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4th Sem. / Electronics & Communication Engineering, ECE (For Speech and Hearing Impaired)

Subject : Embedded System

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 How is the protection and Security for an embedded system made ?

a) Security chips b) Memory disk security

c) IPR d) OTP

Q.2 Which of the following buses are present in a microcontroller for transferring data from one place to another ?

a) data bus only

b) data bus, address bus

c) Address bus only

d) Address bus. data bus, control bus

Q.3 Which one of the following offers CPUs as integrated memory or peripheral interfaces ?

a) Memory system b) Embedded system

c) Microcontroller d) Microprocessor

Q.4 Which of the following is not a type of memory ?

a) RAM b) FPROM

c) EEPROM d) ROM

Q.5 How an embedded system communicates with the outside world ?

a) Memory b) Output

c) Peripherals d) Input

Q.6 How many bytes of bit addressable memory is present in pic based microcontrollers ? ?

a) 8 bytes b) 32 bytes

c) 16 bytes d) 128 bytes

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define PIC.

Q.8 Write Full form of LCD.

Q.9 What is interrupts signal ?

Q.10 Write full form of ADC.

Q.11 PIC.....Pin IC.

Q.12 Write full form of RAM.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What is opto isolator.

Q.14 Write the components of an embedded system.

Q.15 What is difference between Serial and Paralllel Data input/output.

Q.16 Write five application of PIC microcontrollers .

Q.17 Draw embedded system architecture of embedded system.

Q.18 Write difference between RAM and ROM.

Q.19 Explain how to program a PIC microcontroller using C to read data from an analog-to-digital converter (ADC).

Q.20 Draw pin diagram of PIC18F458.

Q.21 Describe the process of interfacing a PIC18 microcontroller with an LCD display.

Q.22 Explain the concept of interrupts in PIC programming and their importance .

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Discuss the challenges and considerations when interfacing a PIC18 microcontroller with a stepper and DC motor.

Q.24 Explain how to program a PIC microcontroller using C to read data from an analog-to-digital converter and DAC.

Q.25 Write short note on :

a) PIC registers.

b) Relays.