

10-4 FN

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 73423

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Eighth Semester

Electronics and Communication Engineering

EC 2042/EC 801 — EMBEDDED AND REAL TIME SYSTEMS

(Regulations 2008)

(Common to PTEC 2042 – Embedded and Real Time Systems for B.E. (Part-Time)
Seventh Semester – ECE – Regulations 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the purpose of supervisor mode?
2. State the functions of coprocessor.
3. What is the bus protocols especially, the four-cycle handshake?
4. What is a data flow graph?
5. What is context switching?
6. What does a scheduler do, in an operating system environment?
7. What is the use of attaching accelerator to CPU?
8. State the important requirements to develop Network based embedded systems.
9. Write short notes H/W and S/W Co-design.
10. What are FOSS tools for Embedded Systems?

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the design steps of Modern Train controller with suitable diagrams. (16)

Or

- (b) (i) Describe the structural and Behavioral descriptions methods used for designing an embedded system. (8)
(ii) Explain the ARM processor features and modes of operations. (8)
12. (a) Explain memory system interface with CPU, with examples. (16)

Or

- (b) (i) Discuss briefly about Assembly and Linking. (10)
(ii) What are program validation and testing? (6)
13. (a) Explain the services of operating system in handling multiprocess scheduling and communication. (16)

Or

- (b) Discuss the power management and optimization for processes. (16)
14. (a) Write a note on Accelerators and Network Based System Design. (16)

Or

- (b) Discuss about Internet enabled systems and architecture of distributed embedded systems. (16)
15. (a) Discuss about data compressor in detail with suitable diagrams. (16)

Or

- (b) Explain about Software modem with neat sketch. (16)
-