Total No. of Questions :8] [Total No. of Printed Pages :2

MEVD - 205

M.E./M.Tech., II Semester

Examination, July 2015

Embedded Computing System Design

Time : Three Hours *Maximum Marks : 70*

Note : i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Define embedded systems. What are its major components? Explain the several common characteristics of an embedded system. 7
b) Explain the Top-down design process used in developing embedded system. 7

2. a) What are challenges and issues in software development process? 7
b) Compare little and big-endian modes in ARM processor. 7

3. a) Explain with block diagram, architecture of ARM processor. 7
b) ARM processor uses 32 bit code making it possible to provide multiple operations in a single instruction. Explain few typical instructions. 7

4. a) i) Explain about CPU performance. 3
ii) Explain about power consumption. 4
b) Explain the various bus structures used in embedded systems. 7

5. a) Explain about how assembler and compiler help in development of program design. 7
b) List the various program models and give two application example of each. 7

6. a) Explain the design of software modem in detail. 7
b) How is a program tested for its validity? Explain. 7

7. a) Explain techniques used to optimize execution time of a program. 7

b) What is functional and non-functional requirements? Give some example of function requirements. 7

8. Write Short Notes on any two : 7 × 2 = 14
i) Internet enabled embedded system
ii) Data compressor
iii) Debugger

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