement of Semester-VII as per scheme. On completion, the student has to submit the internship report/s and internship completion certificate/s issued by the organization(s) where it was completed, to the department. The department will evaluate the same by way of Seminar/Viva-voce etc in the department in Semester-VII as an Audit Course. Student shall be required to secure Satisfactory 'SF' grade in it. (Academic Council Meeting dt. 14th July 2018)
R 40	**Credit Transfer of MOOC against Open Elective for existing UG Students:** The existing UG students admitted in Semester III and Semester V during the academic year 2018-19 or in Semester V during 2019-20 shall be eligible for credit transfer by successful completion of MOOC offered by AICTE SWAYAM scheme/Coursera with pass/successful grade in its examination against Open Elective course that is being offered to students in Semester VI at RCOEM provided that, the total number of credits earned through MOOC should be greater than or equal to the number of credits allotted to open elective course at RCOEM or the MOOC completed by student is of minimum ten weeks duration. The MOOC which is identical to courses offered at RCOEM (in terms of contents) and are accessible to the student shall not be allowed for credit transfer. To avail this facility, students must submit an application to the HoD of parent department for approval before registering for the MOOC course. After successful completion, the MOOC completion certificate issued by the host institute of MOOC should be submitted to Dean Academics (with recommendation from HoD and Central MOOC/NPTEL Coordinator at RCOEM) for consideration, prior to the allotment of Open Electives at RCOEM. For SGPA and CGPA calculation the actual number of credits allotted for open elective at RCOEM shall be taken into consideration. In case, if no credits/grade are assigned by the host institution, a MOOC of minimum ten week duration and approved by RCOEM will be allowed for credit transfer against open elective. (Academic Council Meeting dt. 14th July 2018)
R 41	**Credit Transfer of MOOC against Open Elective for UG students, admitted in 2018-19 & onwards:** Students admitted in B.E. Semester-I during 2018-19 and thereafter (or admitted laterally in Sem-III during 2019-20 and thereafter) shall be eligible for credit transfer by successful completion of MOOC offered by AICTE SWAYAM scheme/Coursera with pass/successful grade in its examination against the Open Elective course that is being offered to students at RCOEM provided that, the total number of credits earned through MOOC should be greater than or equal to the number of credits allotted to open elective course at RCOEM or the MOOC completed by student is of minimum ten weeks duration. Credit transfer of MOOC is permitted against ANY ONE of the four open electives offered at RCOEM. The MOOC which is identical to courses offered at RCOEM (in terms of contents) and are accessible to the student shall not be allowed for credit transfer. To avail this facility, students must submit an application to the HoD of parent department for approval before registering for the MOOC course. After successful completion, the MOOC completion certificate issued by the host institute of MOOC should be submitted to Dean Academics (with recommendation from HoD and Central MOOC/NPTEL Coordinator at RCOEM) for consideration, prior to

R 38 **Swachha Bharat Summer Internship for UG & PG Students:**

Student who completes the Swachha Bharat Summer Internship as per the guidelines of Ministry of Human Resource Development, Department of Higher Education, Government of India as communicated through the websites of UGC, New Delhi and AICTE, New Delhi, and submits a copy of Swachch Bharat Internship Certificate to Head of parent department through Nodal Officer of RCOEM shall be eligible to get incentives as per the regulation R7.1.

(Academic Council Meeting dt. 14th July 2018)

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Students admitted in B.E. Semester-I during 2018-19 and thereafter (or admitted laterally in Sem-III during 2019-20 and thereafter) are required to complete minimum six week internship in industry/research organization/IIT/IISc/IIIT/NIT/In-house research internship at RCOEM during the winter/summer vacations prior to the commencement of Semester-VII as per scheme. On completion, the student has to submit the internship report/s and internship completion certificate/s issued by the organization(s) where it was completed, to the department. The department will evaluate the same by way of Seminar/Viva-voce etc in the department in Semester-VII as an Audit Course. Student shall be required to secure Satisfactory 'SF' grade in it.

(Academic Council Meeting dt. 14th July 2018)

R 40 **Credit Transfer of MOOC against Open Elective for existing UG Students:**

The existing UG students admitted in Semester III and Semester V during the academic year 2018-19 or in Semester V during 2019-20 shall be eligible for credit transfer by successful completion of MOOC offered by AICTE SWAYAM scheme/Coursera with pass/successful grade in its examination against Open Elective course that is being offered to students in Semester VI at RCOEM provided that, the total number of credits earned through MOOC should be greater than or equal to the number of credits allotted to open elective course at RCOEM or the MOOC completed by student is of minimum ten weeks duration. The MOOC which is identical to courses offered at RCOEM (in terms of contents) and are accessible to the student shall not be allowed for credit transfer. To avail this facility, students must submit an application to the HoD of parent department for approval before registering for the MOOC course. After successful completion, the MOOC completion certificate issued by the host institute of MOOC should be submitted to Dean Academics (with recommendation from HoD and Central MOOC/NPTEL Coordinator at RCOEM) for consideration, prior to the allotment of Open Electives at RCOEM. For SGPA and CGPA calculation the actual number of credits allotted for open elective at RCOEM shall be taken into consideration. In case, if no credits/grade are assigned by the host institution, a MOOC of minimum ten week duration and approved by RCOEM will be allowed for credit transfer against open elective.

(Academic Council Meeting dt. 14th July 2018)

R 41 **Credit Transfer of MOOC against Open Elective for UG students, admitted in 2018-19 & onwards:**

Students admitted in B.E. Semester-I during 2018-19 and thereafter (or admitted laterally in Sem-III during 2019-20 and thereafter) shall be eligible for credit transfer by successful completion of MOOC offered by AICTE SWAYAM scheme/Coursera with pass/successful grade in its examination against the Open Elective course that is being offered to students at RCOEM provided that, the total number of credits earned through MOOC should be greater than or equal to the number of credits allotted to open elective course at RCOEM or the MOOC completed by student is of minimum ten weeks duration. Credit transfer of MOOC is permitted against ANY ONE of the four open electives offered at RCOEM. The MOOC which is identical to courses offered at RCOEM (in terms of contents) and are accessible to the student shall not be allowed for credit transfer. To avail this facility, students must submit an application to the HoD of parent department for approval before registering for the MOOC course. After successful completion, the MOOC completion certificate issued by the host institute of MOOC should be submitted to Dean Academics (with

R 44 **Honors & Minor Scheme:**

Apart from the minimum credit requirements of 160 for the award of the undergraduate engineering degree,

these schemes provide opportunities for supplementing the learning experience by crediting additional courses, in parent as well as in diverse areas. These additional credits when they are in focused branch would earn the students, credentials like Honors/Minor. Honors scheme aims for vertical knowledge growth in his/her own branch which may have research orientation while Minor scheme aims for additional knowledge in any other branch for enhancement of employability.

On successful completion of the requirements of Honors and Minors schemes, the UG students shall be awarded a Certificate by RCOEM. Participation of students in these schemes shall not be mandatory. Aspiring student will register for additional theory courses and acquire additional (minimum) 20 credits for any one of the two schemes. A student opting for 'Honors' will not be entitled to register for 'Minor' and vice-versa. It is expected that the students with good academic standing, utilize their surplus time for enhancing their academic learning experience and gain a wide exposure.

Eligibility of student:

Students having CGPA more than or equal to 6.75 and no backlogs shall be eligible to register for

Honors/Minor theory courses (one per semester) from the list prescribed by the department. Also, the student should not have received 'Z' grade in any of the previous courses at the time of registration for Honors/Minor course. The scheme shall begin from Fourth Semester of UG programs.

Course Registration & Conduction:

Every department will float courses from the Honors/Minor list, only one course per Semester (i.e. in Sem IV, V, VI, VII & VIII). Aspiring students from the host department belonging to any Semester shall register for that course. He/she shall be permitted subject to availability of seats in the course. Common slots per week shall be allotted in the time-table for conduction of classes of Honors and Minor courses. The same criteria of attendance as applied to regular UG programs at RCOEM shall be applicable.

Examination:

The evaluation scheme of Honors/Minor courses will be 40% continuous evaluation and 60% End Semester Examination. Students will be allowed only two chances to pass the Honors/Minor course i.e. regular End Semester Examination and its immediately followed Make-up examination. If a student is not able to pass the course in these examinations, no additional chance shall be given as ex-student at any stage and he/she will be discontinued from the honors/Minor scheme.

In Honors courses, it will be mandatory for student to secure minimum 'BC' grade else, it won't be counted as completion of Honors course. Performance evaluation of students in both Honors and Minor courses will be by Relative Grading. The grades secured by the student in Honors and Minor courses shall be used for CGPA calculation at the end of Final Semester (VIII Semester) only provided that the student had secured 20 credits of Honors/Minor courses in addition to the 160 minimum credits of the respective program curriculum.

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Duration of Program with Honors:

All requirements of the program and Honors/Minor have to be completed within the stipulated period of the original program i.e. 04 years for UG students who were admitted in First Year of the program and 03 years for those who got lateral entry in second year of the program. No additional period will be permitted. If a student is unable to earn additional 20 credits along with all the prescribed credits of parent program within the stipulated allowed duration of the parent program, he/she will not be awarded Honors/Minor. The Honors/Minor courses completed if any by such students shall not be adjusted or converted into program credits anywhere in the 160 credits structure of original curriculum of the program in which they were admitted and such additional credits will remain extra.

Dropping/Withdrawal/Termination from Honors/Minor:

If a student drops or withdraws from the Honors/Minor scheme at any stage, the additional credits earned through Honors/Minor courses shall not be converted into program credits (core/electives/lab/project etc) and they will remain extra. If at any stage during the duration of the program, if the student is found indulged in any in disciplinary activity (against the Code of Conduct at RCOEM), he/she shall be terminated from the Honors/Minor scheme and no Honors/Minor certificate shall be awarded to him/her.

Class & Medal:

Successful completion of Honors/Minor scheme will not indicate any Class or Division. For the award of Medal to meritorious students, in case of a tie, student who has earned the Honors/Minor will be preferred.

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	-
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 absence in End Semester Examination.

'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.

NOTES

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ESTD - 1984
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