RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

B.TECH. (Electrical Engineering)(CBCS)
SCHEME OF EXAMINATION

THIRD SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total		
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.		Theory	Practical
GS	BTCHEE3O1T	Electrical Engineering Mathematics	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE3O2T	Network Analysis	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE3O3T	Electrical Measurement & Instrumentation	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE3O4T	Analog Devices & Circuits	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE3O5T	Renewable Energy studies	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE3O6T	Introduction to Python programming	1	-	-	1	1	15	35	-	-	50	23	
	BTCHEE3O7T	Environmental studies	1	-	1A	1	Audit	50*	-	-	-	Audit	-	
EE	BTCHEE3O2P	Network Analysis Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE3O3P	Electrical measurement & instrumentation Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE3O4P	Analog Devices & circuits Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE3O6P	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, * indicates noncredit subject
- For Internal 30 marks, 15 marks for activity and 15 marks for CIA (continues internal assessment)

27.7.22
(Dr. S.M. Jichkar)

27/7/22
(Dr. A. Shirbhate)

27/07/22
Dr. J.B. Fulzele

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

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	BTCHEE4O1T	Signal & Systems	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE4O2T	Digital Electronics	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE4O3T	Electrical machines-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE4O4T	Power System	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE4O5T	Electromagnetic Fields	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE4O6T	Simulation & ProgrammingTechniques	3	-	-	3	3	30	70	-	-	100	45	
		Internship (2 to 3 weeks) (After III semester break)	-	-	1A	1	1	-	-	50	-	50		
EE	BTCHEE4O2P	Digital Electronics lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE4O3P	Electrical machines-I Lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE4O6P	Simulation & Programming Techniques Lab	-	2	-	2	1	-	-	25	25	50		25
		Total	**18**	**6**	**2T+ 1A**	**27**	**24**	**180**	**420**	**125**	**75**	**800**		

- L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity
- Internship:- a) Student shall be allowed to undergo internship after III semester break
  b) Internal marks for internship of IV semester may be awarded after successful completion of internship
  c) 50 internal marks given for internship shall be given as-
  i) 25 marks based on detailed report about internship along with certificate provided by company/industry
  ii) 25 marks based on presentation by student about what he/she learned during internship

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(Dr. A. Shubhali)

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(Dr. S. M. Kelo)

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Dr. J. B. Patzele

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION

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	BTCHEE5O1T	Microprocessor & Microcontroller	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE5O2T	Control systems	3	-	1A	4	4	30	70	-	-	100	45	
EE	BTCHEE5O3T	Power electronics	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE5O4T	Advanced Electrical Power System	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE5O5T	Professional elective-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE5O1P	Microprocessor & Microcontroller lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE5O2P	Control systems lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE5O3P	Power Electronics lab	-	2	-	2	1	-	-	25	25	50		25
		Total	**15**	**6**	**1A+1T**	**23**	**20**	**150**	**350**	**75**	**75**	**650**		

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

Professional Elective-I
1. Electrical Machine – II
2. Power Station Practice
3. Electrical Power Utilization

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B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION

SIXTH SEMESTER

Board	Subject Code	Subject	Teaching Scheme				Credit	MARKS					Minimum Passing Marks	
								Theory		Practical		Total		
			L	P	T/A	Total		Internal	Uni.	Internal	Uni.		Theory	Practical
GS	BTCHEE6O1T	Engineering Economics & Management	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE6O2T	Computer Applications in power system	3	-	1T	4	4	30	70	-	-	100	45	
EE	BTCHEE6O3T	Switch gear & protection	3	-	1T	4	4	30	70	-	-	100	45	
	BTCHEE6O4T	Open electives-I	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE6O5T	Professional elective-II	3	-	-	3	3	30	70	-	-	100	45	
	BTCHEE6O6T	Yoga & Meditation	-	2	-	2	Audit	-	-	25*	-	25*		
EE	BTCHEE6O2P	Computer Applications in power system lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE6O3P	Switch gear & protection lab	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE6O7P	Internship 3 to 4 weeks (After 4th or 5 th semester break) / Mini Project	-	-	2A	2	2	-	-	50	-	50		
		Total	**15**	**6**	**2A+2T**	**25**	**21**	**150**	**350**	**100**	**50**	**650**		

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

Open Electives -I	Professional Elective-II
1. PLC and SCADA systems	1. Advanced control System
2. Solar PV Systems	2. Optimization Technique
3. Organizational behavior	3. Electric Drives and their control
4. Numerical Mathematics & Probability using MATLAB	4. --------

• Internship:- a) Student shall be allowed to undergo internship after 4th or 5th semester break
b) Internal marks for internship of VI th semester may be awarded after successful completion of internship
c) 50 internal marks for internship shall be given as-
i) 25 marks based on detailed report about internship along with certificate provided by company/industry
ii) 25 marks based on presentation by student about what he/she learned during internship

27/7/22 Dr. A Shirbhate

29-7-22

27/07/22 Dr. R Fulzele

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION
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	BTCHEE7O1T	Professional elective-III	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O2T	Professional elective-IV	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O3T	Professional elective-V	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE7O4T	Open electives-II	3	-	-	3	3	30	70	-	-	100	45	
	BTCHEE7O5T	Ancient Indian History	1	-	-	1	Audit	50*	-	-	-	50*		
EE	BTCHEE7O6P	Elective Lab-I	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE7O7P	Elective Lab-II	-	2	-	2	1	-	-	25	25	50		25
EE	BTCHEE7O8P	Project &Seminar	-	-	3A	3	3	-	-	50	-	50		25
		Total	**13**	**4**	**3A**	**20**	**17**	**120**	**280**	**100**	**50**	**550**		

- L- Lecture, P-Practical(Half Credit per Hour), T- Tutorial, A- Activity, * indicates noncredit subject

Open Electives II	Professional Elective III	Professional Elective IV	Professional Elective V
1. Energy Management and Audit	1. Advanced Power Electronics	1. Testing and Maintenance of Electrical Equipment	1. Electrical Machine Design
2. Industrial Economics and Entrepreneurship	2. HV Engineering	2. Electrical Installation & Design	2. Digital signal processing and its applications
3. Electric and Hybrid Vehicles	3. Introduction to Artificial Intelligence	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) Electrical Workshop

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
B.TECH. (Electrical Engineering) (CBCS)
SCHEME OF EXAMINATION
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	BTCHEE8O1T	Advance Professional elective-VI #*	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE8O2T	Advance Professional elective-VII #*	3	-	-	3	3	30	70	-	-	100	45	
EE	BTCHEE8O3P	Project	-	12		12	6	-	-	75	75	150		75
EE	BTCHEE8O4P	Internship (5 to 6 weeks) in Industry at appropriate work place	-	-	4A	4	4	-	-	100	-	100		
		Total	**6**	**12**	**4A**	**22**	**16**	**60**	**140**	**175**	**75**	**450**		

 # 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

- Internship:- a) Student shall be allowed to undergo internship for 5 to 6 weeks during 8 th semester in industry/ company at appropriate work place
  b) Internal marks for internship of 8 th semester may be awarded after successful completion of internship
  c) 100 internal marks for internship shall be given as-
    i) 50 marks based on detailed report about internship along with certificate provided by company/industry
    ii) 50 marks based on presentation by student about what he/she learned during internship

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LIST OF ELECTIVE SUBJECTS

Semester	Elective Type	Subject
V	Professional Elective-I	1. Electrical Machine – II
		2. Power Station Practice
		3. Electrical Power Utilization
VI	Open Elective-I	1. PLC and SCADA systems
		2. Solar PV Systems
		3. Organizational behavior
		4. Numerical Mathematics & Probability using MATLAB
	Professional Elective-II	1. Control System-II
		2. Optimization Technique
		3. Electric Drives and their control
VII	Open Elective-II	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. Introduction to Artificial Intelligence
	Professional Elective-IV	1. Testing and maintenance of Electrical Equipments
		2. Electrical Installation & Design
		3. Flexible AC Transmission System
	Professional Elective-V	1. Electrical Machine Design
		2. Digital signal processing and its applications
		3. Introduction to Smart Grid
VIII	Professional Elective-VI	1. SWAYAM – https://swayam.gov.in
		2. NPTEL – **https://onlinecourses.nptel.ac.in/**
		3. MOOC – https://mooc.org
		4. Power semiconductor drives
		5. Electrical Distribution System
	Professional Elective-VII	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

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