PVP 20

Code: 20EC3403

II B.Tech - II Semester – Regular Examinations – JULY 2022

MICROPROCESSOR & MICROCONTROLLERS
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

UNIT – I

1. a) Explain Princeton and Harvard Architecture. 7 M
   b) Compare Cache memory and RAM. 7 M

OR

2. a) Explain Evolution of Microcontroller. 7 M
   b) Compare 16-bit and 32-bit microcontroller. 7 M

UNIT – II

3. a) Compare Pointer and Index register of 8086. 7 M
   b) Demonstrate Pin configuration of 8086 7 M

OR

4. a) Demonstrate Addressing modes of 8086. 7 M
   b) Apply Read/Write cycle for Minimum mode. 7 M

UNIT-III

5. a) Explain details of 16-bit RISC CPU. 7 M
   b) Demonstrate Clock module of the MSP430 Microcontroller. 7 M

OR

6. a) Explain Memory map of MSP430 Microcontroller. 7 M

b) Demonstrate Registers in CPU of the MSP430 Microcontroller. 7 M

UNIT – IV

7. a) Demonstrate DMA Registers of MSP430 Microcontroller. 7 M

b) Illustrate Interfacing LCD with MSP430 Microcontroller. 7 M

OR

8. a) Demonstrate DMA controller Features. 7 M

b) Demonstrate organization of the software application for DMA. 7 M

UNIT – V

9. a) Distinguish various program flow control instructions in MSP430 Microcontroller. 7 M

b) Analyze how decimal arithmetic can be implemented using shift and rotate operations in MSP430 Microcontroller. 7 M

OR

10. a) Illustrate Emulated instructions of MSP430 Microcontroller. 7 M

b) Distinguish between Arithmetic instructions and Data instructions of MSP430 Microcontroller. 7 M