

924

Register No.:

April 2024

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. Define filters and list its applications.
2. Draw the symbol of LED and Photo diode. Name its terminals.
3. What are the types of biasing?
4. Compare FET and BJT.
5. What are the effects of negative feedback on gain, input and output impedance?
6. State Barkhausen criterion.
7. Compare SCR and transistor.
8. Draw the layered structure of TRIAC and its V-I characteristics.
9. Differentiate between clippers and clampers.
10. How the voltage doubler works?

[Turn over.....

PART – B

11. (a) (i) Compare the characteristics of capacitor and inductor filters.(4)
(ii) Explain L-section and Pi-section filters.(10)
(Or)
- (b) (i) Explain the construction and working principle of Zener Diode. Draw its V-I characteristics.(10)
(ii) Define optocoupler and give its applications. (4)
12. (a) (i) Explain the operation of common emitter transistor as an amplifier. (10)
(ii) Draw the drain and transfer characteristics of FET. (4)
(Or)
- (b) Explain the working of UJT as a relaxation oscillator.
13. (a) Explain the working and frequency response characteristics of RC coupled amplifier.
(Or)
- (b) Explain the working of Hartley oscillator. List its advantages and disadvantages.
14. (a) Explain the layered structure, working and V-I characteristics of SCR.
(Or)
- (b) Explain the layered structure, working and V-I characteristics of DIAC.
15. (a) Explain the operation of positive clipper and positive clamper. Identify one application of each.
(Or)
- (b) Explain the construction and working of monostable multivibrator.
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