

Dr. Babasaheb Ambedkar Technological University, Lonere.

B.Tech (Electrical Engineering / Electrical Engineering (Electronics and Power)/ Electrical & Electronics Engg / Electrical & Power Engineering)

Curriculum of Second Year

Semester III

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
BSC	BTBS301	Engineering Mathematics-III	3	1	-	20	20	60	100	4
PCC1	BTEEC302	Electrical Machines-I	3	1	-	20	20	60	100	4
PCC2	BTEEC303	Electrical and Electronics Measurement	3	1	-	20	20	60	100	4
HSSMC	BTHM304	Basic Human Rights	2	-	-					Audit
ESC	BTES305	Engineering Material Science	3	-	-	20	20	60	100	3
LC	BTEEL306	Electrical Machines-I Lab			2	60		40	100	1
LC	BTEEL307	Electrical and Electronics Measurement Lab			2	60		40	100	1
Project	BTEEP308	Mini Project-I			4	60		40	100	2
Internship	BTES211P	Internship-I Evaluation						50	50	1
			14	3	8	260	80	410	750	20

Semester IV

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MSE	ESE	Total	
PCC3	BTEEC401	Network Theory	3	1	-	20	20	60	100	4
PCC4	BTEEC402	Power System	3	1	-	20	20	60	100	4
PCC5	BTEEC403	Electrical Machine-II	3	1	-	20	20	60	100	4
BSC	BTBS404	Analog and Digital Electronics	3	-	-	20	20	60	100	3
PEC1	BTEEPE405	Group A	3	-	--	20	20	60	100	3
LC	BTEEL406	Network Theory Lab	-	-	2	30		20	50	1
LC	BTEEL407	Power System Lab	-	-	2	30		20	50	1
LC	BTEEL408	Electrical Machine-II Lab	-	-	2	30		20	50	1
LC	BTEEL409	Analog and Digital Electronics lab	-	-	2	30		20	50	1
Internship	BTEEP410	Internship-II (minimum of 4 weeks which can be completed partially in third or fourth semester or in at one time)	-	-	-	-	-	-	-	-
						220	100	380	700	22

Group-A

- (A) Electromagnetic Field Theory
- (B) **Signals and System**
- (C) Advance Renewable Energy Sources
- (D) **Electronic Devices and Circuits**

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Curriculum for Semester V

Course Category	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credit
			L	T	P	CA	MS E	ESE	Total	
PCC4	BTEEC501	Power System Analysis	3	1	-	20	20	60	100	4
PCC5	BTEEC502	Microprocessor and Microcontroller	3	-	-	20	20	60	100	3
PCC6	BTEEC503	Power Electronics	3	1	-	20	20	60	100	4
PCC2	BTEEPLE504	Group B	3	-	-	20	20	60	100	3
OEC1	BTEEOE505	Group C	3	-	-	20	20	60	100	3
HSSMC	BTHM506	Foreign Language #	-	-	-	-	-	-	-	Audit
LC	BTEEL507	Power System Analysis Lab	-	-	2	60	-	40	100	1
LC	BTEEL508	Microprocessor and Microcontroller Lab	-	-	2	60	-	40	100	1
LC	BTEEL509	Power Electronics Lab	-	-	2	60	-	40	100	1
Project	BTEEPE510	Mini project-II	-	-	2	60	-	40	100	1
Internship	BTEEP410	Internship-II Evaluation	-	-	-	-	-	50	50	1
Total			15	2	10	340	100	510	950	22

Semester VI

PCC7	BTEEC601	Switchgear and Protection	3	-	-	20	20	60	100	3
PCC8	BTEEC602	Electrical Machine Design	3	1	-	20	20	60	100	4
PCC9	BTEEC603	Control System Engineering	3	1	-	20	20	60	100	4
PEC3	BTEEPE604	Group D	3	-	-	20	20	60	100	3
OEC2	BTEEOE605	Group E	3	-	-	20	20	60	100	3
LC	BTEEL606	Switchgear and Protection Lab	-	-	2	60	-	40	100	1
LC	BTEEL607	Electrical Machine Design Lab	-	-	2	60	-	40	100	1
LC	BTEEL608	Control System Engineering Lab	-	-	2	60	-	40	100	1
Seminar	BTEEM609	Seminar	-	-	4	60	-	40	100	2
Internship	BTEEP610	Internship-III (minimum of 4 weeks which can be completed partially in third or fourth semester or in at one time)	-	-	-	-	-	-	-	Credits to be evaluated in VII sem.
Total			15	2	10	340	100	460	900	22

BSC= Basic Science Course, ESC= Engineering Science Course, PCC= Professional Core Course, PEC= Professional Elective Course, OEC= Open Elective Course, LC= Laboratory Course, HSSMC= Humanities and Social Science including Management Course

Online NPTEL Course

Semester V

BTEEPE504 Professional Elective (Group B)	BTEEOE505 Open Elective (Group C)
(A) HVDC	(A) Embedded System
(B) Power Quality Issues	(B) Electrical Safety
(C) Industrial Automation	(C) Condition Monitoring of Electric Apparatus

BTHM506 Foreign Language
(A) Japanese Language
(B) German Language

Semester VI

BTEEPE604 Professional Elective (Group D)	BTEEOE605 Open Elective (Group E)
(A) Flexible AC Transmission System	(A) E-waste Management
(B) Smart Grid Technology	(B) Power Plant Engineering
(C) Modeling, Simulation and Control of Electric Drives	(C) Sensor Technology
	(D) Lightning Interaction with Power System

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Curriculum for Semester VII [Final Year]

Sr. No.	Course Code	Type of Course	Course Title	Hours per week			Evaluation Scheme			Total Marks	Credits
				L	T	P	MSE	CA	ESE		
1	BTEEC701	PCC1	Power System Operation & Control	3	0	0	20	20	60	100	3
2	BTEEC702	PCC2	High Voltage Engineering	3	0	0	20	20	60	100	3
3	BTEEC703	PCC3	Electrical Drives	3	0	0	20	20	60	100	3
4	BTEEE704	PEC1	Elective-IX	3	0	0	20	20	60	100	3
5	BTEEE705	PEC2	Elective-X	3	0	0	20	20	60	100	3
6	BTEEL706	Lab	Power System Operation & Control Lab	0	0	2	--	30	20	50	1
7	BTEEL707	Lab	High Voltage Engineering Lab	0	0	2	--	30	20	50	1
8	BTEEL708	Lab	Electrical Drives Lab	0	0	2	--	30	20	50	1
9	BTEES709	Seminar	Seminar	0	0	2	--	30	20	50	1
10	BTEEP710	Project	Project Part-I	0	0	6	--	30	20	50	3
11	BTEEF711	--	Field Training /Internship/Industrial Training III	--	--	--	--	--	50	50	1
Total				15	0	14	100	250	450	800	23

Elective-IX	Elective-X
A) Special Purpose Electrical Machines	A) Digital Signal Processing
B) Electrical Traction and Utilization	B) Energy Audit and Conservation
C) Engineering System Design and Optimization	C) Electrical Power Quality
D) Financial Management	D) HVDC Transmission and FACTS

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Curriculum for Semester VIII [Final Year]

Sr. No.	Course Code	Course Title	Hours per week			Evaluation Scheme			Total Marks	Credits
			L	T	P	MSE	CA	ESE		
		1.Power Management Integrated Circuits 2.DC Power Transmission Systems 3.High Power Multilevel Converters 4.Fuzzy Sets, Logic and Systems & Applications 5.The Joy of Computing using Python 6.Introduction to Industry 4.0 and Industrial Internet of Things 7.Entrepreneurship Essentials # Student to opt any two subjects from above list	3	0	0	20*	20*	60*	100	3
			3	0	0	20*	20*	60*	100	3
6	BTEEP803	Project - II	0	0	30	--	100	150	250	15
		Total	6	0	30	40	240	270	450	21

* Six months of Internship in the industry

*Students doing project at institute will have to appear for CA/MSE/ESE

* Student doing project at Industry will give NPTEL examination / Examination conducted by university i.e. CA/MSE/ESE

These subjects are to be studied on self –study mode using SWAYAM/NPTEL/Any other source

Teacher who work as a facilitator for the course should be allotted 3 hrs/week load.

Project Load: 2hrs/week/project.

Mapping of Courses with MOOCs Platform SWYAM / NPTEL

S.N.	Course Name	Duration	Name of Professor	Institute offering Course
1	Power Management Integrated Circuits	12 Weeks	Prof. Qadeer Ahmad Khan	IITM
2	DC Power Transmission Systems	12 Weeks	Prof. Krishna S	IITM
3	High Power Multilevel Converters	12 Weeks	Prof. Anandarup Das	IITD
4	Fuzzy Sets, Logic and Systems & Applications	12 Weeks	Prof. Nishchal Kumar Verma	IITK
5	The Joy of Computing using Python	12 Weeks	Prof. Sudarshan Iyengar Prof. Yayati Gupta	IIT Ropar
6	Introduction to Industry 4.0 and Industrial Internet of Things	12 Weeks	Prof. Sudip Misra	IIT KGP
7	Entrepreneurship Essentials	12 Weeks	Prof. Manoj Kumar Mondal	IIT KGP