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Question Paper Code : 20396

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Sixth Semester

Electronics and Communication Engineering

EC 6013 — ADVANCED MICROPROCESSORS AND MICROCONTROLLERS

(Common to Medical Electronics)

(Regulations 2013)

(Also common to PTEC 6013 – Advance Microprocessors and Microcontroller for
B.E. (Part-Time) Sixth Semester – Electronics and Communication Engineering –
Regulations 2014)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define paging.
2. List the advantages of instruction pipelining.
3. Define pointer aliasing.
4. What do you infer from coprocessor?
5. Mention the importance of a cache memory.
6. Define context switching.
7. Write the features of UART.
8. List the interrupts of 68HC11.
9. Draw the status register of PIC micro controller.
10. Write the significance of Watchdog timer in PIC micro controller.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the addressing modes of Pentium processor with suitable example.

Or

- (b) Explain the operating modes of Pentium processor.

12. (a) Explain the bus architecture of an ARM Processor.

Or

- (b) Describe the thumb instruction set of ARM processor with suitable example.

13. (a) Explain the interrupt handling schemes of ARM processor.

Or

- (b) Explain about memory management and memory protection in ARM processor.

14. (a) Explain the various operating modes of Motorola 68HC11 Microcontroller.

Or

- (b) Draw and explain the CPU architecture of 68HC11 Microcontroller.

15. (a) Draw and explain the interrupt structure of PIC microcontroller.

Or

- (b) Explain about the UART interface of PIC micro controller with suitable sketch.

PART C — (1 × 15 = 15 marks)

16. (a) Analyze the steps and suitable code to interface a PIC microcontroller to interface with a stepper motor.

Or

- (b) What do you understand from polling system? Analyze various polling schemes used to service an Interrupt in 68HC11.