Question Bank (G scheme)

Name of subject: EMBEDDED SYSTEM
Subject code : 17658 **Unit Test: II**
Semester : SIXTH **Course : IS/IE/EJ**

CHAPTER 3: COMMUNICATION PROTOCOLS

3 Marks

1. State any four features of Bluetooth Technology.
2. State four features of Zigbee.

4 Marks

3. Differentiate between CAN with I_2C protocols with respective to
   i) Data transfer rate
   ii) Number of fields
   iii) Addressing bit
   iv) Application.
4. Describe the parallel protocols PCI, PCI-X.

CHAPTER 4:I/O INTERFACING

3 Marks

5. Draw interfacing diagram of 16X2 LCD Display with 89C51and state the function of:
   i) RS
   ii) VEE
   iii) R/W
6. Draw interfacing diagram of Relay with 89C51.
7. Draw labeled interfacing diagram to interface DC motor with 89C51 microcontroller.
8. Write a program in 'C' language for generating square waveform using DAC 0808.

4 Marks

9. Draw the labeled diagram of interfacing DAC with 89C51 microcontroller and Write a program in 'C' language for generating triangular waveform using DAC 0808.
10. Draw labeled interfacing diagram to interface LED to P2.0 of 89C51. Write 89C51 'C' program to turn on and off LED after some delay.
11. Draw labeled interfacing diagram of ADC 0808 with 89C51 microcontroller. Write 89C51 'C' Program to read the analog data.
12. Write 89C51 'C' Program to rotate stepper motor 90^0 in clock wise direction. Motor has step angle of 1.8^0. Use the stepper motor in full step sequence.

13. Write a program to display welcome to LCD.
14. Draw labeled interfacing diagram to interface DC motor with 89C51 microcontroller and write a program in ‘c’ to rotate clockwise and anticlockwise.
15. Write a C program for 4x4 keyboard matrix.

CHAPTER 5: EMBEDDED SYSTEM DESIGN

3 Marks

16. What are advantages and disadvantages of an embedded system?
17. List any 6 applications of an embedded system.

4 Marks

18. Draw the block diagram of an embedded system and describe the hardware units of an embedded system.
19. Describe any 6 design metrics of an embedded system.

CHAPTER 6: REAL TIME OPERATING SYSTEM

3 Marks

20. Differentiate RTOS with desktop operating system (Any four points).
21. What is necessary condition for deadlock to occur?

4 Marks

22. Describe round robin scheduling algorithm with suitable diagram.
23. List scheduling algorithms of RTOS. Describe concept of Pre-emptive multitasking scheduling algorithm of RTOS with suitable diagram.
24. State the methods of Task synchronization. Describe Semaphore with suitable example.
25. Describe any 4 specifications of RTOS. Give any 4 examples of RTOS.
26. How to prevent deadlock.
27. What are mechanisms for executing intertask communication..