Question Paper Code: R18A22EE01

R18

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, Jan/Feb-2024

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

(CIVIL ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

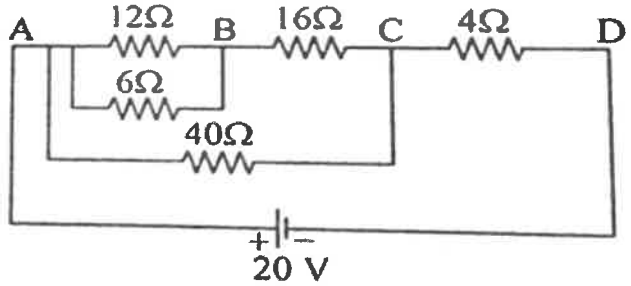
Section – A (Short Answer type questions) (25 Marks)

Answer All Questions		Course Outcome	B.T Level	Marks
1.	State Kirchhoff's current law with an example.	CO1	L1	2M
2.	Mention the formula for converting Star network to delta network.	CO1	L1	3M
3.	What is the need for Starter in a dc motor?	CO2	L1	2M
4.	Mention the types of DC generator.	CO2	L1	3M
5.	What are the applications of Transformer?	CO3	L1	2M
6.	Mention the principle of 3 phase induction machine.	CO3	L1	3M
7.	Give any two applications of semiconductor devices?	CO4	L1	2M
8.	Draw the symbol of NPN and PNP transistor.	CO4	L1	3M
9.	Mention the parts of Cathode Ray Oscilloscope.	CO5	L1	2M
10.	What is the principle of CRT.	CO5	L1	3M

Section B (Essay Questions)

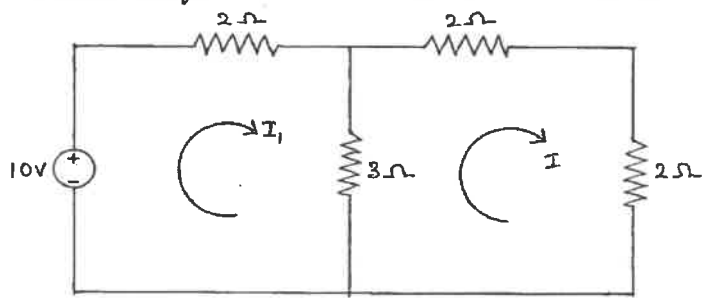
Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A) Calculate the equivalent resistance of the following combination of resistances and also the current supplied by the source. CO1 L3 10M



OR

B) Use mesh analysis to determine the all-mesh currents in the circuit. CO1 L3 10M



12. A) A 4 pole generator having wave-wound armature winding has 51 slots, each slot containing 20 conductors. What will be the voltage generated in the machine when driven at 1500 rpm assuming the flux per pole to be 7.0 mWb. CO2 L3 10M

OR

B) Explain the different type of DC Motor with necessary diagrams, voltage & current equations? CO2 L2 10M

13. A)	Discuss the working principle of a Single Phase Transformer with a neat sketch and derive the expression for the emf generated	CO3	L2	10M
	OR			
B)	Explain the construction and operation of 3-phase induction motor.	CO3	L2	10M
14. A)	Explain the construction, working principle of a PN junction diode in forward and reverse bias condition with necessary diagrams	CO4	L2	10M
	OR			
B)	Draw the circuit diagram of an NPN junction transistor CE configuration and describe the static input and output characteristics. Also, define active, saturation and cutoff regions, and saturation resistance of a CE transistor.	CO4	L2	10M
15. A)	What is CRO? Illustrate how CRO can be used for current and frequency measurements.	CO5	L2	10M
	OR			
B)	Discuss on Electrostatic deflection and its deflection sensitivity of CRO with necessary diagrams.	CO5	L2	10M