YSPM's
Yashoda Technical Campus, Satara
Faculty of Engineering
Department of Electrical Engineering

Sem-ODD

COURSE DETAILS

Structure of Course

Class	B. Tech. Sem. –III
Course Code and Course Title	**Electrical Machine-I (BTEEC302)**
Prerequisite/s	BEE
Teaching Scheme: Lecture/Tutorial/Practical	03/01/00
Credits	4
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEC302_1	**Analyze** the equivalent circuit of single-phase transformer to evaluate the losses, voltage regulation,and efficiency; and learn fundamentals of 1-phase and 3-phase auto-transformers	**L3**
BTEEC302_2	**Gain knowledge** of construction and working of 3- phase transformer and understand various interconnections for phase conversion	**L2**
BTEEC302_3	**Gain knowledge** of fundamental laws and principles of magnetic systems and apply them for electromechanical energy conversion	**L2**
BTEEC302_4	**Analyze** Armature reaction in DC Generators, Commutation, and different characteristics including efficiency and voltage regulation	**L3**
BTEEC302_5	**Describe** Construction and working of DC Motors, analyze types of DC motors, their characteristics,speed control and starting methods.	**L3**
BTEEC302_6	**Differentiate** different special purpose motors for their construction, working and applications	**L3**

Mapping of Course Outcomes to Program Outcomes:

Course Outcomes	**Programme Outcomes**														
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO3**
BTEEC302_1	**2**	**2**	**1**	**1**								**1**	**1**		
BTEEC302_2	**1**	**2**	**2**	**2**								**1**	**3**	**1**	
BTEEC302_3	**1**	**2**	**2**	**2**								**1**	**3**	**1**	
BTEEC302_4	**2**	**2**	**1**	**1**								**1**	**1**		
BTEEC302_5	**2**	**2**	**2**	**1**	**2**							**1**	**2**	**1**	
BTEEC302_6	**2**	**2**	**2**	**2**		**1**				**1**			**2**	**2**	
AVG	**2**	**2**	**2**	**2**	**2**	**1**				**1**		**1**	**2**	**1**	

Structure of Course

Class	S.Y. B. Tech. Sem. –III
Course Code and Course Title	**BTEEC303** Electrical and Electronic Measurement
Prerequisite/s	BTES206
Teaching Scheme: Lecture/Tutorial/Practical	03/01/00
Credits	04
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEC303_1	**Illustrate** various concepts of measuring instruments (Analog/Digital), their classification, construction, working and range extension technique.	**L3**
BTEEC303_2	**Derive** the equations of different methods for measurement of resistance, inductance and capacitance.	**L3**
BTEEC303_3	**Describe** various analyzers, its types & modern techniques in measurement.	**L3**
BTEEC303_4	**Explain** construction and operation of different transducers.	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**													
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTEEC303_1	3					2	2	2		2		1			2
BTEEC303_2	3					2	2	2		2		1			2
BTEEC303_3	3					1	1	2		2		1			2
BTEEC303_4	3					1	1	2		2		1			2
Total	12					6	6	8		8		4			8
Average	3					1.5	1.5	2		2		1			2
BTEEC303	**3**					**1.5**	**1.5**	**2**		**2**		**1**			**2**

Semester- ODD

Structure of Course

Class	S.Y. B. Tech. Sem. –III
Course Code and Course Title	**BTES305** Engineering Material Science
Prerequisite/s	BTBS102 , BTBS202
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	03
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTES305_1	**Illustrate** properties and application of different conducting materials in electrical engineering field and crystal structure.	**L3**
BTES305_2	**Describe** properties, phenomenon of polarization mechanism and applications of dielectric materials.	**L3**
BTES305_3	**Discuss** properties and application of semiconductor materials in electrical engineering field.	**L3**
BTES305_4	**Interpret** properties and application of magnetic materials in electrical engineering field.	**L3**
BTES305_5	**Explain** special purpose materials and nondestructive testing of special purpose materials.	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTES305_1	3				2			2	2	2			2		
BTES305_2	3				2			2	2	2			2		
BTES305_3	3				2			2	2	2			2		
BTES305_4	3				2			2	2	2			2		
BTES305_5	3				2			2	2	2			2		
Total	15				10			10	10	10			10		
Average	3				2			2	2	2			2		
BTES305	**3**				**2**			**2**	**2**	**2**			**2**		

Structure of Course

Class	S.Y. B. Tech. Sem. –III
Course Code and Course Title	**BTEEL307** Electrical and Electronic Measurement Laboratory
Prerequisite/s	BTES206
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	01
Evaluation Scheme: CA / ESE	60/40

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEL307_1	**Demonstrate** mechanism of various measuring instruments.	**L3**
BTEEL307_2	**Conduct** different measuring methods to measure various electrical parameters.	**L3**
BTEEL307_3	**Selec**t proper instrument for measurement of electrical parameters.	**L2**
BTEEL307_4	**Respond** Effectively in the form of oral and writing journal.	**L2**
BTEEL307_5	**Examine** the observations and determine the result of experiment.	**L2**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTEEL307_1	2							2	2	2		1		2	
BTEEL307_2	3							2	2	2		1		2	
BTEEL307_3	3							2	2	2		1		2	
BTEEL307_4								2	2	2		1		2	
BTEEL307_5								2	2	2		1		2	
Total	8							8	8	8		4		8	
Average	2							2	2	2		1		2	
BTEEL307	**2**							**2**	**2**	**2**		**1**		**2**	

Structure of Course

Class	S.Y. B. Tech. Sem. –IV
Course Code and Course Title	BTEEC401 NETWORK THEORY
Prerequisite/s	BTBS101, BTBS201, BTBS301, BTES206
Teaching Scheme: Lecture/Tutorial/Practical	03/01/00
Credits	04
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEC401_1	Discuss circuit elements, types of sources and classification of circuit elements. Also, able to apply the source and star-delta transformation on given circuits.	**L3**
BTEEC401_2	Apply network theorem to solve electric circuit and determine circuit parameters and able to use the concept of graph theory to solve electric circuit.	**L3**
BTEEC401_3	Analyze transient response of given ac circuit with initial and final conditions.	**L3**
BTEEC401_4	Apply Laplace transform analysis to solve various functions, electric circuit and differential equations. Also able to calculate and derive two port network parameters.	**L3**
BTEEC401_5	Derive and analyze resonance in ac circuit. Explain concept of filter and its type.	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO 1**	**PSO 2**	**PSO 3**
BTEEC401_1	3	2				1	1						2		2
BTEEC401_2	3	2				1	1						2		2
BTEEC401_3	3	2				1	1						2		2
BTEEC401_4	3	2				1	1						2		2
BTEEC401_5	3	2				1	1						2		2
Total	15	10				5	5						10		10
Average	3	2				1	1						2		2
BTEEC401	**3**	**2**				**1**	**1**						**2**		**2**

COURSE DETAILS

Structure of Course

Class	B. Tech. Sem. –IV
Course Code and Course Title	**Electrical Machine-II (BTEEC403)**
Prerequisite/s	EM-I,BEE
Teaching Scheme: Lecture/Tutorial/Practical	03/01/00
Credits	4
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEC403_1	**Analyze** principle of operation and constructional features of A.C. Machines	**L3**
BTEEC403_2	**Gain knowledge** ac machine windings	**L2**
BTEEC403_3	**Describe** Synchronous Machines Characteristics.	**L3**
BTEEC403_4	**Analyze** the operation and working principle of 3- phase Induction Motor	**L3**
BTEEC403_5	**Describe** Construction and working of Fractional Kilowatt Motors	**L3**
BTEEC403_6	**Gain knowledge** Special Machines	**L2**

Mapping of Course Outcomes to Program Outcomes:

Course Outcomes	**Programme Outcomes**														
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO3**
BTEEC403_1	**2**	**2**	**1**	**1**								**1**	**1**		
BTEEC403_2	**1**	**2**	**2**	**2**								**1**	**3**	**1**	
BTEEC403_3	**1**	**2**	**2**	**2**								**1**	**3**	**1**	
BTEEC403_4	**2**	**2**	**1**	**1**								**1**	**1**		
BTEEC403_5	**2**	**2**	**2**	**1**	**2**							**1**	**2**	**1**	
BTEEC403_6	**2**	**2**	**2**	**2**		**1**				**1**			**2**	**2**	
BTEEC403	**2**	**2**	**1**	**1**								**1**	**1**		

COURSE DETAILS

Structure of Course

Class	S.Y. B. Tech. Sem. –IV
Course Code and Course Title	**BTEEPE405C ADVANCED RENEWABLE ENERGY SOURCES**
Prerequisite/s	BTES105
Teaching Scheme: Lecture/Tutorial/Practical	03/00/00
Credits	03
Evaluation Scheme: CA / MSE / ESE	20/20/60

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEPE405C_1	Explain the concepts of renewable energy sources and its applications.	**L2**
BTEEPE405C_2	Discuss the construction, types and application of fuel cells.	**L2**
BTEEPE405C_3	Describe terminologies of wind and solar energy power plants, its types and applications.	**L2**
BTEEPE405C_4	Explain process of biogas generation and its types and application.	**L2**
BTEEPE405C_5	Interpret the need of energy conversion and the various methods of energy storage.	**L2**

Mapping of Course Outcomes to Program Outcomes:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PEO1**	**PEO2**	**PEO3**
BTEEPE405C_1	**2**					**1**	**1**						**1**	**1**	
BTEEPE405C_2	**2**					**2**	**2**						**1**	**1**	
BTEEPE405C_3	**2**					**2**	**2**						**1**	**1**	
BTEEPE405C_4	**2**					**2**	**2**						**1**	**1**	
BTEEPE405C_5	**2**					**2**	**2**						**1**	**1**	
Total	**10**					**9**	**9**						**5**	**5**	
Average	**2**					**1.8**	**1.8**						**1**	**1**	
BTEEPE405C	**2**					**2**	**2**						**1**	**1**	

Structure of Course

Class	S.Y. B. Tech. Sem. –IV
Course Code and Course Title	**BTEEL406 NETWORK THEORY LAB**
Prerequisite/s	BTBS101, BTBS201, BTBS301, BTES206
Teaching Scheme: Lecture/Tutorial/Practical	00/00/02
Credits	01
Evaluation Scheme: CA / ESE	30/20

Course Outcomes:

Course Outcomes (COs): Upon successful completion of this course, the student will be able to:		**Blooms Level**
BTEEL406_1	Apply conceptual knowledge of network theorems to solve different electrical circuits.	**L3**
BTEEL406_2	Perform experiment to solve given AC/DC circuit by different network theorems and different concepts.	**L3**
BTEEL406_3	Use modern tools to simulate DC/AC analysis and transient analysis for electric circuits.	**L3**
BTEEL406_4	Communicate effectively about laboratory work in both orally and writing.	**L3**
BTEEL406_5	Work effectively in team to perform and findings the results.	**L3**

Mapping of CO's with PO's and PSO's:

Course Outcomes	**Programme Outcomes**														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**PSO1**	**PSO2**	**PSO3**
BTEEL406_1	**3**												**1**		**1**
BTEEL406_2	**3**												**1**		**1**
BTEEL406_3	**3**				**3**							**1**	**1**		**1**
BTEEL406_4									**3**	**3**		**1**			
BTEEL406_5									**3**	**3**		**1**			
Total	**9**				**3**				**6**	**6**		**3**	**3**		**3**
Average	**3**				**3**				**3**	**3**		**1**	**1**		**1**
BTEEL406	**3**				**3**				**3**	**3**		**1**	**1**		**1**