Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No .....

EI/IC - 8302

B.E. VIII Semester

Examination, June 2016

Embedded Systems

(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.

1. a) Differentiate between microprocessor and microcontroller.
   b) Mention any four addressing modes of 8051.
   c) Give few features of PIC Microcontroller.
   d) Describe the architecture of 8051 with neat diagram.

   OR

   List the addressing modes used in 68HC11 instruction set. Give few examples of each mode.

2. a) List the Special Function Registers (SFRs) in 80196 Microcontroller.
   b) What do you mean by 16 bit Microcontroller?
   c) Give few operational features of 80196 Microcontroller.
   d) Describe the functioning of HSO, HSI and timer units in 80196 Microcontroller.

   OR

   Give the memory map of 80196KC Microcontroller.

3. a) Give the few features of Intel 80960 Microcontroller.
   b) Compare RISC Vs CISC architecture.
   c) ARM processor is in fact two processors in on chip ARM and THUMB. Explain why two processors are built in one system?
   d) Explain in details the different modes of operation of ARM processor.

   OR

   Explain various families of ARM processors. Also mention typical features of each.

4. a) Give the advantages of Round-Robin software architecture.
   b) What is cross-compiler?
   c) Explain the shared-data problem.
   d) Explain Round Robin with interrupts software architecture with an example.

   OR

   Explain embedded software development tools in details.

5. a) Explain how Real Time Operating System differs from General purpose operating system?
   b) What is scheduling?
   c) Define Task and Task states.
   d) Explain about the Interrupt routine rules used in RTOS environment.

   OR

   What is memory management? How it is accomplished in RTOS?

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