

**Teaching & Evaluation scheme of second year B. Tech. Electrical Engineering / Electrical Engineering (Electronics and Power)/ Electrical & Electronics Engg / Electrical & Power Engg .**

III SEMESTER.									
S.No	Course Code	Course Title	Teaching Scheme			Evaluation Scheme			Credits
			L	T	P	MSE	CA	ESE	
1	BTBSC301	Engineering Mathematics-III	3	1	0	20	20	60	4
2	BTEEC302	Network Analysis and Synthesis	2	1	0	20	20	60	3
3	BTEEC303	Fluid Mechanics and Thermal Engineering	2	1	0	20	20	60	3
4	BTEEC304	Measurement and Instrumentation	2	1	0	20	20	60	3
5	BTEEE305A BTEEE305B BTEEE305C	Elective –I (A) Electrical Engineering Materials (B) Applied Physics (C) Signals and Systems	3	0	0	20	20	60	3
6	BTHM3401	Basic Human Rights	2	0	0	-	20	-	Audit
7	BTHM306	Engineering Economics	2	0	0	20	20	60	2
8	BTEEL307	Network Analysis and Synthesis Lab	0	0	2	-	60	40	1
9	BTEEL308	Measurement and Instrumentation Lab	-	0	4	-	60	40	2
10	BTEEM309	Electrical workshop/ Mini project	-	-	2	-	60	40	1
11	BTEEF310	Field Training/ Internship/ Industrial Training Evaluation						50	1
		TOTAL	16	04	08	120	320	530	23
IV SEMESTER.									
1	BTEEC401	Electrical Machine-I	3	1	0	20	20	60	4
2	BTEEC402	Power System-I	2	1	0	20	20	60	3
3	BTEEC403	Electrical Installation and Estimation	2	1	0	20	20	60	3
4	BTEEC404	Numerical Methods and Programming	2	1	0	20	20	60	3
5	BTID405	Product Design Engineering	1	0	2	30	30	40	2
6	BTEEE-406A BTEEE-406B BTEEE-406C	Elective –II (A) Solid State Devices (B) Analog and Digital electronics (C) Electromagnetic Theory	2	0	0	20	20	60	2
7	BTEEOE407-A BTEEOE407-B BTEEOE407-C	Elective –III (A) Industrial safety (B) Introduction to Non-Conventional energy sources (C) Software Techniques.	2	0	0	20	20	60	2
8	BTEEL408	Electrical Machine-I Lab	0	0	2	-	60	40	1
9	BTEEL409	Power System lab-I	0	0	2	-	60	40	1
10	BTEEL410	Numerical Methods and Programming Lab	-	0	2	-	60	40	1
11	BTEEEL411	Elective-II Lab	0	0	2	-	60	40	1
12		Field Training / Internship/ Industrial Training (minimum 4 weeks which can be completed partially in Third semester and Fourth Semester or in at one time.)							Credits to be evaluated in V Sem
		TOTAL	15	04	10	140	380	580	23

# BTHM3401 - Basic Human Rights

Teaching scheme:

Theory: 2 hrs

Total credit: Audit

Examination Scheme:

Continuous Assessment: 50 Marks

Pre requisite		
Course Objective		
Course Outcome	To study concept of time value of money To study about demand in detail To understand Meaning of Production and factors of production, To understand dif. Concept about market	
Unit	Contents	Contact Hrs
1	The Basic Concepts: Individual, Group, Civil Society, State, Equality, Justice, Human Values: - Humanity, Virtues, Compassion.	6
2	Human Rights and Human Duties: Origin, Civil and Political Rights, Contribution of American Bill of Rights, French Revolution, Declaration of Independence, Rights of Citizen, Rights of working and Exploited people, Fundamental Rights and Economic program, India's Charter of freedom	6
3	Society, Religion, Culture, and their Inter-Relationship: Impact of Social Structure on Human behaviour, Roll of Socialization in Human Values, Science and Technology, Modernization, Globalization, and Dehumanization.	6
4	Social Structure and Social Problems: Social and Communal Conflicts and Social Harmony, Rural Poverty, Unemployment, Bonded Labour, Migrant workers and Human Rights Violations, Human Rights of mentally and physically challenged.	6
5	State, Individual Liberty, Freedom and Democracy: The changing of state with special reference to developing countries, Concept of development under development and Social action, need for Collective action in developing societies and methods of Social action, NGOs and Human Rights in India: - Land, Water, Forest issues.	6
6	Human Rights in Indian Constitution and Law: The constitution of India: (i) Preamble (ii) Fundamental Rights (iii) Directive principles of state policy (iv) Fundamental Duties (v) Some other provisions Universal declaration of Human Rights and Provisions of India, Constitution and Law, National Human Rights Commission and State Human Rights Commission	6
	Reference Books: 1. Shastri, T. S. N., India and Human rights: Reflections, Concept Publishing Company India (P Ltd.), 2005. 2. Nirmal, C.J., Human Rights in India: Historical, Social and Political Perspectives (Law in India), Oxford India.	

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY LONERE**  
**ELECTRICAL ENGINEERING DEPARTMENT**

*Structure Of Third year B. Tech. (Electrical Engineering)*

**V Semester**

Course Code	Course Name	Teaching Scheme			Evaluation Scheme					Credits
		L	P	T	Int	MSE	ESE	TW	Pr/OR	
EEL501	Electrical Machine-II	3	0	1	20	20	60	-	-	4
EEL502	Power System-II	3	0	0	20	20	60	-	-	3
EEL503	Control System-I	3	0	0	20	20	60	-	-	3
EEL504	Microprocessor and micro Controller	3	0	1	20	20	60	-	-	4
EEL505	Value Education, Human Rights and Legislative Procedures	2	0	0	20	20	60	-	-	2
EEL506	Elective-IV	3	0	0	20	20	60	-	-	3
EEL507	Elective-V	3	0	0	20	20	60	-	-	3
EEP508	Electrical Machine-II Lab	0	2	0	-	-	-	25	25	1
EEP509	Power System-II Lab	0	2	0	-	-	-	25	25	1
EEP510	Microprocessor and micro Controller Lab	0	2	0	-	-	-	25	25	1
	TOTAL	20	06	02	140	140	420	75	75	25

Elective- IV: 1. Illumination engineering 2. **Advances in Renewable Energy Sources**. 3. Biomedical Instrumentation

Elective-V: 1. Electrical Mobility. 2. Power Plant Engineering. 3. Design and Analysis of Algorithms.

**VI semester**

Course Code	Course Name	Teaching Scheme			Evaluation Scheme					Credits
		L	P	T	Int	MSE	ESE	TW	Pr/OR	
EEL601	Control System-II	3	0	1	20	20	60	-	-	4
EEL602	Principles of Electrical Machine Design	3	0	1	20	20	60	-	-	4
EEL603	Power Electronics	3	0	0	20	20	60	-	-	3
EEL604	Elective-VI	3	0	0	20	20	60	-	-	3
EEL605	Elective-VII	3	0	0	20	20	60	-	-	3
EEL606	Elective-VIII	3	0	0	20	20	60	-	-	3
EEP607	Control System-II Lab	0	2	0	-	-	-	25	25	1
EEP608	Principles of Electrical Machine Design Lab	0	2	0	-	-	-	25	25	1
EEP609	Power Electronics Lab	0	2	0	-	-	-	25	25	1
EET610	Industrial Training *	-	-	-	-	-	-	-	-	-
	TOTAL	18	04	02	120	120	360	75	75	23

Elective-VI 1. Industrial automation and Control 2. Design of Experiments for engineers and Managers. 3. Artificial neural network.

Elective-VII 1. Switch Gear and Protection 2. Computer aided analysis and design 3. Mechatronics

Elective- VIII. 1. Rural Technology and Community Development. 2. Project Management 3. Knowledge Management

\*Industrial Training of 30 days to be assessed in 7 semester

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY LONERE**  
**ELECTRICAL ENGINEERING DEPARTMENT**

**EEL 506 ELECTIVE- IV: 2. ADVANCES IN RENEWABLE ENERGY SYSTEMS**

**Teaching scheme:**

Theory: 3 hrs

Total credit: 3

**Examination Scheme:**

Mid-term test: 20 Marks

Internal Assessment: 20 Marks

End semester exam: 60 Marks

Prerequisite	Introduction to Non-Conventional energy sources	
Course outcome	To know the principle of energy conversion technique from biomass, geothermal and hybrid energy systems. To understand effects of air pollution and ecosystems	
Unit	Contents	Contact Hrs.
1	Biomass Energy: Introduction, Biomass conversion technologies, Biogas generation, classification of biogas plants and their Operating system. Biomass as a source of energy, methods of obtaining energy from biomass, thermal gasification of biomass, Applications.	8
2	Geothermal Energy : Introduction, Geothermal sources , hydrothermal resources, Vapor dominated systems, Liquid dominated systems, hot water fields, Geo pressure resources, hot dry rocks, magma resources, volcanoes. Interconnection of geothermal fossil systems, geothermal energy conversion and applications	6
3	Hybrid energy systems : Need for hybrid systems, types of hybrid systems site specific examples; PV–Diesel and battery systems, PV–Gas Hybrid system, Biomass gasifier based thermal back up for Solar systems, natural convection solar driers in combination with biomass back up heater. Biogas and solar energy hybrid system, .typical applications.	6
4	Air pollution-primary, secondary, chemical and photochemical reactions, effects of CO, NO, CH and particulates, acid rain, global warming and Ozone depletion; monitoring and control of pollutants; noise pollution-sources and control measures; thermal-, heavy metals- and nuclear pollutions; industrial pollution from paper, pharmacy, distillery, tannery, fertilizer, food processing and small scale industries.	6
5	Environment impact assessment policies and auditing, conflicting worldviews and environmentally sustainable economic growth, introduction to Design For Environment (DFE), product lifecycle assessment for environment and ISO 14000; triple bottom line of economic, environment and social performance.	6
6	Ecosystem definition, concepts, structure, realm of ecology, lithosphere, hydrosphere, biosphere, atmosphere-troposphere-stratosphere; Nonrandom high quality solar energy flow/ balance to earth, greenhouse effect, matter and nutrient recycling in ecosystems; nitrogen, oxygen, carbon and water cycles, food producers, consumers and decomposers, food chains; biodiversity, threat and conservation of biodiversity.	7
	Ref Books: 1. NPTEL courses	