Reg. No. :

Question Paper Code: 31474

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

Seventh Semester

Electronics and Communication Engineering

01UEC704 - EMBEDDED AND REAL TIME SYSTEMS

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Differentiate Von Neumann and Harvard architecture.

2. List out the two power management features provided by CPUs.

3. What is BIOS?

4. Mention some debugging tools.

5. State the functions of operating system.

6. Compare static priorities and dynamic priorities.

7. What is best effort routing?

8. Draw the diagram for distributed embedded system.

9. State the function of Set-Top-Box.

10. List out the advantages of FOSS.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Discuss the two basic data types supported by ARM architecture.   (8)

     (ii) Explain the ARM programming model.   (8)

(b) Explain briefly the model train controller system. (16)

12. (a) (i) Draw a timing diagram for a write operation with no wait states. (6)

(ii) Draw and explain a timing diagram for a read operation on a bus in which the read includes two wait states. (10)

Or

(b) Why not use the source code directly? Explain briefly the fundamental model for programs. (16)

13. (a) (i) Define scheduling policy and explain. (8)

(ii) Describe the Pre emptive real time operating system. (8)

Or

(b) Why need multiprocessors? Analyze the performance of the system with multiple processors. (16)

14. (a) Explain briefly I^2C bus and Ethernet. (16)

Or

(b) Briefly describe the design of accelerators with an algorithm. (16)

15. (a) Explain the design procedure of data compressor with its specifications and requirements. (16)

Or

(b) Discuss the design of personal digital assistants with step by step procedure. (16)

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