

THREE YEAR B.Sc. (CBCS) DEGREE (Regular/Supplementary) EXAMINATION,
OCTOBER/NOVEMBER 2018

THIRD SEMESTER

Part II – Electronics

DIGITAL ELECTRONICS

Time : 3 Hours

Max. Marks : 75

PART – A

Answer any FIVE questions.

(Marks : 5 × 5 marks = 25 marks)

1. Explain briefly 1's and 2's compliments with suitable examples.
2. Write a short notes on gray code.
3. State and prove Demorgan's theorems.
4. Explain the working of 4 × 1 MUX.
5. Write a short note on SOP and POS forms.
6. Explain the working of Half subtractor with truth table.
7. Draw and explain the Excitation table of T-flip flop.
8. What are the differences between RAM and ROM?

PART – B

Answer ONE question from each Unit.

(Marks : 5 × 10 marks = 50 marks)

UNIT – I

9. Explain the following conversions and give three examples of each.
 - (a) Binary to decimal
 - (b) Octal to binary
 - (c) Hexa decimal to Decimal.

Or

10. Explain BCD code and Excess-3 code.

UNIT - II

11. Describe the following logic gates and draw their truth tables.
- (a) OR
 - (b) AND
 - (c) NOT and
 - (d) X-OR.

Or

12. What is K-map? Simplify the given function using K-maps
 $f(A, B, C, D) = \Sigma m(0, 2, 5, 7, 8, 9, 10, 11, 12)$.

UNIT - III

13. Explain the working of half adder and full adder by using their truth tables.

Or

14. Explain the working of 8 line to-3 line encoder with neat circuit diagram.

UNIT - IV

15. Explain the working of R-S and J-K flipflops using their truth tables.

Or

16. What is a register? Explain the working of shift left register with circuit diagram.

UNIT - V

17. Explain about semiconductor memories.

Or

18. Explain the working of PLA by using relevant diagram.
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