4630

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DECE - V SEMESTER EXAMINATION
MICROCONTROLLER APPLICATIONS

Time : **3** Hours] [Total Marks : **80**

PART - A 3×10=30

Instructions :
(1) Answer **ALL** questions.
(2) Each question carries **THREE** marks.
(3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1 Write about the need for Hardware Interfacing.

2 Define the following terms: (a) Resolution (b) Conversion time.

3 List any 6 popular UV EPROM chips.

4 List various types of Semiconductor Memories used.

5 Define the term memory mapped I/O.

6 List the features of 8255.

7 What are the funcitons of RTC ?

8 Draw the Pin configuration of DS 12887 IC.

9 List numbers of 3 commonly used Opto coupler ICs.

10 What is the use of PWM for controlling the speed of small DC motor ?

PART - B 10×5=50

Instructions : (1) *Answer any* ***FIVE*** *questions.*

(2) *Each question carries* ***TEN*** *marks.*

(3) *Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.*

11 List various types of interfacing devices and mention the functions of each interfacing device.

12 (a) Draw and explain the pin diagram of 740LS138 3 × 8 decoder. 5

(b) Explain Memory address decoding 740LS138 3 × 8 decoder. 5

13 (a) Explain the DATA Movement in External RAM using MOVX instruction. 6

(b) Write a program to read 200 bytes of data from P1 and save the data in external RAM location 50000H. 4

14 Draw and explain the interfacing circuit of LCD with 8051.

15 (a) Draw and explain the Control word Format (1/0) Mode of 8255. 5

(b) Draw and explain Interfacing circuit of 8051 with 8255. 5

16 (a) With the help a of a circuit diagram, explain the interfacing of DS12887 to 8051. 6

(b) Explain Address map of DS 12887. 4

17 Explain the interrupt and alarm features of DS 12887.

18 (a) Explain the application of a temperature controller with the help of a block Diagram. 5

(b) Write an ALP to run stepper motor continuously. 5

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