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

PB-3647

[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.7or 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 PICI8F 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 l8 **[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 I8FXX 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]**