

OCTOBER 2011

P/ID 40004/PPHD

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Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define ROM?
2. Why UJT is used in relaxation oscillator?
3. Give the principle of LDR.
4. What is the use of Gunn diode in tunnel diode?
5. What does modulus of a counter mean?
6. Give any two applications of a shift register.
7. Define op-amp active filters?
8. What is the purpose of a comparator?
9. Give the resolution of a D/A converter.
10. What is the use of A/D conversion?

PART B — (5 × 6 = 30 marks)

Answer ALL the questions.

11. (a) Give the application of SCR for power control.

Or

- (b) Discuss Random Access Memory (RAM).

12. (a) Discuss the function of tunnel diode?

Or

- (b) Discuss the function of LDR as a photo conductor.

13. (a) Draw the circuit of a 4 bit shift register.

Or

- (b) Construct a modulo-12 counter using 4 bit binary counter.

14. (a) Explain the common mode rejection ratio (CMRR).

Or

- (b) Explain op-amp as a square wave generator.

15. (a) Draw the circuit of a R-2R Ladder D/A converter and explain its action.

Or

- (b) Explain how 555 timer working as a monostable multi vibrator?

PART C — (5 × 10 = 50 marks)

Answer ALL the questions.

16. (a) Explain the construction, working, characteristics of a FET.

Or

- (b) Explain the construction working of UJT.

17. (a) Explain the working of tunnel diode.

Or

- (b) Explain the action of Gunn diode.

18. (a) Explain the construction and working of synchronous counter.

Or

- (b) Describe the working of shift register.

19. (a) Explain Op-amp as a zero-crossing detector and a square wave generator.

Or

- (b) Explain op-amp active filters.

20. (a) Explain the construction working of D/A converter with resolution and accuracy.

Or

- (b) Explain the operation of IC555 times as

- (i) astable and  
(ii) monostable multi vibrator.
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