Total No. of Questions: 8]

SEAT No. : ____

PA-1247

[Total No. of Pages : 2

[5925]-270
S.E. (Information Technology)
PROCESSOR ARCHITECTURE
(2019 Pattern) (Semester-IV) (214451)

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

Instructions to the candidates:

1) ***Answer Q.No. 1 or Q.No. 2, Q.No. 3 or Q.No. 4, Q.No. 5 or Q.No. 6, Q.No. 7 or Q.No. 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) Write a short note on interrupt structure of PIC18 microcontroller. **[7]**

b) Justify the importance of Interrupt Control Register (INTCON) in PIC18F. **[7]**

c) Explain RCIF and TXIF flag in programming serial communication interrupt. **[4]**

OR

Q2) a) Draw an interfacing diagram for 16X2 LCD with PIC18 F microcontroller and explain its working. **[8]**

b) Write the short note on: **[6]**

i) ISR

ii) IVT

c) Differentiate between interrupt and polling. **[4]**

Q3) a) Explain the working of compare mode of CCP Module in PIC18F with block diagram. **[6]**

b) Write short note on SPI protocol. **[6]**

c) Distinguish between synchronous and asynchronous serial communication. **[5]**

OR

Q4) a) List the steps involved in programming PIC microcontroller in capture mode. **[6]**

b) Write short note on I2C bus. **[6]**

c) Explain UART module in PIC18F. **[5]**

P.T.O.

Q5) a) Explain in detail the functions of ADCON1 SFR of PIC18 microcontroller. **[7]**

b) State the features of RTC. Explain function of following pins of DS1306 **[7]**

i) SERMODE
ii) SDI
iii) SDO

c) Find the value for the ADCON0 register if we want FOSC/8, Channel 0, and ADON on. **[4]**

OR

Q6) a) Draw and explain the interfacing diagram of DAC0808 with PIC18FXXX. **[8]**

b) Assuming that R=5 Ω and Iref=2 mA for DAC0808, calculate Vout for the following binary inputs: **[6]**

i) 10011001 (99H)
ii) 11001000 (C8H)
iii) 10001000 (88H)

c) Explain in detail the functions of following flags related to onboard ADC of PIC18 microcontroller. **[4]**

i) GO/DONE
ii) ADON

Q7) a) Describe the ARM bus technology. **[6]**

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

c) Discuss the different exceptions in ARM processor. **[5]**

OR

Q8) a) Explain CPSR register of ARM. **[6]**

b) Write significance of special registers R13, R14 and R15 in ARM7. **[6]**

c) Write short note on ARM7 processor modes. **[5]**