RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 1/5

Branch	ELECTRICAL ENGG, ELECTRONICS&TELECOMMUNICATION, ELECTRICAL &ELECTRONICS, ELECTRONICS&INSTRUMENTATION, ELECTRONICS ENGG,OPTO-ELECTRONICS	Semester	II

Course Code	204	Course Name	Basic Electrical Engineering

Course Outcome - 1	Use fundamental concepts of D.C for solving DC circuit problems.	Teach Hrs	Marks
Learning Outcome E0120411	Explain fundamental concepts and laws use in D.C circuit (Cognitive domain)	8 Hrs	10 Marks
Contents	• Concept of charge, current, voltage, EMF, resistance, resistivity, conductance, conductivity, Power & Energy. • Ohm's law • Kirchhoff's current & voltage law • Numerical problems: Ohms's law, KCL, KVL, Power & Energy		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E020412	Apply fundamental concepts of D.C for solving circuit problems. (Cognitive domain)	8 Hrs	10 Marks
Contents	• Series & Parallel combination of resistances and related Numerical • star-delta connection, star to delta and delta to star transformation and related Numerical • Working principle and application of primary and secondary cell.		
Method of Assessment	Internal: Mid semester theory examination (Pen paper test)		
Learning Outcome E0120413	Experiment with basic electrical circuit to verify various law. (Psychomotor domain)	8 Hrs	10 Marks
Contents	• To verify Ohm's law. • To verify Kirchhoff's current & voltage law. • To verify series & parallel connection of resistances		
Method of Assessment	External: Laboratory observation and viva voce.		

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Branch	Electrical Engineering	Semester	II

Course Code	204	Course Name	Basic Electrical Engineering

Course Outcome -2	Use fundamental concepts of A.C for solving circuit problems.	**Teach Hrs**	**Marks**
Learning Outcome E0120424	Explain fundamental concepts and laws use in A.C circuit (Cognitive domain)	**7 Hrs**	**10 Marks**
Contents	• Generation of Sinusoidal AC Voltage, • Concept of waveform, Frequency, time period, Instantaneous Value, Maximum Value, Average Value, RMS Value, Form Factor, Peak Factor of AC quantity and related Numerical		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E0120425	Solve A.C circuit problems. (Cognitive domain)	**8 Hrs**	**10 Marks**
Contents	• Concept of Inductance, Capacitance, Reactance, Impedance, Admittance and related Numerical • Active Power, Reactive Power, Apparent power, Power Factor, Phasor diagram and related Numerical		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E0120426	Measure electrical quantity in single and three phase system. (Psychomotor domain)	**8 Hr**	**10 Marks**
Contents	• To measure current & voltage in three phase system. • To measure the active & reactive power in single phase AC circuit.		
Method of Assessment	Internal: Laboratory observation and viva voce.		

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Branch	Electrical Engineering	Semester	II

Course Code	204	Course Name	Basic Electrical Engineering

Course Outcome - 3	Apply fundamentals concept of Magnetic circuits in varies application	Teach Hrs	Marks
Learning Outcome E0120437	Describe fundamentals concept of Magnetic circuits (Cognitive domain)	6 Hrs	10 Marks
	• Concept of lines of force, flux, MMF, reluctance, permeability, magnetic flux density, magnetic field intensity. • Analogy of electric and magnetic circuit.		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E0120438	Use magnetic circuit laws and rule for electrical engineering application. (Cognitive domain)	7 Hrs	10 Marks
Contents	• Magnetic field produced by current carrying conductor, • Force on a current carrying conductor. • Faraday's laws of electromagnetic induction, • self and mutual induction. • Lenz's laws, • Fleming's left and right hand rule		
Method of Assessment	Internal: Mid semester theory examination (Pen paper test)		
Learning Outcome E0120439	Analyze B-H curve of a coil using CRO. (Psychomotor domain)	6 Hrs	10 Marks
Contents	• To obtain B-H curve on a CRO of a sample coil.		
Method of Assessment	Internal: Laboratory observation and viva voce.		

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Branch	Electrical Engineering	Semester	II

Course Code	204	Course Name	Basic Electrical Engineering

Course Outcome - 4	Apply electrical engineering materials in various engineering applications.	Teach Hrs	Marks
Learning Outcome E01204410	Classify electrical engineering materials (Cognitive domain)	6 Hrs	10 Marks
Contents	• Difference between conductors, insulators and semiconductors on the basis of energy band diagram. • Properties and applications of conducting, semiconducting, insulating & magnetic materials.		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E01204411	Identify given electrical engineering materials. (Psychomotor domain)	6 Hrs	10 Marks
Contents	Identify conducting, semiconducting, insulating & magnetic materials and their use in various engineering applications.		
Method of Assessment	External: Laboratory observation and viva voce.		

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Branch	Electrical Engineering	Semester	II

Course Code	204	Course Name	Basic Electrical Engineering

Course Outcome - 5	Identify parts of electrical machines and its application	Teach Hrs	Marks
Learning Outcome E01204512	Utilize fundamental concepts of DC machine and transformer to identify their application. (Cognitive domain)	8 Hrs	10 Marks
Contents	• Construction, Classification, Working Principle, losses and Application of DC machine • Construction, Classification, Working Principle, losses and Application of Transformer		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E01204513	Utilize fundamental concepts of rotating AC machines to identify their application. (Cognitive domain)	6 Hrs	10 Marks
Contents	• Construction, Classification, Working Principle and Application of Induction motor • Construction, Classification, Working Principle and Application of Synchronous machine.		
Method of Assessment	Internal: Quiz & Viva voce.		
Learning Outcome E01204514	Select appropriate special purpose motor for various application (Cognitive domain)	6 Hrs	10 Marks
Contents	Working principle & application of • Stepper motor • Permanent magnet motor • Universal motor • Servomotor.		
Method of Assessment	External: End semester theory examination (Pen paper test).		
Learning Outcome E01204515	Identify parts of electrical machines (Psychomotor domain)	7 Hrs	10 Marks
Contents	• Identify different parts of DC machine. • To perform turn ratio test on a single phase transformer. • Identify the different parts of Induction		
Method of Assessment	External: Laboratory observation and viva voce.		

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