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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech IV Year I Semester Supplementary Examinations August-2021
EMBEDDED SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Describe the role of the following in an embedded system 6M
 i) Timers ii) Clocks iii) Address bus & Data bus.
 b List various applications of embedded systems. 6M

OR

- 2 a Explain in brief about the programming languages used for the 6M
 development of embedded systems
 b Explain various tools used for the development of embedded systems 6M

UNIT-II

- 3 a Define Processor Architecture. 2M
 b Describe the different processor architectures available for processor or controller 10M
 design with an example for each.

OR

- 4 a Explain the role of following circuitry in embedded system 8M
 i) Reset Circuit ii) Real Time Clock iii) Watchdog Timer
 b Describe the operation of UART interface in embedded system 4M

UNIT-III

- 5 a With neat sketch, explain block diagram of ATmega328/P μ C 10M
 b List the few applications of PWM signal. 2M

OR

- 6 a What is the need of a serial port in a μ P/ μ C? 8M
 b Explain various alternate functions of Port B , Port C and Port D of 4M
 ATmega328/P μ C.

UNIT-IV

- 7 a List various data types present in Arduino programming and explain them with 8M
 the help of snippets.
 b Explain about various Constants in Arduino programming. 4M

OR

- 8 a Explain about various functions of characters in Arduino programming 6M
 b Explain about compound operators in Arduino programming with an example 6M

UNIT-V

- 9 a With the help of a neat block diagram, explain the reference architecture of IoT. 10M
 b List the applications of IoT 2M

OR

- 10 a Write a short note on smart home. 2M
 b Design and explain how IoT technologies can provide better comfort, security, 10M
 privacy, flexibility of controlling appliances and management insights in our
 home.

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