Register No.: [ ]

202

April 2023

Time – Three hours
(Maximum Marks: 100)

N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.

PART – A

1. Draw the circuit diagram of Pi filter.
2. Draw the circuit diagram of Voltage regulator using Zener diode.
3. Mention the different methods of Transistor biasing.
4. Draw the symbol of various types of FET. Draw the characteristics for any one type.
5. What are the effects of negative feedback on Bandwidth, Distortion and Noise?
6. What are the applications of Oscillators?
7. Compare SCR and BJT.
8. Define: (i) Forward break over voltage (ii) Holding current (iii) Latching current.
9. What do you mean by C amper? What are its types?
10. What do you mean by Multivibrator? Mention its types.

PART – B

11 A) (i) Explain the construction and working principles of seven segment LED with neat sketch. (10)
(ii) Explain the construction and working of inductor filter with neat sketch. (4)

(OR)

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B) Explain the construction and working principles of Zener diode with neat sketch. Draw its V-I characteristics.

12 A) (i) Explain the construction and working of Self bias circuit and state its advantages and disadvantages. (10)
(ii) Draw the circuit diagram of a Common emitter Transistor as an open switch. (4)

(OR)

B) (i) Explain the working of UJT Relaxation Oscillator and draw its output waveform. (10)
(ii) What are the types of JFET? (4)

13 A) (i) What are the various types of oscillators? (4)
(ii) Explain the working of Hartley oscillator. Mention its frequency of oscillation. (10)

(OR)

B) (i) Explain the working of Current series and Current shunt feedback. (10)
(ii) Explain the Barkhausen criteria for sustained oscillations. (4)

14 A) Explain the working of DIAC and draw its VI characteristics. List out its applications and advantages.

(OR)

B) Explain the two transistor analogy of SCR and two SCR analogy of TRIAC.

15 A) Explain the working of Astable Multivibrator and draw its output waveforms.

(OR)

B) Explain the working of Monostable Multivibrator.
