B.TECH. DEGREE EXAMINATION, MAY 2014

Seventh Semester

Branch : Electronics and Communication Engineering

EC 010 705—EMBEDDED SYSTEMS (EC)

(Improvement/Supplementary)

[2010 Admissions]

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 3 marks.

1. Discuss the figures of merit of an embedded system.

2. Compare Harvard architecture to Von Neuman architecture.

3. Differentiate between a PCI bus and PCIe bus.

4. Write a note on RTC.

5. Write a note on micro kernels.

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 marks.

6. Discuss why a PC is not considered as an embedded system.

7. Write a note on Caches.

8. Write a note on differential signalling. What are its advantages and disadvantages ?

9. Write a note on watchdog timers.

10. Write a note on pre-emptive scheduling.

(5 × 5 = 25 marks)

Part C

Answer **all** *questions.*
Each question carries 12 marks.

11. Explain memory selection for an embedded system with two case studies.

Or

12. Explain the process of embedded system development with examples.

Turn over

13. Explain IDE in detail.

Or

14. Explain the advantages of programming in assembly language.

15. Explain bus arbitration. Discuss the different bus arbitration schemes.

Or

16. Explain serial bus communication protocols.

17. (a) Write a note on L293 motor driver.   (6 marks)

     (b) Write a note on DS 1302 RTC.   (6 marks)

Or

18. (a) Explain DAC interfacing.   (6 marks)

     (b) Explain how phase angle of a dc motor can be measured.   (6 marks)

19. Explain different types of real time tasks with examples.

Or

20. (a) Write a note on memory management.   (6 marks)

     (b) Explain the onion skin diagram of an operating system.   (6 marks)

                                                      [5 × 12 = 60 marks]