

Total No. of Questions: 8]

SEAT No. :

PA-1247

[5925]-270

[Total No. of Pages : 2

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:
i) ISR [6]
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]
- SERMODE
 - SDI
 - 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 $R=5\ \Omega$ and $I_{ref}=2\ \text{mA}$ for DAC0808, calculate V_{out} for the following binary inputs: [6]
- 10011001 (99H)
 - 11001000 (C8H)
 - 10001000 (88H)
- c) Explain in detail the functions of following flags related to onboard ADC of PIC18 microcontroller. [4]
- GO/DONE
 - 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]

