DECEMBER 2015 **P/ID 17454/RCD/ PCAG**

Time : Three hours Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Convert the following :
(i) $(65.535)_{10} = (?)_{16}$ (ii) $(23.6)_{10} = (?)_{2}$.

Or

(b) Explain about the working of basic logic gates.

2. (a) Describe Full - Subtractor with a neat diagram.

Or

(b) Explain the Decimal Adder.

3. (a) Discuss on flip-flop excitation table.

Or

(b) Explain about Bidirectional Shift Register with parallel load.

4. (a) Discuss on the design of ALU.

Or

(b) Write short notes on status register.

5. (a) Explain Timing and control unit of ALU.

Or

(b) Discuss on Microprogram control

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. Simplify the Boolean function using K-Map method $F(w,x,y,z) = \sum (0,1,2,4,5,6,8,9,12,13,14)$

7. Explain in detail about various binary codes with an example.

8. Describe the multilevel NAND circuits in detail.

9. Discuss on the working principle of Multiplexers with a neat diagram.

10. Explain the Ripple Counter with neat diagram.

11. Describe the scratchpad memory.

12. Draw the detailed block diagram for computer and discuss.

13. Explain about memory-reference instructions with examples.

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