Sub Code: BEET 201 **ROLL NO……..……..**

II SEMESTER EXAMINATION, 2022 – 23

1st Year, B.Tech – Common to All Branches

BASIC ELECTRICAL ENGG

Duration: 3:00 hrs **Max Marks: 100**

Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.

Q 1.	Answer any four parts of the following. a) What are the active and passive elements? b) Write down about bandwidth and quality factor. c) What are the necessity and advantages of three phase system? d) Write down the analogy between electric and magnetic circuit. e) What are the constructional details of dc machine? f) Explain the superposition theorem.	5x4=20
Q 2.	Answer any four parts of the following. a) What do you mean by current source? Explain. b) Analyze the series RLC circuit. c) Write down the voltage and currents in star and delta connections. d) Explain the B-H curve. e) Explain the principle of operation of single phase transformer. f) Explain the principle of operation of three phase induction motor.	5x4=20
Q 3.	Answer any two parts of the following. a) Explain the working principle of operation and working of PMMC type of instrument. b) Develop the emf equation of single phase transformer. Draw and explain the equivalent circuit of single phase transformer. c) What are the different methods of starting of three phase induction motor? Explain any one method of starting with all mathematical equations involved.	10x2= 20
Q 4.	Answer any two parts of the following. a) Explain the series and parallel magnetic circuit. Explain with all mathematical equations involved. b) Explain the slip and torque characteristics of three phase induction motor. c) Explain with considering a circuit for series resonant circuit.	10x2= 20
Q 5.	Answer any two parts of the following. a) Explain the single phase dynamometer wattmeter type of instrument. b) Write down about the auto-transformer. What is difference of auto transformer with normal transformer? c) Explain the nodal and loop methods of analysis of a circuit.	10x2= 20

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