

2063
M.E. (Information Technology)
Second Semester
MEIT-2102: 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) Name one processor where the Harvard architecture is used.
- b) What is the flag register in the PIC called?
- c) What is SIMD?
- d) How is bluetooth different from Zig-Bee?
- e) What do you understand by Round Robin? (5x2)

UNIT - I

- II. a) Briefly describe the various classifications of embedded systems.
b) How is the memory organised in the PIC 16C6X? Explain the organisation of the program memory and data memory briefly. (2x5)
- III. a) Explain the concept of input capture and output compare in PIC.
b) How is frequency measurement carried out in PIC16CX? (2x5)
- IV. a) What are the intended applications of ARM processors? Give a specific example of an ARM processor and explain its architecture.
b) How is the memory organized in MMX series of processors? Explain its memory management. (2x5)

UNIT - II

V. Write short notes on:-

- a) I2CI (2x5)
- b) Wireless sensor network.

P.T.O.

(2)

- VI. a) What are the different types of sensors? How are they controlled through webpage?
b) Explain the concept of Round Robin with interrupts. (2x5)
- VII. a) Give the architecture of a Real Time Operating system. Differentiate between tasks and data.
b) How is memory managed in an RTOS environment? (2x5)

x-x-x