Roll No ....

MCA - 505(D)

MCA. V Semester

Examination, December 2015

Embedded System

(Elective - III)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Draw VLIW architecture.
   b) Write classification of embedded systems.
   c) Write characteristics of an embedded system.
   d) What is operational quality attribute? Explain the important operational quality attributes to be considered in any embedded system design.

OR

Explain the data memory organisation for standard 8051 controller.

Unit - II

2. a) What are the different types of RAM used for embedded system design?

   b) What are different step modes of stepper motor.
   c) What is role of watch dog timer in embedded system.
   d) Explain the role of reset circuit in embedded system.

OR

Explain the operation of a matrix keyboard.

Unit - III

3. a) Define simulator and emulator.
   b) What is cross assembler? Writes its uses.
   c) Write uses of assembles, compilers and interpreter.
   d) Discuss the coding strategies for obtaining optimized time.

OR

Explain about device driver.

Unit - IV

4. a) What is basic functions of a real time kernel?
   b) Explain task in the operating system context.
   c) What are the different queues associated with process scheduling.
   d) Discuss the main features of UCOS-II.

OR

Explain the semaphore based process synchronisation under windows OS.

Unit - V

5. a) What is USB?
   b) What are standard for Embedded communication.
   c) Explain about ethernet.
   d) Discuss about different wireless communication.

OR

Describe about USART.

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