

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Automation and Robotics) (Sem.-4)

BASIC ELECTRONICS ENGINEERING

Subject Code :BTAR-404-18

M.Code :77600

Date of Examination : 09-07-22

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

1. Write briefly :

- a) How does an Avalanche breakdown differ from Zener breakdown? Explain.
- b) Define input offset voltage.
- c) Convert (101011)₂ into Decimal system & Octal system.
- d) Compare wired and wireless transmission media.
- e) What do you mean by Nyquist Rate?
- f) Define Q Point.
- g) What is Comparator? Write any two applications of comparator.
- h) Explain mono-stable multivibrator.
- i) List a few applications of IC 555.
- j) Draw symbols of EX-NOR and AND gate.

SECTION-B

2. Explain the operation of center tap rectifier with capacitor filter with a neat circuit diagram and waveforms.
3. Explain working of Op-Amp as summing amplifier.
4. Realize two input Ex-OR gate & NOR gate using only NAND gates.
5. Explain working of wein bridge oscillator.
6. Give the comparison between AM and FM.

SECTION-C

7. Explain the characteristics of an Ideal Op-Amp. Mention some of the applications of Op-Amp.
8. What is an oscillator? Derive necessary condition for the oscillator to produce oscillations. Explain about the amplitude and frequency stability of oscillators.
9. Elaborate in detail the architecture of GSM with a neat diagram.

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.