Total No. of Questions : 8] SEAT No. :

P1324 [Total No. of Pages : 2

[4858] - 1061
T.E. (Electrical) (2012 Pattern)
Advance Microcontroller and its Applications
(Semester - I) (End Sem.)

Time : 2:30 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer all questions.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***figures to the right side indicate full marks.***
4) ***Use of Calculator is allowed.***
5) ***Assume Suitable data if necessary.***

Q1) a) Compare CISC and RISC architecture **[7]**

b) Explain following instructions with flags they are affecting

i) MULLW

ii) CPFSLT

iii) LFSR **[6]**

c) Write an assembly program using timer 1 to blink LED connected to PORTB at every 500 microsec. Crystal frequency is 16MHz **[7]**

OR

Q2) a) Explain the GP RAM and SFRs for PIC microcontroller **[6]**

b) Write a program to add 5 elements in an array starting from 0×20H. Store the results at 0×40H **[7]**

c) Write short note on **[7]**

i) Compiler

ii) Assembler

P.T.O.

Q3) a) Eight LED are connected to port A.Write a program which will continuously blink LED connected to port A. Assume delay subroutine written at 0×30H **[8]**

b) Explain the functions of pins associated with LCD (16×2) and draw a flowchart for outputting data on LCD. **[8]**

OR

Q4) a) Write a program to transfer a letter 'P' serially and continuously at a baud rate of 4800. Assume Crystal frequency of 10 MHz. **[8]**

b) With a flow chart explain interfacing of 4×4 keypad with PIC microcontroller. **[8]**

Q5) a) Explain SFR CCP1CON register in detail **[8]**

b) Using compare mode, write the assembly language program to generate square wave with frequency of 2.5 kHz and 50% duty cycle on CCP1 pin using timer 3 **[8]**

OR

Q6) a) Explain steps for programming in capture mode **[8]**

b) Explain steps for programming the CCP module for PWM generation. **[8]**

Q7) a) Write a program to read a data from ADC and store results from memory location 0×50H onwards. **[9]**

b) Show interfacing of level sensor with PIC18F458. Write a program to measure and display level. **[9]**

OR

Q8) a) Explain how voltage is measured using PIC18F458. Write a program to measure voltage and display result in PORT D. **[9]**

b) Explain with a neat diagram, interfacing of DAC with PIC microcontroller and write a program for triangular waveform generation using DAC. **[9]**

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