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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(EE) (2018 Batch) (Sem.–3)

ANALOG ELECTRONICS

Subject Code : BTEE-302-18

M.Code : 76382

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 Transistor. Give the types of transistors.
- 2) Draw and label the circuit symbols of a pn-junction diode and a Zener diode.
- 3) Draw V-I characteristics of a Bipolar Junction Transistor.
- 4) What do you mean by the term Slew-Rate in OpAmps?
- 5) What is a Power Amplifier?
- 6) Give various types of transistor configurations in which they can be connected.
- 7) Write important characteristics of an Ideal Operational Amplifier.
- 8) What is a MOSFET? Give its circuit symbol.
- 9) What do you understand by Current amplification factor in transistors?
- 10) What is the significance of an Oscillator? Name some commonly used Oscillators.

SECTION-B

- 11) What is the use of a clamping circuit? Describe the clipping circuit using a diode with the help of a suitable circuit diagrams.
- 12) What is a Differential amplifier? Explain its working briefly using its circuit diagram.
- 13) Describe that how an Active filter can be built using an Op-amp?
- 14) Differentiate between BJTs and MOSFETs giving their circuit symbols.
- 15) How can you prove that the maximum efficiency of a full-wave rectifier is approx. 81.2%?

SECTION-C

- 16) Discuss the behavior of pn-junction diode when forward biased as well as reverse biased giving suitable neat diagrams.
- 17) Describe the working principle of a Bipolar Junction Transistor (BJT) using suitable diagram. What is faithful amplification? How the transistor can be used as an amplifier?
- 18) Discuss the working principle of a Class-B Push-pull Power amplifier with the help of a neat circuit diagram. Also give its advantages.

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.