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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Automation & Robotics)/EE/ECE (Sem.-1)
Automobile Engg./BT/CE/CSE/Electrical & Electronics Engg./Electronics
& Electrical Engg./FT/IT/ME (2018 & Onwards)

BASIC ELECTRICAL ENGINEERING

Subject Code : BTEE-101-18

M.Code : 75339

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying EIGHT marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

Answer following questions in brief :

1. State KVL and KCL.
2. Define power factor of A.C.
3. Differentiate reactive power and apparent power.
4. What are various BH characteristics?
5. Differentiate ideal transformer and practical transformer.
6. What do you mean by source? List various voltage and current sources.
7. What do you mean by sinusoidal modulation?
8. What are the uses of ELCB and MCCB?
9. State superposition theorem.
10. Significance of power converters.

SECTION-B

11. What are the basic differences between a 3- ϕ synchronous motor and 3- ϕ Induction motor?
12. Explain with diagram the operating principal of DC Motor.
13. Write a short note on :
 - a) Important characteristics of Batteries
 - b) SFU&MCB
14. Derive the voltage and current equation of single phase A.C. Circuit consisting RL and RC. Also draw its phasor diagram.

SECTION-C

15. What is energy resource management? Explain elementary calculations for energy consumptions.
16. A single phase transformer has 350 primary and 1050 secondary turns. The net cross-sectional area of the core is 55 cm². If the primary winding be connected to a 400V, 50 Hz single phase supply. Calculate :
 - a) The maximum value of flux density in the core.
 - b) The voltage induced in the secondary winding.
17. Critically examine the time domain analysis of first order RL and RC circuits.
18. Explain the construction and working of three phase induction motor.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.