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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.