1129
M.E. in Electronics and Communication Engineering
Second Semester
ECE-6201/1201: Embedded System Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

a) What is an Embedded System?

b) What is NRE cost?

c) Discuss importance of Emulators in Embedded Systems.

d) How the performance of a processor is measured?

e) Define resolution of ADC or DAC using suitable example.

f) What is meant by Kernel space?

g) What is System Call?

h) Draw neatly the data framing of UART.

i) What is the size (width and depth) of stack in PIC 16?

j) How the target address for a branch instruction is calculated?   (10x1)

UNIT – I

II. a) Discuss in detail criteria adopted to select a Microprocessor/Microcontroller for an Embedded System application.

b) Discuss various building blocks of Microprocessor in detail.   (2x5)

III. a) Discuss various interrupt execution mechanism in a microprocessor in detail.

b) Discuss features of interrupts in PIC 16 in detail.   (2x5)

IV. a) Discuss serial communication techniques in a microprocessor.

b) List merits and demerits of parallel communication over serial communication.   (7,3)

UNIT – II

V. a) How real time operating system is different from conventional operating system and embedded operating system?

b) Discuss various components of an operating system.   (2x5)

P.T.O.

VI.   a) List various features of Vx works.

b) Discuss the various functions of Kernel in Embedded systems.

(2x5)

VII.   a) Discuss the connection between device driver and device file.

b) Discuss the design cycle development phases for an embedded systems.

(2x5)

x-x-x