SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : MCI(16EC5501) **Course & Branch**: M.Tech - ES

Year & Sem: I-M.Tech & I-Sem **Regulation:** R16

UNIT –I

INTEL 8051

1. (a)Describe the architecture of 8051 with neat diagram. [5M]
   (b) Explain about Bit addressable memory in 8051. [5M]
2. (a) Describe Interrupt structure about the 8051with related diagram. [5M]
   (b)Discuss about Power saving Modes in8051. [5M]
3. (a) List What are practical implementations of Flag register of 8051. [5M]
   (b) Write a short notes on different addressing modes in 8051? [5M]
4. Write an 8051 assembly program to transfer the message "TWO" serially at 9600 baud rate, 8-bit data, 1stop bit. Perform this program for 255times. [10M]
5. Discuss in detail about the TCON register and its functions. [10M]
6. Write an 8051 assembly program using the interrupts for following tasks simultaneously.
   Read data from port P1 and send it to port P2 continuously at every 2 ms by using timer.
7. Discuss in detail about
   (a)Register banks [5M]
   (b) SFR area [5M]
8. Describe the following
   (a) Port 3 [4M]
   (b) Port 2 [3M]
   (c) Port 1 [3M]
   9. Explain in brief about all different Timer Modes. [10M]
   10. Write an 8051 ALP using interrupts? Compare interrupt enable (IE) and (IP) SFR's. [10M]

UNIT-2

MOTOROLA 68HC11 & PIC

1. (a)Explain the purpose of conditional code register of 68HC11 microcontroller and also list all the registers. [5M]
   (b)Explain the Motorola 68HC11 microcontroller features. [5M]
2. Explain the meaning of IRQ interrupt in the 68HC11 write a code to show how to initialize the IRQ interrupt. [10M]
3. Explain about serial communication interface in 68HC11 microcontroller. [10M]
   (a)Explain about functions of I/O ports using 68HC11. [5M]
   (b)Give Memory map details of 68HC11. [5M]
4. With neat diagrams explain analog to digital conversion features of 68HC11. [10M]
5. (a)Draw the block diagram of PIC 16C74 microcontroller. [5M]
   (b)Discuss about UART in PIC 16C74 microcontroller. [5M]
6. (a) Specify the timer 0,1&2 features. [6M]
   (b)Explain the Interrupt logic of PIC. [4M]
7. Explain the PIC 18 family general status registers. [10M]
8. Discuss the following. [10M]

a) I2C bus b) ADC c) UART

9. Describe the architecture of Motorola68HC11. [10M]

UNIT III

MICRO CONTROLLER INTERFACING

1. a) Explain about Serial communication interface in 68HC11 controller. [5M]
   b) Discuss the method of interfacing an external memory with micro controller. [5M]
2. (a) What is watch dog timer? what should be done to setup watch dog timer? [5M]
   (b) Explain the structure of PIC 18 family status registers used for programming. [5M]
3. Discuss about interfacing of PIC 16C74 and ATMEL microcontroller for implementing any application. [10M]
4. Explain in brief about that ATMEL external memory interfacing. [10M]
5. Describe in detail about. [10M]
   (i) PWM (ii) Watchdog

6. Discuss about On chip counters, Timers, serial ports [10M]
7. (a)Give a brief note about that ISP & IAP feature. [5M]
   (b)What is Memory management unit? [5M]
8. Discuss Interrupt vector , priority and interrupt design using 8051 microcontroller. [10M]
9. Specify the features of that 68HC11 controller interfacing. [10M]
10. Discuss in detail about. [10M]
    (i) Instruction data and cache (ii) Timers

Prepared by: **K.S.Deveswari**.