T.E. (Electrical) Sem-VI CBSGS

Microcontroller & it's Appl^n

Q.P. Code :27184

5/6/18

1/1

[Time: 3 Hours] [Marks:80]

Please check whether you have got the right question paper.

N.B: 1. Question no 1 is compulsory.
2. Attempt any THREE from the remaining questions.
3. Figures to right indicate full marks

Q.1 Attempt any Four questions.

a) Draw and explain generic block diagram of microcontroller. 05
b) Explain the status register in PIC 18 microcontroller. 05
c) Explain any three branch instructions. 05
d) Differentiate interrupt versus polling, 05
e) Explain synchronous and asynchronous serial communication. 05

Q.2 A) What you mean by instruction format. Explain different instruction formats used in PIC 18F microcontroller. 10

B) Explain the program memory and data memory organization in PIC 18 Microcontroller. 10

Q.3 A) What is stack and subroutine? Explain the instructions associated with stack and subroutine. 10

B) Write a program in PIC18 using Timer0 to generate a train of pulses of 100Hz frequency on PORTB pin RB7. Use 16 bit programming technique with 128 prescaler. The internal frequency of microcontroller is 10Mhz. 10

Q.4 A) Draw and explain the simple IO device interface (switches and LEDs) with PIC microcontroller and hence explain I/O addressing. 10

B) Explain the following resisters used in serial communication 10
i) SPBRG ii) TXREG iii) RCREG iv) PIR1

Q.5 A) Explain the IO PORT structure in PIC 18F microcontroller and Special Function Registers associated with them. 10

B) Explain the ADC module in PIC 18 microcontroller and hence explain ADCON0. 10

Q.6 A) Explain the LCD interfacing with microcontroller. 10

B) Explain the stepper motor interfacing with PIC microcontroller. 10

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