

L1B
28/6/13 FN

Reg. No. :

Question Paper Code : 71029

M.E. DEGREE EXAMINATION, JUNE/JULY 2013.

Second Semester

Applied Electronics

AP 9224/CU 990/UAP 9163/10244 AE 204 — EMBEDDED SYSTEMS

(Common to M.E. Communication Systems, M.E. Computer and Communication and
M.E. VLSI Design)

(Regulation 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention any four characteristics of Embedded system.
2. Give the specification of Android mobile phone.
3. Distinguish between 'I/O mapped I/O' and 'memory mapped I/O' technique.
4. Give two examples for flow of control operations in processor environment.
5. What is Myrinet?
6. What are the merits of distributed embedded architecture?
7. Differentiate between offline and online scheduling.
8. What are the challenges present in real time system?
9. What are the measures of quality assurance in embedded systems?
10. Name the different type of design methodologies present in embedded systems.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the various steps involved in the design of model train controller.

Or

- (b) (i) With an example explain the structural and behavioural description using VHDL. (6)
(ii) Discuss the steps involved in the embedded system design process. (10)

12. (a) Discuss about SHARC processor, ARM bus and DMA.

Or

- (b) Describe in detail about the development and debugging of an alarm clock.

13. (a) (i) Discuss the operation of CAN BUS and Ethernet. (10)

- (ii) Write a short note on Internet. (6)

Or

- (b) Explain about hardware and software architectures and network based system design.

14. (a) Explain about EDF algorithm and priority driven approach.

Or

- (b) Explain about Weighted round robin approach and challenges in validating timing constraints in priority driven system.

15. (a) Describe in detail about PBX system architecture and PDA.

Or

- (b) Explain briefly about design of set-top-boxes and Inkjet printer.