YENISI - IV : SUMMER - 2016

Subject : I. T. - Elective-I c) Embedded Systems Concepts & Modeling

Day : Tuesday
Date : 07/06/2016

S.D.E. 30405

Time : 02.00 P.M. TO 05.00 P.M.
Max Marks : 80 Total Pages : 1

N.B.:

1) Answer **ANY FOUR** questions from Section – I. Each question carries **12** marks.
2) Answer **ANY TWO** questions from Section – II. Each question carries **16** marks.
3) Answers to both the sections should be written in the **SAME** answer books.

SECTION – I

Q.1 Explain the concept of embedded system in detail.

Q.2 Discuss an embedded system example in detail which uses one or more of the following components: MODEM, DAC, ADC.

Q.3 Discuss in brief an embedded system design using a microcontroller.

Q.4 List and discuss the trends in embedded systems.

Q5 Differentiate between **ANY TWO** of the following:
a) 8-bit Microprocessor Vs 16-bit Microprocessor
b) Soft-Real-Time System Vs Hard Real-Time System
c) Embedded Operating System Vs General Purpose Operating System

Q.6 Explain cross platform development and boot-sequence in embedded system.

Q.7 Explain 8-bit microprocessor architecture with its block diagram.

SECTION – II

Q.8 Why infinite loops are necessary in embedded system programming, though they are avoided is normal programming practices? Explain with an appropriate example.

Q.9 **a)** Discuss the importance of State-Diagram in embedded system design in detail. Provide an appropriate example to support the discussion.

b) Why one needs to draw use-case diagrams to design an embedded system? Explain with an example.

Q.10 Write short notes on **ANY TWO** of the following:
a) Parallel Programming
b) Digital Signal Processing
c) Wireless Networking

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