R18

ANURAG Engineering College
(An Autonomous Institution)
I B.Tech I Semester Supplementary Examinations, June/July – 2024
BASIC ELECTRICAL ENGINEERING
(COMMON TO ECE & CSE)

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

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

	Course Outcome	B.T Level	Marks
1. What is the equivalent Resistance when two resistances R1 and R2 are connected in Parallel?	CO1	L1	2M
2. Write different types of elements in electrical circuits.	CO1	L2	3M
3. What do you mean by RMS and Average Value of Sinusoidal wave form?	CO2	L2	2M
4. Write down the Voltage and Current relations for Star Connection	CO2	L1	3M
5. Define transformer and ideal transformer.	CO3	L2	2M
6. State Fleming's Right Hand Rule.	CO3	L1	3M
7. Write Applications of 1-Φ Induction motors.	CO4	L1	2M
8. Write different types of DC motors.	CO4	L2	3M
9. Define Synchronous Speed. Why synchronous generators are running at synchronous speed?	CO5	L2	2M
10. Write down about different types of Fuses.	CO5	L1	3M

Section B (Essay Questions)
Answer all questions, each question carries equal marks.   (5 X 10M = 50M)

	Course Outcome	B.T Level	Marks
11. A) Derive relationship between star to delta and delta to star conversion.	CO1	L3	10M
OR			
B) State and explain Norton's theorem.	CO1	L3	10M
12. A) Define the following terms: i) Cycle ii) Amplitude iii) R.M.S value iv) Average value of an alternating quantity.	CO2	L3	10M
OR			
B) What is series resonance? Explain with respect to series R-L-C circuit connected across sinusoidal voltage source.	CO2	L3	10M
13. A) An air cored solenoid having a diameter of 4cm and a length of 60cm is wound with 4000 turns. If a current of 5A flows in the solenoid, calculate i) Inductance ii) Energy Stored.	CO3	L3	10M
OR			
B) Explain in detail about the Core type and Shell type transformers and also distinguish between them.	CO3	L3	10M
14. A) Discuss the different methods of speed control of DC Motor.	CO4	L3	10M
OR			
B) Explain with neat sketches, the principle of operation of a 3-phase induction motor. Explain clearly how torque develops.	CO4	L3	10M
15. A) Explain Working Principle and operation of Synchronous Generator? Draw the O.C and S.C Characteristics?	CO5	L3	10M
OR			
B) Describe the miniature circuit breaker with neat diagram.	CO5	L3	10M