C16S-EC-505

5854

BOARD DIPLOMA EXAMINATION, (C-16S)

NOVEMBER - 2019

DECE - V SEMESTER EXAMINATION

MICROCONTROLLER INTERFACING & 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.

1   Name any three interfacing ICs and also state their purpose in one sentence each.

2   What are the important specifications of LM35/34. Mention any 6.

3   Classify semiconductor memories.

4   Write an ALP to read 100 bytes of data from Port1 and save the data in External RAM location 4000H.

5   Draw control word format of 8255 for I/o mode.

6   Write an Embedded C program for programming of 8255 in simple I/O mode to read from port A and write onto port B and Port C. (port A input and port B and C as output ports).

7   Define RTC and state its need.

8   List out application of RTC as square wave generator.

9   Compare RISC and CISC.

10 State need for relays and Opto-Couplers in Interfacing.

PART - B   10×5=50

Instructions :   (1) *Answer any FIVE questions.*
                   (2) *Each question carries TEN marks.*
                   (3) *Answer should be comprehensive and criterion for valuation is the content but not the length of the answer.*

11 Explain with a neat sketch and ALP, the use of DAC 0808 for generating a sine wave.

12 (a) Compare NVRAM and FLASH Memory.
    (b) Draw and explain DRAM organisation.

13 Draw and explain interfacing of large external memory (256 KB) with 8051.

14 (a) Define the term memory mapped I/O.
    (b) Explain the interfacing of LCD with 8051 using 8255.

15 Draw PIN configuration of 8255 and mention PIN functions.

16 Explain with the help of a circuit diagram the interfacing of DS 12887 to 8051.

17 Explain the interrupt and alarm features of DS12887.

18 Draw and explain the block diagram and PIC16F877.