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

Total No. of Questions : 18

B.Tech.(Automation & Robotics) (2012 & Onwards)   (Sem.–3)
ELECTRONICS DEVICES AND DIGITAL CIRCUITS
Subject Code : BTAR-302
M.Code : 63002

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION 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

Answer briefly :

1. What are the applications of monostable multivibrator?

2. Why is master slave flip flop preferred to use?

3. What is the Mod number of 5 bit counter?

4. What happens to drain current of p-channel JFET when positive voltage is apply on its gate?

5. What is thermal runaway process?

6. State the advantages of negative feedback in amplifiers.

7. What is operating point? Why is it necessary to stabilize it?

8. What is the most important application of Schmitt trigger?

9. Define CMRR.

10. What do you mean by voltage to current converter?

SECTION-B

11. Implement BCD to 7-segment decoder using 4 line to 16 line decoder.

12. Draw divide by 7 asynchronous up counter using T flip flop. Write its truth table also.

13. Convert JK flip flop to SR flip flop.

14. What is rectification? Explain operation of half wave rectifier circuit with neat and clean waveforms.

15. Discuss application of op-amp as an instrument amplifier.

SECTION-C

16. Explain the principle and working of n-channel MOSFET in detail with the help of suitable diagrams.

17. Explain IC 555 as table multivibrator.

18. Explain operation of master slave flip flop in detail.

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.