SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

QUESTION BANK

IV SEMESTER

B.E – MEDICAL ELECTRONICS

1905408 -ELECTRICAL ENGINEERING

Regulations – 2019

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

QUESTION BANK

SUBJECT : 1905408 ELECTRICAL ENGINEERING

SEM /YEAR : IV / II

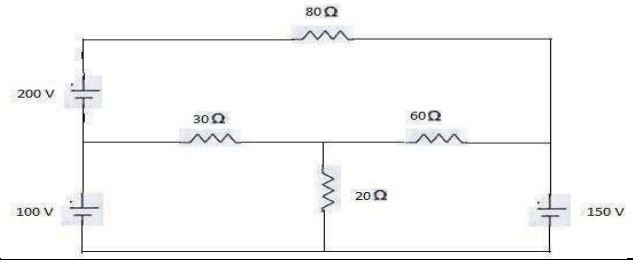
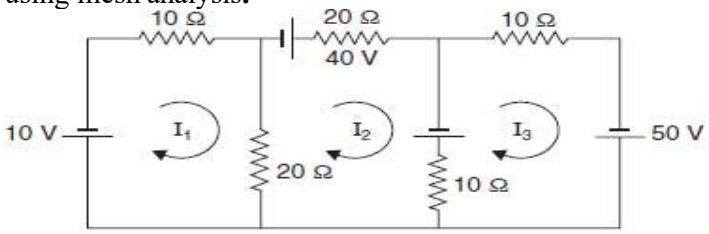
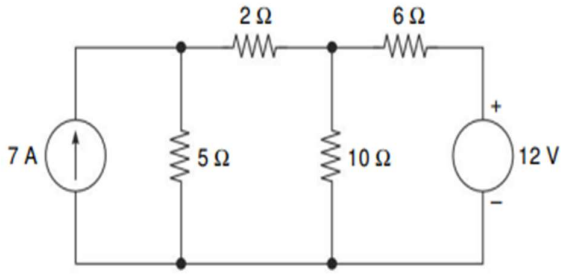
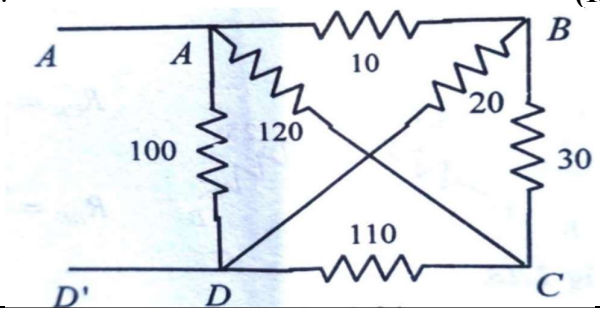
UNIT I - ELECTRICAL CIRCUITS AND ANALYSIS

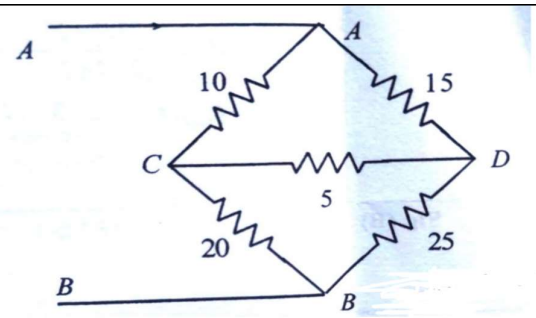
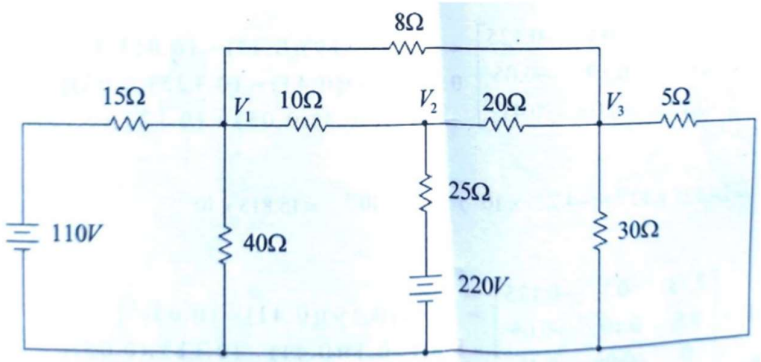
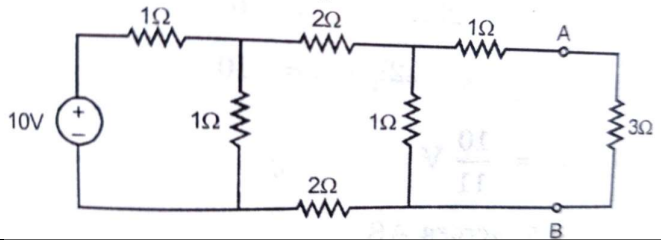
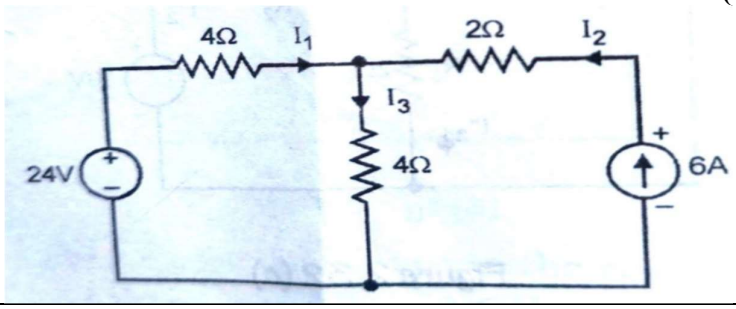
Ohms law, DC and AC circuits fundamentals, Energy sources, Kirchhoff's laws, Mesh and Nodal analysis, Star -delta and Delta -star transformation; theorems and simple problems : Superposition, Thevenin 's, Maximum power transfer theorem.

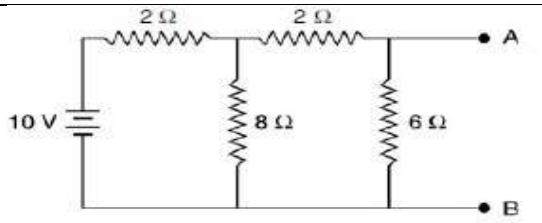
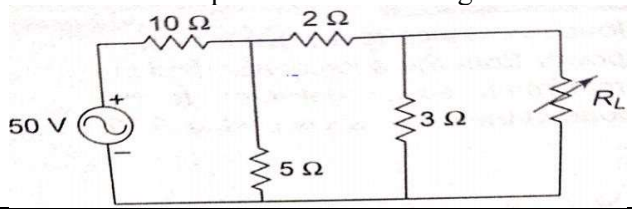
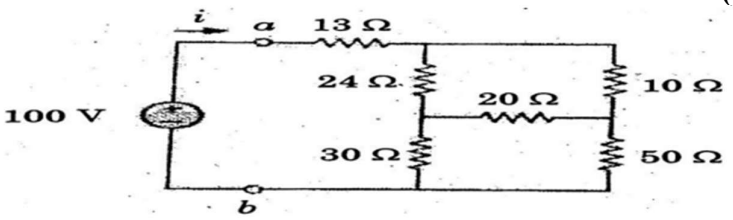
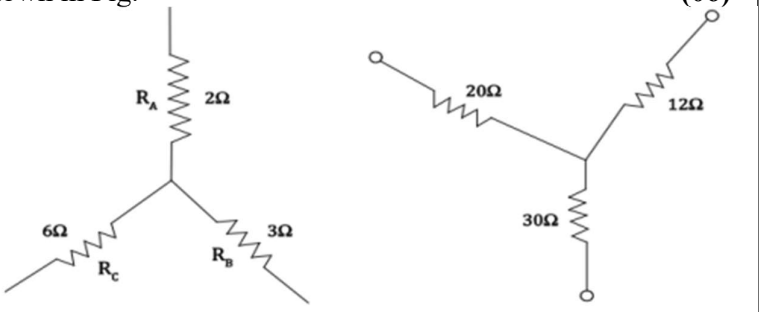
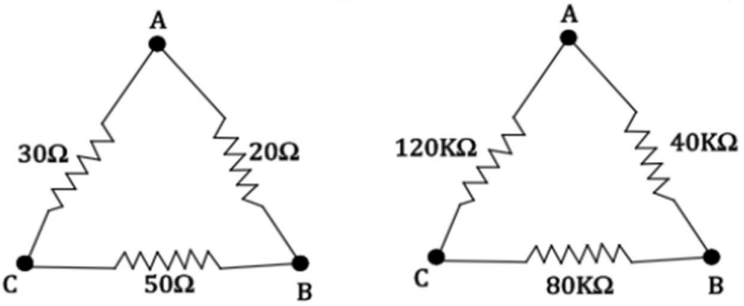
PART–A

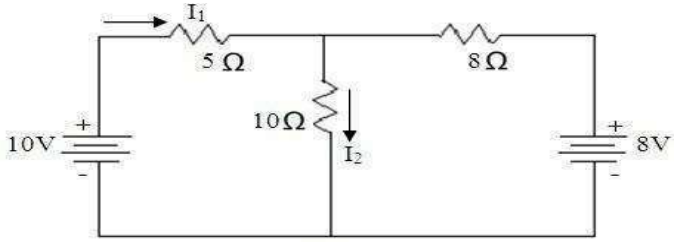
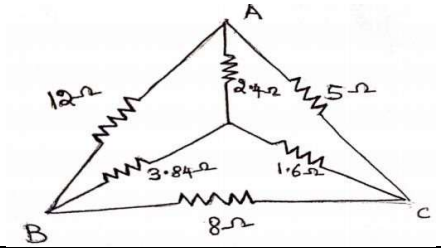
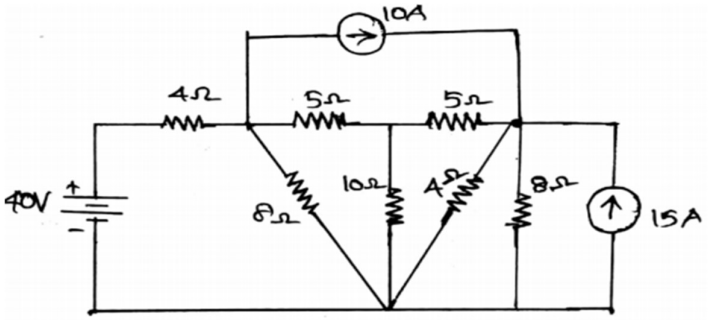
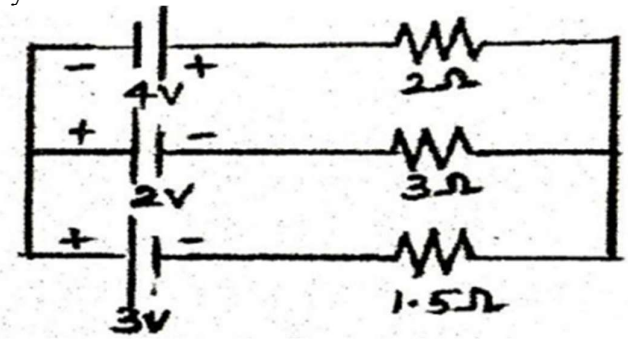
S.No	Quetions	BT Level	Competence
1.	State kirchhoff's laws.	BTL 3	Apply
2.	Mention the limitations of ohm's law.	BTL 3	Apply
3.	List out the examples for active & passive elements.	BTL 1	Remember
4.	Give a relation of line and phase values in star and delta connections.	BTL 2	Understand
5.	Define node and mesh.	BTL 3	Apply
6.	Two resistances of 4Ω and 6Ω are connected in parallel across 10V battery. Calculate the current through 6Ω resistance.	BTL 1	Remember
7.	Write the formula for form factor and peak factor.	BTL 1	Remember
8.	Examine current division rule and voltage division rule.	BTL 2	Understand
9.	Define the term power factor.	BTL 1	Remember
10.	Write the expression for equivalent resistance when two resistors are connected in parallel.	BTL 4	Analyze
11.	Classify the energy sources.	BTL 4	Analyze
12.	Draw the symbol for dependent and Independent current source.	BTL 1	Remember
13.	How to convert voltage source to current source.	BTL 4	Analyze
14.	Compare Series and Parallel Circuits	BTL 5	Evaluate
15.	What do you mean by thevenins theorem?	BTL 6	Create
16.	Sketch the equivalent circuit of Thevenin theorem.	BTL 5	Evaluate
17.	Define superposition theorem.	BTL 6	Create
18.	Express the formula to find the load current in thevenin theorem.	BTL 2	Understand
19.	Write the condition to obtained maximum power in maximum power transfer theorem?	BTL 1	Remember
20.	State superposition theorem.	BTL 2	Understand

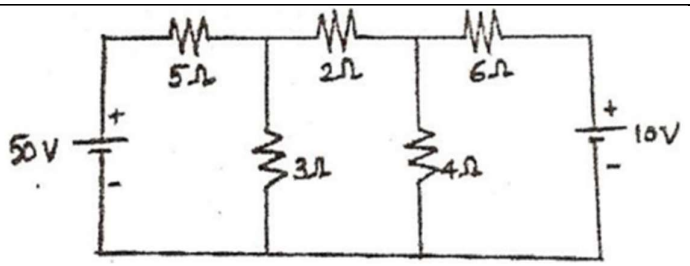
PART–B

1.	Estimate the current through the Various branches in the circuit of the following figure. Using mesh analysis. **(13)** 	BTL 4	Analyze
2.	Identify the currents *I*1, *I*2 and *I*3 in the network shown in Fig. using mesh analysis**.** **(13)** 	BTL 4	Analyze
3.	For the circuit shown, find the nodal voltages and the current through the 2Ω resistance. **(13)** 	BTL 1	Remember
4.	Find the equivalent resistance between A and B for the circuit given below. **(13)** 	BTL 3	Apply
5.	Evaluate the equivalent resistance of the circuit using star – delta conversion. **(13)**	BTL 1	Remember

			
6.	Solve the problem given below using nodal analysis and find the node voltages V_1, V_2, V_3. **(13)** 	BTL 4	Analyze
7.	Derive an expression for Equivalent resistance of Star to Delta and Delta to Star transformation**.** **(13)**	BTL 2	Understand
8.	Find Thevenin's equivalent voltage across the terminal AB and also find the current through 3Ω resistor as shown in figure **(13)** 	BTL 1	Remember
9.	Using Super position theorem find the current through various branches. **(13)** 	BTL 1	Remember
10.	Write the statement for thevenins theorem and also bring out the steps to be followed to draw thevenins equivalent circuit? **(13)**	BTL 2	Understand
11.	Draw the Thevenin' s equivalent circuits across the terminal AB for the given network. **(13)**	BTL 2	Understand

			
12.	Analyze the value of RL for maximum power transfer and determine maximum power for the circuit given. **(13)** 	BTL 6	Create
13.	Obtain the equivalent resistance R_{ab} of the circuit given in Fig. and calculate the total current i. **(13)** 	BTL 4	Analyze
14.	(i) Analyze the following Star network into Delta network as shown in Fig. **(06)**  (ii) Analyze the following network Delta into Star network and find the value as shown in Fig. **(07)** 	BTL 5	Evaluate
	PART–C		
1.	(a) Fig.1 shows a two D.C source network, the branch Current I1 and I2 are marked in it. By using Kirchhoff's law,	BTL 5	Evaluate

	calculate and examine the current I1. **(08)**  Fig.1 (b) A series circuit has R=10Ω, L=50mH and C=100μF and is supplied and is applied with 200V, 50 Hz. Find and examine the value of: (1) Impedance (2) Current (3) Power (4) Power factor (5) Phase angle (6) Voltage drop across each element. **(07)**	BTL 5	Evaluate
2.	Evaluate the equivalent resistance of the circuit using star – delta conversion. **(15)**  	BTL 6	Create
3.	Use Nodal Voltage method and estimate the power dissipated in the 10 Ω resistance on the circuit shown in the Fig. **(15)**  	BTL 5	Evaluate
4.	(i) Determine the magnitude and direction of the current in the 2 V battery in the circuit. **(07)**  (ii) Determine the power dissipation in the 4Ω resistor of the given circuit shown in Fig. **(08)**	BTL 6 BTL6	Create Create

UNIT II - ELECTRICAL MACHINES

DC Machines: D.C generators & D.C motors: Principle of operation, constructions, types, Applications -A.C Machines: Types-Introduction to Alternators-Single Phase and Three phase induction motors: principle of operation, Types and Applications-Transformers: Principles of operation, Constructional Details, Types and Applications.

PART – A

S.No	Quetions	BT Level	Competence
1.	What is the basic principle of operation of a dc motor?	BTL 1	Remember
2.	State Fleming's left-hand rule.	BTL 1	Remember
3.	Distinguish motor action from generator action in a DC machine	BTL 2	Understand
4.	Differentiate critical speed and critical resistance of a DC generator.	BTL 4	Analyze
5.	Why DC shunt motor is called as constant speed drive?	BTL 1	Remember
6.	How does an alternator work?	BTL 1	Remember
7.	State the purpose of the following (i) Commutator (ii) Brushes in DC machine.	BTL 1	Remember
8.	In DC Generator, 8 poles, lap wound armature rotated at 350rpm to generate 260V, the useful flux/pole is 0.05Wb. If the armature has 120 slots. Calculate the number of conductors per slot.	BTL 3	Apply
9.	Why DC series motor should not be started without load?	BTL 2	Understand
10.	Point out two applications of Following DC motors (i) DC shunt motor (ii) DC series motor	BTL 1	Remember
11.	Define lenz Law.	BTL 2	Understand
12.	Express the term slip in Induction motor.	BTL 2	Understand
13.	With suitable formula, explain the following terms (i)Turn ratio of transformer. (ii) voltage regulation Of Transformer.	BTL 4	Analyze
14.	Illustrate why single-phase Induction motor is not self-starting.	BTL 4	Analyze
15.	Discuss the terms (i) Efficiency (ii) All day efficiency of single-phase transformer.	BTL 6	Create
16.	Plot the torque Slip Characteristics of Induction motor.	BTL 3	Apply
17.	Explain the working Principle of Transformer in Short.	BTL 6	Create
18.	Sketch the diagram of (i) core type and (ii) shell type transformer.	BTL 5	Evaluate
19.	Formulate the emf equation for Transformer.	BTL 3	Apply

20.	In a single-phase transformer, Np= 350 turns, Ns= 1050 turns, Ep= 400V. Calculate the value of secondary voltage (Es).	BTL 5	Evaluate
	PART–B		
1.	Explain the construction, working of DC Generator and also explain the different parts. **(13)**	BTL 4	Analyze
2.	With a neat diagram explain the construction and working of D.C. Motor. List out the types of DC motor. . **(13)**	BTL 1	Remember
3.	(i) Obtain the mathematical expression for generated EMF or EMF Equation of Generator and explain each term. **(05)** (ii) Calculate the generated EMF by 4-pole wave wound generator having 65 slots with 12 conductors per slot when driven at 1200 rpm the flux per pole is 0.02Weber. **(08)**	BTL 4	Analyze
4.	With the help of schematic diagram Explain the principle of operation of Single-Phase induction motor and also explain why it is not a self-starting one. **(13)**	BTL 5	Evaluate
5.	Infer the terms such as (i) Faraday's Law of Electro Magnetic Induction **(3)** (ii) Fleming's Left- Hand rule. **(3)** (iii) Back or Counter emf. **(2)** (iv) Voltage Equation of DC Shunt Motor. **(2)** (v) Armature Torque of DC Motor**.** **(3)**	BTL 4	Analyze
6.	Explain in detail about the construction and working of three phase Induction motor. **(13)**	BTL 1	Remember
7.	(i) A 200V Dc shunt motor takes a total current of 100A and runs at 750 rpm. The resistance of the armature winding and of shunt field winding is0.1 Ω and 40Ω respectively. Find the torque developed by the armature. **(07)** (ii) Derive the torque equation of DC motor. **(06)**	BTL 3 BTL 3	Apply Apply
8.	A 25kW,250V, dc shunt generator has armature and field resistances of 0.06 ohm and 100 ohm respectively. Determine the total armature power developed when working (i) as a generator delivering 25 kW output and (ii) as a motor taking 25kW. **(13)**	BTL 3	Apply
9.	(i) Draw the circuit diagram for Single Phase Transformer **(06)** (ii) Explain the Principle, Construction, Working of it. **(07)**	BTL 4	Analyze
10.	(i) Derive the EMF Equation of Transformer. **(07)** (ii)A single phase 2000/250 V, 50Hz transformer has the core area of 36 cm2 and maximum flux density of 6Wb/m2. Calculate the number of turns on primary and secondary winding. **(06)**	BTL 6 BTL 3	Create Apply
11.	Describe the following terms in single phase transformer(i) Efficiency (ii) All day efficiency (iii) Losses in transformer (iv) Regulation of Transformer **(13)**	BTL 1	Remember
12.	(i) Distinguish core type and shell type transformers. **(06)** (ii) In core type transformer, the no load voltage is 5000/250 V, supply frequency 50Hz .Calculate the number of turns in each winding and the flux is about 0.06 Weber. **(07)**	BTL 2	Understand
13.	(i) Why the single-phase Induction motors are not Self-	BTL 2	Understand

	starting? **(06)** (ii) Compare and contrast the Squirrel cage and Slip ring Induction Motors. **(07)**	BTL 2	Understand
14.	Describe the following types of Single-Phase Induction Motor (i) Split phase Induction Motor (ii)Capacitor start type Induction Motor. (iii) Capacitor start Capacitor run Induction motor. **(13)**	BTL 2	Understand
	PART–C		
1.	Explain why 3-phase induction motor is self-starting and 1-phase is not. **(15)**	BTL 5	Evaluate
2.	A 30 KW, 220 V DC shunt machine has an armature resistance of 0.06 Ω and field resistance of 100 Ω . Calculate the total armature power developed when working as a motor taking 30 KW input. Also calculate the total armature power developed when working as a generator while delivering output of 30 KW. **(15)**	BTL 6	Create
3.	Sketch the speed-torque characteristic of a shunt motor at fixed field current. Explain the characteristic through relevant fundamental relationships of the machine. **(15)**	BTL 5	Evaluate
4.	The maximum flux density in the core of a 250 /3000-volt, 50 HZ single phase transformer is 1.2 wb/m^2. If the emf per turn is 8 volts, determine: Primary and Secondary turns and Area of the core. **(15)**	BTL6	Create
	UNIT III - BASIC ELECTRICAL INSTRUMENTATION		
	Introduction, classification of instruments, operating principles, essential features of measuring instruments (elementary Treatment only)- Moving coil, permanent magnet (PMMC) instruments, Moving Iron of Ammeters and Voltmeters Energy meter, Current Transformer, Potential Transformer.		
	PART–A		
S.No	**Quetions**	**BT Level**	**Competence**
1.	Classify measuring Instruments.	BTL 4	Analyze
2.	Name the basic elements used in measuring instrument?	BTL 2	Understand
3.	Point out the types of error occurs in measurement system?	BTL 4	Analyze
4.	Define the term calibration.	BTL 3	Apply
5.	Interpret the terms precision and sensitivity?	BTL 3	Apply
6.	Justify MI is used on both A.C and D.C.	BTL 6	Create
7.	Define static error.	BTL 3	Apply
8.	Draw the block diagram indicating functional elements of measurement system.	BTL 4	Analyze
9.	Compare limiting errors and instrumental errors.	BTL 1	Remember
10.	Name the torque which is absent in energy meter?	BTL 3	Apply
11.	How can we get true values from measurements?	BTL 1	Remember
12.	Why is the controlling torque needed in a measuring instrument?	BTL 1	Remember
13.	Name the types of torques required for the operation of	BTL 6	Create

	measuring instruments?		
14.	List the different types of possible errors in measurements.	BTL 6	Create
15.	Define the term creeping of an energy meter?	BTL 1	Remember
16.	Compare polarised and non-polarised instrument?	BTL 2	Understand
17.	Name which instrument can be used on ac only?	BTL 2	Understand
18.	Outline the advantages of PMMC instrument.	BTL 1	Remember
19.	What is meant by phantom loading?	BTL 5	Evaluate
20.	A 50 A, 230 V meter on full load test makes 61 revolutions in 37 sec. If the normal disc speed is 520 revolutions per kwhr. What is the percentage error?	BTL 5	Evaluate
	PART–B		
1.	(i) Outline the block diagram showing the basic functional elements of an instrument and explain the functions of each. **(06)** (ii) Explain in detail about damping torque, controlling torque and deflecting torque. **(07)**	BTL 1	Remember
2.	(i) Define limiting errors. Derive the expression for relative limiting errors. **(05)** (ii) Describe the working of repulsion type moving iron instrument. **(08)**	BTL 1 BTL 1	Remember Remember
3.	Draw and explain the static and dynamic characteristics of a measurement system. **(13)**	BTL 4	Analyze
4.	(i) Discuss the construction and working of PMMC instrument. **(07)** (ii)Derive the equation for deflection if the instruments are spring controlled. **(06)**	BTL 4 BTL 4	Analyze Analyze
5.	Describe in detail the different types of dynamic errors in a measurement system. **(13)**	BTL 4	Analyze
6.	Briefly explain the working of moving iron instruments. Mention its advantages and disadvantages. **(13)**	BTL 3	Apply
7.	Give the construction and principle of operation of single-phase induction type energy meter. **(13)**	BTL 2	Understand
8.	Describe in detail about the working principle of attraction-type moving iron instruments. **(13)**	BTL 3	Apply
9.	Distinguish between an attraction-type and a repulsion- type moving-iron instrument. **(13)**	BTL 2	Understand
10.	Discuss about the constructional details and working principle of a repulsion-type moving-iron instrument. **(13)**	BTL 5	Evaluate
11.	(i) Justify moving coil instrument can be used on DC only and not on AC circuits. **(05)** (ii) Derive the torque equations in PMMC instrument. **(08)**	BTL 2 BTL 2	Understand Understand
12.	(i) Write briefly with neat figures on Principle of operation of a current transformer. **(06)** (ii) List out the essential features of measuring instruments **(07)**	BTL 6 BTL 6	Create Create
13.	(i) Explain the working of potential transformer and mention its applications. **(06)** (ii) Explain the working of single-phase energy meter. **(07)**	BTL 1 BTL 1	Remember Remember
14.	Differentiate between a PMMC and dynamometer type		

	moving coil instrument. **(13)**	BTL 1	Remember
PART–C			
1.	Derive the expressions for shunt resistance and multiplier resistance. **(15)**	BTL 5	Evaluate
2.	Two ammeters are joined in series in a circuit carrying 10A. Ammeter has a resistance of 1000 Ω and is shunted by 0.02 Ω. The corresponding values for ammeter B are 1500Ω and 0.01 Ω. What will the instruments read if the shunts are interchanged? **(15)**	BTL 6	Create
3.	Develop expressions for deflecting torque and control torque for a PMMC instrument and show that the scale of the instrument is linear. **(15)**	BTL 5	Evaluate
4.	Briefly Explain the construction and principle of operation of a 3-phase energy meter. **(15)**	BTL 6	Create
UNIT IV -ELECTRICAL WIRING AND SAFETY			
Cable and wire types and applications, Service mains, meter board and distribution board. Brief discussion on concealed conduit wiring. Two-way and three-way control. Elementary discussion on Circuit protective devices: fuse and Miniature Circuit Breaker (MCBs). Electric shock, precautions against shock, Objectives for Neutral and Earthing, types of earthing; pipe and plate earthing, Residual current circuit breaker.			
PART-A			
S.No	**Quetions**	**BT Level**	**Competence**
1.	Point out the deciding factors of selection of wires.	BTL 4	Analyze
2.	Mention the basic requirements of fuses?	BTL 2	Understand
3.	State the importance of earthing.	BTL 1	Remember
4.	Classify domestic wiring	BTL 1	Remember
5.	Name the protective devices used in power systems?	BTL 1	Remember
6.	Sketch the wiring diagram of a tube light circuit.	BTL 1	Remember
7.	List out the various types of electrical wiring.	BTL 2	Understand
8.	What is the necessity of earthing?	BTL 2	Understand
9.	List out the different types of cables used for domestic wiring.	BTL 2	Understand
10.	Mention the purpose of neutral wire in an electrical distribution system.	BTL 2	Understand
11.	Classify distribution system.	BTL 3	Apply
12.	What is meant by feeder?	BTL 3	Apply
13.	Summarize the importance of fuse.	BTL 3	Apply
14.	Draw the circuit diagram of two-way switch controlling a single lamp.	BTL 2	Understand
15.	Give some advantages of plate earthing.	BTL 1	Remember
16.	Draw the symbol of circuit breaker.	BTL 4	Analyze
17.	Compare circuit breaker and fuse.	BTL 5	Evaluate
18.	Label the function of earth wire in an electrical distribution system.	BTL 5	Evaluate

19.	Expand the term ELCB.	BTL 6	Create
20.	List out the Safety precautions to be followed against electric shock?	BTL 6	Create
	PART-B		
1.	(i) Briefly explain the types of wiring with neat diagram. **(07)** (ii) What is earthing? And write the necessity of earthing. **(06)**	BTL 1 BTL 1	Remember Remember
2.	With neat circuit diagram explain how to control a group of lamps from several places. **(13)**	BTL 1	Remember
3.	Sketch the circuit diagram of fluorescent lamp and explain the function of each component. **(13)**	BTL 1	Remember
4.	Briefly discuss about the construction, working and applications of HRC fuse. **(13)**	BTL 1	Remember
5.	Draw the schematic diagram of stair case lighting, i.e., one lamp controlled from two positions. Also draw the wiring diagram. **(13)**	BTL 2	Understand
6.	Discuss about the pipe earthing and plate earthing and also mention its importance. **(13)**	BTL 2	Understand
7.	Explain the construction and working of Energy meter with neat diagram. **(13)**	BTL 2	Understand
8.	Sketch the circuit diagram of tube light and explain the function of each component. **(13)**	BTL 3	Apply
9.	(i) List out the protective devices used in electrical power system and write its specifications and functions. **(07)** (ii)Express the formula for fuse rating with example. **(06)**	BTL 3	Apply
10.	(i) Examine the operation of two-way switch. **(06)** (ii)Describe in detail about the operation of three-way switch control. **(07)**	BTL 4	Analyze
11.	Explain in detail about the construction and working of Miniature circuit breaker. **(13)**	BTL 4	Analyze
12.	(i) Describe in detail about concealed conduit wiring. **(07)** (ii) Compare earthing and neutral. **(06)**	BTL 4 BTL 4	Analyze Analyze
13.	Discuss in detail on residual current circuit breaker. **(13)**	BTL 5	Evaluate
14.	(i) Enumerate Some of the safety measures to avoid electric shock. **(07)** (ii) Discuss about concealed conduit wiring. **(06)**	BTL 6 BTL 6	Create Create
	PART-C		
1.	Sketch the circuit for a staircase lamp controlled from two positions. It should be possible to switch-on or switch-off the lamp by any of the two switches, one located upstairs and the other located downstairs. **(15)**	BTL 5	Evaluate
2.	Discuss the functions of grounding system in distribution networks. What are the effects of bad grounding on personnel working on power system networks? **(15)**	BTL 5	Evaluate
3.	Two lamps and one fan are to be controlled by independent switches placed on a single switch board. Draw the schematic circuit diagram. **(15)**	BTL 6	Create
4.	Draw a neat diagram of distribution board for domestic wiring and explain the function of each component used. **(15)**	BTL 6	Create

UNIT V ELECTRICAL POWER SYSTEM AND ITS APPLICATION			
Introduction to Power generation, distribution and Transmission. Power supply circuits with SMPS, UPS, Batteries, Power Tariffs, EMI and EMC.			
PART–A			
S.No	**Quetions**	**BT Level**	**Competence**
1.	Examine the major equipment of a substation.	BTL 4	Analyze
2.	Name the three major components of electric power system.	BTL 5	Evaluate
3.	What is meant by primary transmission?	BTL 1	Remember
4.	Compare feeder and distributor.	BTL 1	Remember
5.	Classify distribution system based on the connections.	BTL 2	Understand
6.	How to reduce the power losses during transmission?	BTL 2	Understand
7.	Define the term Temperature coefficient of resistance.	BTL 6	Create
8.	Mention the methods to improve power factor in power system.	BTL 3	Apply
9.	Write any two examples for conventional sources and non-conventional sources.	BTL 1	Remember
10.	Define the term transmission efficiency.	BTL 1	Remember
11.	Sketch the single line diagram.	BTL 3	Apply
12.	Give few points on the advantages of HVDC system.	BTL 4	Analyze
13.	List out the function of SMPS.	BTL 2	Understand
14.	Expand the term UPS.	BTL 6	Create
15.	Compare online and offline UPS.	BTL 1	Remember
16.	Define the term power tariff.	BTL 4	Analyze
17.	Write few about tariff calculation on domestic applications.	BTL 5	Evaluate
18.	How battery is rated?	BTL 3	Apply
19.	Expand the terms EMI and EMC.	BTL 2	Understand
20.	Point out the effects of EMI?	BTL 1	Remember
PART–B			
1.	(i) Compare ring main distribution system and the radial system. **(06)** (ii) Discuss various types of supply in power system. **(07)**	BTL 6	Create
2.	(i)Draw single line diagram of a power system. **(07)** (ii)List out the major components used in power system and also explain its working. **(06)**	BTL 3	Apply
3.	Differentiate 3-phase 4-wire system with the single-phase system. **(13)**	BTL 4	Analyze
4.	(i) Describe the function of Switch mode power supply. Mention its applications. **(07)** (ii)Briefly discuss various supply in power system. **(06)**	BTL 3	Apply
5.	(i) Analyze the causes of low p.f. in power system. **(06)** (ii)Discuss various methods of improving the power factor. **(07)**	BTL 4	Analyze
6.	Briefly discuss various non -conventional methods of generating electrical energy. **(13)**	BTL 2	Understand
7.	(i) Why skin effect occurs in transmission line? and what are the	BTL 4	Analyze

	factors affecting it? (ii) Interpret the factors to be considered for site selection of power plant. **(13)**	BTL 4	Analyze
8.	With neat diagram explain the function of UPS with its components. **(13)**	BTL 1	Remember
9.	What is SMPS? Bring out the components used in SMPS and also mention its advantages and disadvantages. **(13)**	BTL 2	Understand
10.	(i) Classify the battery and also mention its advantage and disadvantages. **(05)** (ii) Draw the block diagram of online UPS and offline UPS. **(08)**	BTL 1 BTL 1	Remember Remember
11.	(i) Summarize the concept Power Tariff used for energy consumption. **(07)** (ii) Tabulate the classification of Power Tariff. **(06)**	BTL5	Evaluate
12.	Briefly discuss on the properties and types of Insulating material. Also mention the advantage and disadvantages of each type. **(13)**	BTL 1	Remember
13.	Discriminate few points about HVDC system. **(13)**	BTL 2	Understand
14.	(i) Define the term EMI and EMC **(0 4)** (ii) Explain in detail about the causes, effects and controlling techniques of EMI. **(09)**	BTL 1	Remember
	PART–C		
1.	Discuss the performance of static capacitor with a synchronous condenser as a power factor improvement device. **(15)**	BTL 5	Evaluate
2.	In DC two-wire system, a feeder is working on 250 V to supply a constant load. If the supply voltage is increased to 480 V with power transmitted remaining the same, compute the percentage saving in conductor material. **(15)**	BTL 5	Evaluate
3.	Describe the concept Power Tariff used for energy consumption and also list out its types. **(15)**	BTL 6	Create
4.	Explain in detail about the various methods of improving the power factor and also point out the causes that producing it **(15)**	BTL 6	Create