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Roll No. .....

4th Sem./ Artificial Intelligence & Machine Learning

Subject : Embedded System & Design

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 How many memory cells are present in 1 Kb RAM? (CO1)

a) 1024 b) 8192

c) 512 d) 2048

Q.2 In real time operating system_____ (CO1)

a) all processes have the same priority

b) a task must be serviced by its deadline period

c) process scheduling can be done only once

d) kernel is not required

Q.3 Which of the following speed up the testing process? (CO1)

a) Kernel

b) software

c) application manager

d) program debugging tools

Q.24 Draw and explain the functional structure of Embedded System. (CO1)

Q.25 Give comparison of AVR microcontroller with 8051 microcontroller. (CO2)

Q.4 The total space for the data memory available in the AVR based microcontroller is? (CO2)

a) FFH b) FFFH

c) FFFFH d) FFFFFH

Q.5 Which of the following allows the splitting of the software? (CO3)

a) wait statement b) ready

c) interrupt d) acknowledgement

Q.6 Which of the following processor architecture support easier instructions? (CO3)

a) Harvard b) Von Neumann

c) Both a and b d) None

SECTION-B

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

Q.7 Define term Reliability. (CO2)

Q.8 What is memory leak? (CO1)

Q.9 What is sensor? (CO4)

Q.10 List some factor affecting embedded systems. (CO1)

Q.11 Give any one characteristic of embedded systems. (CO2)

Q.12 PIC stands for_____. (CO3)

SECTION-C

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

Q.13 Write a note on Real-time operating system. (CO2)

Q.14 Give the steps to transfer C or ASM code in microcontrollers? (CO3)

Q.15 What is pipelining? (CO2)

Q.16 What do you understand by Memory Management? (CO1)

Q.17 Discuss about the different types of processors in Embedded System. (CO1)

Q.18 Write main features of embedded systems. (CO1)

Q.19 What are the different steps involved in interfacing of LED? (CO2)

Q.20 What is Simulator? (CO3)

Q.21 Write a note on the need for an infinite loop in embedded systems. (CO1)

Q.22 List some criterion useful in selection of a microcontroller? (CO1)

SECTION-D

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

Q.23 Draw the block diagram of PIC Microcontroller & discuss each and every block in detail. (CO2)