

Exam.Code:0970

Sub. Code: 7051

2063

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. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Explain the following:

- a) Define Embedded system and its classification
- b) Timing Generation and Measurements
- c) Multiprocessor Systems
- d) FPGA
- e) RTOS

(5x2)

**UNIT - I**

II. (a) Explain what the brown-out feature in PIC microcontrollers is.

(b) How do PIC microcontrollers support the power saving options? (2x5)

III. (a) With the help of different models, explain multiprocessing systems and Embedded software Modeling.

(b) Why it is not advisable to use dynamic RAM with microcontrollers (8,2)

IV. Explain the following with the help of diagrams: -

- a) DAC
- b) ADC
- c) UART
- d) I<sup>2</sup>C Bus

(10)

**UNIT - II**

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

(b) How does a media processor differ from a DSP? (8,2)

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

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

P.T.O.

(2)

VII. (a) Explain the architecture of Wireless Sensor Node. How embedded systems plays a vital role in WSN?

(b) Explain ARM Processor and its memory organization. (2x5)

x-x-x