

OCTOBER 2012

P/ID 17454/
RCD/PCAG

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Describe Integrated Circuits.
Or
(b) Explain Boolean functions.
2. (a) Design a Full Adder circuit.
Or
(b) Describe Code converter.
3. (a) Write short notes on the following :
 - (i) State Table
 - (ii) State Diagrams.Or
(b) Explain Ripple counter.
4. (a) Write short notes on ALU.
Or
(b) Describe Microprogramming.

5. (a) Explain the design of Accumulator.

Or

- (b) Describe Timing and Control unit.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

6. Obtain the simplified expression in sum of products for the following. $F(A, B, C, D, E) = \Sigma(0, 1, 4, 5, 16, 17, 21, 25, 29)$.
7. Explain the Multilevel NAND circuits with example.
8. Summarize Flip-flops and its types.
9. Draw a block diagram of memory unit and explain it.
10. Describe Instructions and Data formats.
11. Describe ROM.
12. How to design a specific arithmetic circuit? Explain it.
13. Describe in detail about Sequential circuits.