UDHA–CA(1a)

2015

Full Marks : 50

Time : 3 hours

Answer any **five** questions

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable.

1. Fill in the blanks and show the working clearly : 2.5×4

Binary	Octal	Decimal	Hexadecimal
10101010	———	———	———
———	4567	———	———
———	———	6789	———
———	———	———	cdef

2. Perform binary subtraction using 2's complement method and show the working clearly : 5×2

(*i*) 10101010 - 01010101

(*ii*) 01010101-10101010

3. (*a*) Realize an AND gate using NOR gates only. 5

(*b*) Differentiate between combinational and sequential circuits. 5

4. What is a multiplexer ? Explain its working with the help of a neat diagram. 10

5. Explain the concept of JK flip-flop. How can a JK flip-flop be converted into a D type flip-flop ? 10

6. List various memory reference instructions and explain them in brief. 10

7. What is Cache Memory ? Why is it required ? Clearly differentiate between Cache memory and Virtual memory. 10

8. (*a*) What is a flowchart ? Briefly explain the symbols used in Flowcharts. 5

(*b*) Draw a Flowchart for finding the greater among three numbers entered by a user. 5

9. Write notes on :

(*i*) Pseudocode 5

(*ii*) ALU 5
