

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.E. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION

THIRD SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total	Theory	Practical
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.			
GS	BEEE3O1T	Electrical Engineering Mathematics	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE3O2T	Network Analysis	3	-	1A	4	4	30	70	-	-	100	45	
EE	BEEE3O3T	Electrical Measurement & Instrumentation	3	-	1A	4	4	30	70	-	-	100	45	
EE	BEEE3O4T	Analog Devices & Circuits	3	-	1A	4	4	30	70	-	-	100	45	
EE	BEEE3O5T	Renewable Energy studies	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE3O6T	Introduction to Python programming	1	-	-	1	1	15	35	-	-	50	23	
	BEEE3O7T	Environmental studies	1	-	1A	1	Audit	50	-	-	-	Audit	-	
EE	BEEE3O2P	Network Analysis Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE3O3P	Electrical measurement & instrumentation Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE3O4P	Analog Devices & circuits Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE3O6P	Introduction to Python programming Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	17	8	1T+4A	29	24	165	385	100	100	750		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity

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FOURTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total	Theory	Practical
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.			
EE	BEEE4O1T	Signal & Systems	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE4O2T	Digital Electronics	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE4O3T	Electrical machines-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE4O4T	Power System	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE4O5T	Electromagnetic Fields	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE4O6T	Simulation & Programming Techniques	3	-	-	3	3	30	70	-	-	100	45	
		Internship (2 to 3 weeks)	-	-	-	-	1	-	-	-	-	-		
EE	BEEE4O2P	Digital Electronics lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE4O3P	Electrical machines-I Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE4O6P	Simulation & Programming Techniques Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	18	6	2T	26	24	180	420	75	75	750		

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FIFTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total	Theory	Practical
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.			
EE	BEEE5O1T	Microprocessor & Microcontroller	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE5O2T	Control systems	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE5O3T	Power electronics	3	-	1T	4	4	30	70	-	-	100	45	
	BEEE5O4T	Open elective -I	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE5O5T	Professional elective-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE5O1P	Microprocessor & Microcontroller lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE5O2P	Control systems lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE5O3P	Power Electronics lab	-	2	-	2	1	-	-	25	25	50		25
		Total	15	6	3T	24	21	150	350	75	75	650		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity

Open Electives -I	Professional Elective-I
1. PLC and SCADA systems	1. Electrical Machine – II
2. Solar PV Systems	2. Power Station Practice
3. Organizational behavior	3. Electrical Power Utilization

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SCHEME OF EXAMINATION

SIXTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
			L	P	T/A	Total		Theory		Practical		Total	Theory	Practical
								Internal	Uni.	Internal	Uni.			
GS	BEEE6O1T	Engineering Economics & Management	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE6O2T	Computer Applications in power system	3	-	1T	4	4	30	70	-	-	100	45	
EE	BEEE6O3T	Switch gear & protection	3	-	1T	4	4	30	70	-	-	100	45	
	BEEE6O4T	Open electives-II	2	-	-	2	2	30	70	-	-	100	45	
EE	BEEE6O5T	Professional elective-II	3	-	-	3	3	30	70	-	-	100	45	
	BEEE6O6T	Yoga & Meditation	1	-	-	1	Audit	50	-	-	-	Audit		
		Internship 3 to 4 weeks	-	-	-	-	2	-	-	-	-	-		
EE	BEEE6O2P	Computer Applications in power system lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE6O3P	Switch gear & protection lab	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE6O7P	Electrical Workshop Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	15	6	2T	23	21	150	350	75	75	650		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity

Open Electives -II	Professional Elective-II
1. Testing and maintenance of Electrical Equipments	1. Electrical Installation and Design
2. Advance Instrumentation	2. Electrical Machine Design
3. Optimization Technique	3. Electric Drives and their control

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SEVENTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total	Theory	Practical
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.			
EE	BEEE7O1T	Professional elective-III	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE7O2T	Professional elective-IV	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE7O3T	Professional elective-V	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE7O4T	Open electives-III	3	-	-	3	3	30	70	-	-	100	45	
	BEEE7O5T	Ancient Indian History	-	-	-	-	Audit	50	-	-	-	Audit		
EE	BEEE7O6P	Elective Lab-I	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE7O7P	Elective Lab-II	-	2	-	2	1	-	-	25	25	50		25
EE	BEEE7O8P	Project & Seminar	-	-	3A	3	3	-	-	50	-	50		25
		Total	12	4	3A	19	17	120	280	100	50	550		

• L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity

Open Electives III	Professional Elective III	Professional Elective IV	Professional Elective V
1. Energy Management and Audit	1. Advanced Power Electronics	1. Fuzzy Logic and Neural Networks	1. Introduction to Artificial Intelligence
2. Industrial Economics and Entrepreneurship	2. HV Engineering	2. Advanced Electrical Power Systems	2. Digital signal processing and its applications
3. Electric and Hybrid Vehicles	3. Integrated Renewable Energy Systems	3. Flexible AC Transmission System	3. Introduction to Smart Grid

Elective lab I	Elective lab II
1) HV Engineering OR 2) Electrical Drawing and Simulation	1) Electrical Installation & Design OR 2) Advance Power Electronics

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EIGHTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total	Theory	Practical
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.			
EE	BEEE8O1T	Advance Professional elective-VI #*	3	-	-	3	3	30	70	-	-	100	45	
EE	BEEE8O2T	Advance Professional elective-VII #*	3	-	-	3	3	30	70	-	-	100	45	
		Internship (5 to 6 weeks) in Industry at appropriate work place	-	-	-	-	4	-	-	-	-	-		
EE	BEEE8O3P	Project	-		3A	3	3	-	-	50	50	100		50
EE	BEEE8O4P	Seminar	-	-	2A	2	2	-	-	50	-	50		
		Total	6	-	5A	11	15	60	140	100	50	350		

These subjects should be undertaken through online mode.

*Alternatively students can choose any course with 3 credits from MOOCs Platform for which the list is given below.

Additional subjects may be conducted through online courses.

Teacher shall be assigned workload for internship and industrial project.

List of MOOCs platforms which offer online certifications courses as below: -

1. SWAYAM-<https://swayam.gov.in>
2. NPTEL-<https://onlinecourses.nptel.ac.in>
3. MOOC-<http://mooc.org>

OR

Students may opt following online courses designed by BoS Electrical Engineering, RTMNU Nagpur

Professional Elective-VI	Professional Elective-VII
1. Power semiconductor drives	1. EHVAC / DC transmission System
2. Electrical Distribution System	2. Power Quality

LIST OF ELECTIVE SUBJECTS

Semester	Elective Type	Subject
V	Open Elective-I	1. PLC and SCADA systems
		2. Solar PV Systems
		3. Organizational behavior
	Professional Elective-I	1. Electrical Machine – II
		2. Power Station Practice
		3. Electrical Power Utilization
VI	Open Elective-II	1. Testing and maintenance of Electrical Equipments
		2. Advance Instrumentation
		3. Optimization Technique
	Professional Elective-II	1. Electrical Installation and Design
		2. Electrical Machine Design
		3. Electric Drives and their control
VII	Open Elective-III	1. Energy Management and Audit
		2. Industrial Economics and Entrepreneurship
		3. Electric and Hybrid Vehicles
	Professional Elective-III	1. Advanced Power Electronics
		2. HV Engineering
		3. Integrated Renewable Energy Systems
	Professional Elective-IV	1. Fuzzy Logic and Neural Networks
		2. Advanced Electrical Power Systems
		3. Flexible AC Transmission System
	Professional Elective-V	1. Introduction to Artificial Intelligence
		2. Digital signal processing and its applications
		3. Introduction to Smart Grid
VIII	Professional Elective-VI	1. SWAYAM – https://swayam.gov.in
		NPTEL – https://onlinecourses.nptel.ac.in/
		2. MOOC – https://mooc.org
		3. Power semiconductor drives
	Professional Elective-VII	4. Electrical Distribution System
		1. SWAYAM – https://swayam.gov.in
		2. NPTEL – https://onlinecourses.nptel.ac.in/
		3. MOOC – https://mooc.org
		4. EHVAC/DC transmission System
		5. Power Quality