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Question Paper Code : 51396

B.E/B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Electronics and Instrumentation Engineering

CS 2364/EI 64/10133 EE 703/10144 CSE 26 – EMBEDDED SYSTEM

(Common to Instrumentation and Control Engineering)

(Regulations 2008/2010)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What are the functional requirements of an Embedded System ?
2. Mention the IO standard interface.
3. Define Pipelining.
4. What do you mean by device register and device address ?
5. What is multithread programming ?
6. What is context switching and how it will affect system performance ?
7. Distinguish between a task and a process.
8. List out the various components of process control block.
9. What are the major structural units in PIC microcontroller ?
10. What is the function of MBasic compiler ?

PART – B (5 × 16 = 80 Marks)

11. (a) Explain the various forms of memory and the functions assigned to them.

OR

(b) Explain the components of exemplary embedded systems.

12. (a) Explain in detail about the allocation of memory to program segments, blocks and memory map of a system.

OR

(b) Explain the features of buses and the common modes used for serial communication.

13. (a) Explain how stack data structures is useful to embedded system programming.

OR

(b) Explain the following data structures with suitable diagram :

(i) Circular Queue (4)

(ii) Pipe (6)

(iii) Hash Table (6)

14. (a) Explain the features and services of UNIX and POSIX operating systems. (16)

OR

(b) (i) Explain VxWorks operating system services. (8)

(ii) Explain the basics of benchmarking real time systems. (8)

15. (a) Explain the PIC microcontroller based embedded system design.

OR

(b) (i) Explain the use of microcontroller based embedded development boards. (10)

(ii) Write a short note on basic output and digital input system. (6)