C14–EC–605

4739

BOARD DIPLOMA EXAMINATION, (C–14)
OCT/NOV—2017
DECE—SIXTH SEMESTER EXAMINATION

ADVANCED MICROCONTROLLERS

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. List the I/O ports of PIC 16f877 microcontroller.

2. What is meant by 'brown-out-reset' feature in PIC microcontrollers?

3. State the function of CLRW and CLRWDT instructions of PIC 16F877.

4. List any three arithmetic instructions of ARM7 processor.

5. List any three applications of ARM processors.

6. What is thumb mode in ARM?

7. List the condition code flags of ARM7 processor.

8. What is an embedded system?

9. Define multiprocessing and multitasking.

10. Compare normal OS with RTOS.

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 the PIN diagram of PIC 16f877 microcontroller and state the function of each pin.

12. Explain the memory organization of PIC 16f877 microcontroller.

13. Explain the arithmetic group of instructions of PIC 16f877.

14. Draw and explain the interfacing circuit of DC motor with PIC 16f877.

15. Compare between RISC and CISC architectures.

16. Explain the addressing modes of ARM7 processor.

17. Explain the concept of pipelining in ARM processors.

18. *(a)* Compare general purpose computing system with embedded system. 5

(b) List out any five application areas of embedded system. 5

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