

Total No. of Questions : 8]

PB-3647

SEAT No. :

[Total No. of Pages : 2

[6261]-55

S.E. (Information Technology)

Processor Architecture

(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, 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) Discuss the steps in executing interrupts in PIC 18 microcontroller. [7]

b) Draw an interfacing diagram for 4×4 matrix keyboard with PIC18F microcontroller and explain it. [8]

c) Explain function of following LCD pins: [3]

- i) RS
- ii) RW
- iii) EN

OR

Q2) a) Explain PIR (Peripheral Interrupt Request Register) IPR (Peripheral Interrupt Priority Register). [8]

b) Draw and explain the interfacing of relay and buzzer with PIC 18Fxxx microcontroller. [7]

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

Q3) a) Explain RS232 standard with suitable diagram. [6]

b) Explain operation of compare mode of PIC18FXX microcontroller with diagram [6]

c) Compare SPI and I2C bus protocols [5]

P.T.O.

OR

- Q4)** a) Explain the function CCP1CON SFR along with its format [6]  
b) Distinguish between synchronous and asynchronous serial communication. [5]  
c) Explain the UART operation in PIC 18FXX with example. [6]
- Q5)** a) Write steps in programming A to D conversion in PIC 18F microcontroller [6]  
b) Explain function of any 4 pins of RTC DS1306 [8]  
c) List out the steps necessary for reading from EEPROM of PIC 18 [4]

OR

- Q6)** a) Draw and explain the interfacing diagram of DAC0808 with PIC 18FXXX. [7]  
b) Explain in detail the functions of ADCON0 SFR of PIC 18FXX microcontroller. [6]  
c) Explain interfacing of LM35 temperature sensor with PIC 18FXX microcontroller [5]
- Q7)** a) Describe the ARM BUS Technology [6]  
b) How ARM instruction set differs from pure RISC definition? [5]  
c) Explain ARM core dataflow Model with suitable diagram. [6]

OR

- Q8)** a) Describe the major Design Rules of RISC philosophy. List the features of RISC Processor accepted by ARM processor. [5]  
b) Write significance of special registers R13, R14 and R15 in ARM 7 [6]  
c) What are the different operating modes of ARM7? [6]

