Exam.Code:0970
Sub. Code: 7343

2072

M.E. (Electronics and Communication Engineering)

Second Semester

ECE-1201: Embedded System Design

Time allowed: 3 Hours Max. Marks: 50

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

x-x-x

I. Explain the following:

a) Register file structure of a microcontroller

b) Need of timers

c) Need of WSN

d) Name optional unit in a sensor node

e) Role of CLB in FPGA (5x2)

UNIT - I

II. a) Discuss the advantages and disadvantages of Harvard and Von Neumann architecture. Why is it not advisable to use dynamic RAM with microcontrollers?

b) Give the classification and characteristics of Embedded Systems. (2x5)

III. When a microcontroller like PIC by microchip, which is a RISC processor, is there; why and in which situation one should go for CISC processor like 8051. (10)

IV. a) Explain various addressing modes of PIC microcontrollers?

b) Explain Pin diagram of PIC microcontrollers? (2x5)

UNIT - II

V. a) What is the hurdle in Pipelining of MIPS processor?

b) Explain the five stages of pipelining in MIPS processor. (2x5)

P.T.O.

VI. a) Explain MMX processor. How MMX technology works? What are the advantages of this technology?

b) Explain SIMD technology and its salient features. (2x5)

VII. a) Explain System-on-chip with the help of diagram.

b) Explain the architecture of ARM processor and its instruction Set. (2x5)

x-x-x