Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(ME) (2018 Batch) (Sem.–3)

BASIC ELECTRONICS ENGINEERING

Subject Code : BTEC-305-18

M.Code : 76420

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 contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write briefly :

1. State flip flop and its function.
2. Define op amp 741.
3. Give significance Class A amplifier over Class B amplifier.
4. Define amplifier and its function.
5. What is meant by factitious battery?
6. Give advantages of semiconductor material.
7. Define ripple factor in rectifiers and give its significance.
8. Convert the decimal number 39.75 to hexadecimal.
9. Differentiate between combinational circuit and sequential circuits.
10. What are opto-electronic devices and their functioning?

SECTION-B

11. Compare various number system in detail.

12. What is the concept of load line and Q point of transistor along with neat and clean diagram?

13. Describe the concept of bias stabilization in transistors and amplifiers.

14. Simplify the Boolean expression using K map : F (A,B,C,D) = Σ(0,3,6,7,9,13,14,15)

15. How an op-Amp will act as differentiator and integrator? Explain.

SECTION-C

16. Design AND-OR logic for the expression (A+B)(C+D)(E+F). Also convert the same circuit in NOR logic gate circuit.

17. a) What are the different logic gates? Give their truth tables.

    b) What are the Universal gates? Why are they so called?

18. What is JK flip flop? Discuss its working. What is race around condition?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.