CBSE Question Paper - 2010

DIGITAL ELECTRONICS AND MICRO PROCESSORS

(Theory) Paper II

Class – XII

Time allowed: 3 hours

Maximum Marks: 60

Instructions: Attempt all questions.

1. (a) What are the applications and advantages of digital signal processing?

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(b) Convert the following decimal numbers to binary numbers:

(i)   39

(ii)   185

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(c) Add the following binary numbers:

(i)   1001 and 1100

(ii)   1011and 1111

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OR

Draw a full adder circuit and explain its operation.

12

2. (a) Explain the following :

4×2

     (i)   Priority encoder

     (ii)   Seven segment LED display

(b) Give the types of multiplexer and demultiplexer and give one example of each

    Type.

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OR

Explain the operation of the following using truth table:

4×3

     (i)   RS flip flop

     (ii)   D type flip flop

     (iii)   JK flip flop

3. (a) Describe the operation of asynchronous counter.

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  (b) Describe the operation of universal shift register.

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4.   Explain the general principle of counter type A/D convertor.

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OR

(a) Give a brief description of PROM.

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(b) Explain the expansion of memory in terms of word length and capacity.

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5   (a) Draw the block diagram of 8085 microprocessor.

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     (c) For a microprocessor, explain in brief the following :

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           (i)   Data and address bus

          (ii)   Control bus