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

Total No. of Questions : 18

B.Tech. (Automation & Robotics) (Sem.–5)

ELECTRONICS DEVICES AND CIRCUITS

Subject Code : BTAR-501-18

M.Code : 78215

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) Define current gain, β, in CE configuration.

2) What is meant by Gate – Source threshold voltage of an FET?

3) What are the applications of switching regulators?

4) Write a short note on voltage follower.

5) Define slew rate.

6) Draw pin diagram of IC 555 timer.

7) List any three advantages of A to D converter.

8) What is the importance of sample and hold circuits.

9) Discuss the need of multiplexer.

10) Write a short note on VCO

SECTION-B

11) Describe the operation of common drain FET amplifier and derive the equation for voltage gain.

12) Write a brief note on binary ripple counters.

13) Draw circuit diagram of 555 timer for astable multivibrator. Explain its working.

14) Explain the difference between the gated SR latch and gated D latch.

15) Draw circuit diagram of Schmitt trigger circuit and explain operation with input and output waveform.

SECTION-C

16) Explain and draw the structure of enhancement type MOSFET.

17) Explain precision half wave and full wave rectifiers in detail.

18) Explain the working of mono stable multivibrator with its circuit diagram and output waveform.

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.