Register No.:

1324

October 2024

Time – Three hours

(Maximum Marks: 100)

[N.B. Answer all the questions, choosing any two subdivision from each question. Each subdivision carries 10 marks.]

1. (a) Convert the decimal number $(256)_{10}$ into its equivalent binary number, octal number, and hexa-decimal number.

   (b) Discuss any two binary code standards.

   (c) Explain the AND, OR, NOT logic gates.

   (d) Realize Ex-OR and AND gate using NOR gate.

2. (a) Simplify the following function using K-map $f(a,b,c) = \sum(0,1,4,5,6,7)$.

   (b) Describe about full adder with its circuit diagram.

   (c) Explain the priority encoder with its circuit diagram.

   (d) Write a note on digital comparator.

3. (a) Discuss about the concept of edge triggering in flip flops.

   (b) Describe about serial to serial converter and serial to parallel converter.

   (c) Explain about asynchronous up counter.

   (d) Write a note on JK and D flip flop.

[Turn over.....

4. (a) Describe about sensors and its types.

(b) Write about the dual slope A/D converter.

(c) Discuss about the weighted resistor D/A converter.

(d) Write a note on relay and motor.

5. (a) Discuss about the classification of Read Only Memory (ROM).

(b) Describe about the operation of pen drive and solid state hard drive.

(c) Describe about the PLA architecture with its diagram.

(d) Write a note on memory accessing, hierarchy and management.
