

B.Tech. V-Semester (Main) Examination, Nov. - 2019
PCC/PEC Electronics & Comm. Engg.
SEC5-12 Embedded Systems

Time : 2 Hours

Maximum Marks : 80

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Minimum Passing Marks : 28

Instructions to Candidates:

Attempt all five questions from Part A, four questions out of six questions from Part B and two questions out of three from Part C.

(Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly). Units of quantities used / calculated must be stated clearly.

PART - A

(Answer should be given up to 25 words only)

All Five questions are compulsory

1. Write the name memories used in embedded systems.
2. Draw the block diagram of design process of embedded systems.
3. Give the names of power control modules in MCU/embedded systems. What is the need of low power MCU's?
4. Write the name of tools for designing embedded software.
5. What is the difference between ARM and PIC Microcontrollers? [5×2=10]

PART- B

(Analytical/Problem solving questions)

Attempt any four questions

1. What are embedded systems? Give the classification of embedded systems.
2. Explain various interfaces for external communication.
3. Explain Disassembler and Decompiler and their role in embedded firmware development.

4. Discuss fundamental issues in Hardware-Software Co-Design.
5. Explain Task Scheduling including its scheduling Algorithms.
6. What is the interrupt sources and explain the interrupt service mechanism in embedded systems? [4×10=40]

PART - C

(Descriptive/Analytical/Problem Solving questions)

Attempt any two questions

1. Write a short note on real time programming languages and operating systems for embedded systems.
 2. Explain the various elements of an embedded system development environment. Briefly, discuss different application areas for embedded systems.
 3. Discuss the hardware features of stand alone embedded systems including
 - i) Processors
 - ii) Clock Oscillator
 - iii) RTC
 - iv) Reset Circuit and watchdog timer.[2×15=30]
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