

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
  2. Answer any ONE question from each unit in PART-B (3 marks each)
  3. Answer any ONE question from each unit in PART-C (10 marks each)
  4. The question paper contains TWO Pages

**PART-A** (1x10=10)

1. Draw the symbol of zener diode.
2. What is rectifier?
3. What are the types of transistor?
4. State the formula for current gain in common base configuration.
5. What is the output frequency of Colpitts Oscillator?
6. Expand UJT.
7. What is SCR?
8. Mention the terminals of IGBT.
9. In which bias, LED emits light?
10. What is the other name for Astable Multivibrator?

**PART-B** (3x5=15)

UNIT-I

11. Draw the VI characteristics of PN junction diode.
12. List the different types of filters used in DC power supply circuit.

UNIT-II

13. Compare CB, CE and CC configurations.
14. Define the terms in amplifiers.
  - (a) Lower cut-off frequency.
  - (b) Upper cut-off frequency.
  - (c) Bandwidth.

UNIT-III

15. Write the classification of FET.
16. Draw the VI characteristics of UJT and mention its different regions.

UNIT-IV

17. List the applications of DIAC.
18. Draw the VI characteristics of IGBT.

UNIT-V

19. What is LED? List the applications of LED.
20. Draw the circuit diagram of full wave voltage doubler.

PART-C (10x5=50)

## UNIT-I

21. Explain the full wave rectifier with input and output waveforms.
22. Explain in operation of C and Pi filter and draw its waveforms.

## UNIT-II

23. Explain the circuit of self bias in amplifier circuit with neat diagram.
24. Draw the frequency response characteristics of RC coupled amplifier and explain its behaviour.

## UNIT-III

25. Describe the construction and working principle of colpitts Oscillator.
26. Explain the principle of JFET and draw its characteristics.

## UNIT-IV

27. Explain the working principle of SCR.
28. Explain the operation of E-MOSFET with neat diagram.

## UNIT-V

29. Explain the construction and working principle of LCD.
30. Explain the operation of negative and positive clipper circuit.

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