

MAY 2014

**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) $(250.5)_{10} = (?)_8$

(ii) $(1998)_{10} = (?)_2$

(iii) $(1001001.011)_2 = (?)_{10}$

Or

(b) Perform the subtraction with the following decimal numbers using 10's complement.

(i) $72532 - 3250$

(ii) $3250 - 72532$

2. (a) Draw the circuit of full adder and explain.

Or

(b) Briefly describe the functions of decoder.

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

Or

- (b) Explain about Bidirectional shift registers.

4. (a) Draw the block diagram of a 4-bit ALU and explain.

Or

- (b) Write short notes on status register.

5. (a) List and discuss about the registers for computers.

Or

- (b) Discuss different types of symbolic micro program for control memory.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. Simplify the Boolean function using K-Map method $F = A'B'C' + B'CD' + A'BCD' + AB'C'$.
7. Discuss in detail, the various binary codes with examples.

8. Describe the operation of binary parallel adder with logic circuits.
 9. Describe a four bit ripple counter and its working with neat circuit and Timing diagram.
 10. Explain the JK flip-flop with neat diagram.
 11. Discuss about the status register in detail.
 12. Discuss about system configuration.
 13. Explain about the execution of an instruction.
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