Total No. of Questions : 8]

SEAT No. : ____

P-1541

[Total No. of Pages : 2

[6002]-170
S.E. (Information Technology)
PROCESSOR ARCHITECTURE (Theory)
(2019 Pattern) (Semester - IV) (214451)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates :

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Explain the interrupt structure of PIC18 microcontroller along with IVT. **[7]**

b) Draw and explain the interfacing of LCD with Port D and Port E of PIC18FXX microcontroller. **[7]**

c) Illustrate the use of following bits of INTCON2 register i) INTEDG1 ii)TMR0IP. **[4]**

OR

Q2) a) Discuss the steps in executing interrupts in PIC18 microcontroller. **[7]**

b) Explain with neat diagram the external hardware interrupts of PIC18 microcontroller in detail. **[8]**

c) What are peripheral interrupts, IVT and ISR? **[3]**

Q3) a) Explain the function of CCP1CON SFR along with its format. **[6]**

b) Write short note on SPI protocol. **[5]**

c) Explain the stepper motor interfacing with PIC18FXX microcontroller with suitable diagram. **[6]**

OR

Q4) a) Explain operation of capture mode of PIC18FXX microcontroller along with diagram. **[6]**

b) Write short note on RS232 standard. **[6]**

c) State the applications of CCP module in PIC. **[5]**

P.T.O.

Q5) a) Explain interfacing of LM35 temperature sensor with PIC 18FXX microcontroller. **[6]**

b) State the features of on-board ADC of PIC18FXX microcontroller. **[6]**

c) Explain RTC DS1306 interfacing with PIC18FXX microcontroller. **[6]**

OR

Q6) a) Explain in detail the functions of ADCON0 SFR of PIC 18 microcontroller. **[6]**

b) State the features of RTC. **[6]**

c) Draw and explain the interfacing diagram of DAC0808 with PIC18FXX microcontroller. **[6]**

Q7) a) Explain the AMBA BUS Protocol and programmer's model of ARM processor. **[6]**

b) Compare the ARM7, ARM9 and ARM11 processors. **[6]**

c) Describe CPSR of ARM7 in detail along with diagram and use of SPSR. **[5]**

OR

Q8) a) Describe the ARM design philosophy. **[4]**

b) Differentiate between the PIC microcontroller and the ARM processor. **[7]**

c) Draw and explain the ARM family core architecture? **[6]**

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