

PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004

E12304 ELECTRONICS

Model Question Paper

Time : 3 Hours

Max.Marks: 100

Instructions:

1. **Group A** and **Group B** questions should be answered in the Main Answer book.
2. Answer any **TEN** questions in **Group A**. Each question carries three marks.
3. Answer **ALL** questions either **(a)** subdivision or **(b)** subdivision in **Group B**. Each question carries 14 marks.

Group – A

Marks: 10 x 3 = 30

1. Draw the V-I Characteristics of PN junction Diode.
2. Give any two differences between JEFT and MOSFET.
3. What is LED? What materials are used to construct an LED?
4. Define rectifiers and its types.
5. What are the types of Filters?
6. Draw the block diagram of Regulated Power Supply.
7. What is Differential Amplifier?
8. Draw the circuit diagram of RC Coupled Amplifier.
9. Define Positive Feedback and Negative Feedback.
10. State Barkhausen Criteria.
11. List the applications of Crystal Oscillator.
12. Limitations of LC and RC Oscillator.
13. Sketch the Clamper circuit using Diodes.
14. What are the difference between the output from a Clipper and a Clamper?
15. What is an Operational Amplifier (OP-AMP)?

Group– B

Marks: 5 x 14 = 70

16. a) [i] Briefly explain about Avalanche and Zener Breakdown. (7)
[ii] Explain principle of working of npn transistor with diagram. (7)
(OR)
- b) [i] Write short notes on LDR and Photodiode. (7)
[ii] Explain working principle of UJT and Draw the Characteristics of UJT. (7)
17. a) Explain the principle of operation of a Full wave Bridge rectifier with a neat circuit. (7)
(OR)
- b) [i] What need for regulated power supply? (5)
[ii] Explain how Zener diode acts as a Voltage Regulator. (9)
18. a) With neat sketch explain the principle of operation of Push Pull amplifier.

(OR)

b) Explain the principle of operation of RC Coupled amplifier with diagram and List any two applications.

19. a) Explain the working of Phase shift oscillator with diagram.

(OR)

b) Describe with neat sketch the working of colpitts oscillator and List two applications.

20. a) Explain the Block diagram of CRO with neat sketch and explain the measurement of voltage and Frequency using CRO.

(OR)

b) Explain the any two applications of OP-AMP with neat sketch.