C14-EC-605

4741

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DECE - VI SEMESTER EXAMINATION

ADVANCED MICROCONTROLLERS & DSP

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 Compare CISC and RISC processors.

2 State the features of PIC16F877 controllers.

3 Draw the block diagram of 80196 microcontroller.

4 List instructions set of MCS-96 microcontroller.

5 Write the features of ARM controller.

6 List ARM controller addressing modes of operation.

7 Write the differences between Microprocessors and Digital signal processors.

8 Give the IC no's of the popular digital signal processors.

9 Write the application areas of embedded systems.

10 List the types of real time operating systems (RTOS).

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   Explain the Architecture of PIC Controller with the neat sketch.   **5+5**

12   Explain the interfacing of DC Motor with PIC Microcontroller.   **5+5**

13   Explain the Timers of MCS-96 Microcontroller.   **10**

14   Explain the addressing modes of MCS-96 Microcontroller.   **10**

15   Explain the architecture of ARM controller with the neat diagram.   **5+5**

16   (a)   Explain the exception handling mechanism of ARM controller.   **7**

(b)   Write the pipelining concept in ARM controllers.   **3**

17   Explain the Multiplier and Multiplier and Accumulator unit (MAC).   **4+6**

18   Write short notes on :

(i)   Tasks   **5**

(ii) Process   **5**

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