



C14-EC-605

4741

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2018

DECE—SIXTH SEMESTER EXAMINATION

ADVANCED MICROCONTROLLERS AND DSP

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

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

1. Compare RISC and CISC architectures.
2. List any six features of PIC microcontrollers.
3. List various I/O ports and timers of MCS-96 microcontrollers.
4. List various addressing modes of MCS-96 microcontrollers.
5. List the salient features of ARM controllers.
6. List any six thumb instructions of ARM controllers.
7. Write any six applications of DSP (Digital Signal Processing).
8. What is meant by real-time processing? Give an example.
9. Draw the general block diagram of an embedded system.
10. What is meant by real-time operating system?

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PART—B

10×5=50

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

- 11.** Draw and explain the architecture of PIC16F877.
- 12.** Explain the instruction set of PIC16F877.
- 13.** Explain the timers of MCS-96 microcontrollers.
- 14.** Explain the PWM output of MCS-96 microcontrollers.
- 15.** Draw and explain the architecture of ARM controller.
- 16.** Explain the concept of pipe lining in ARM processor controllers with an example.
- 17.** Draw and explain the block diagram of digital system.
- 18.** Explain about VX works RTOS (Real-Time Operating System).
