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

P9129 **[Total No. of Pages : 2**

[6179]-255
S.E. (Information Technology)
PROCESSOR ARCHITECTURE
(2019 Pattern) (Semester - IV) (214451) (Theory)

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) With suitable format explain each bit of INTCON register. **[8]**

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

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

OR

Q2) a) Discuss the steps in executing interrupts in PIC 18 microcontroller. **[7]**

b) Explain the interrupt structure of PIC 18 microcontroller. **[7]**

c) Explain the interface of LED with PIC18Fxxx. **[4]**

Q3) a) Explain the UART operation in PIC18FXX with example. **[6]**

b) Write short note PWM module in PIC 18 F microcontroller. **[5]**

c) Explain operation of capture mode of PIC 18FXX microcontroller with diagram. **[6]**

OR

Q4) a) Compare SPI and I2C bus protocols. **[5]**

b) Explain the function of CCP1 CON SFR along with its format. **[6]**

c) Explain the stepper motor interfacing with PIC 18FXX microcontroller with suitable diagram. **[6]**

P.T.O.

Q5) a) State the features of on-board ADC of PIC 18F microcontroller. **[6]**

Explain the signals:

i) SOC

ii) EOC

b) Explain in detail the functions of ADCON0 SFR of PIC18 microcontroller. **[6]**

c) Explain function of any 3 pins of RTC DS 1306. **[6]**

OR

Q6) a) Draw and explain the interfacing of LM34/LM35 with PIC 18FXX for temperature measurement using on - chip ADC. **[6]**

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

c) Write steps in programming A to D conversion in PIC18F microcontroller. **[6]**

Q7) a) Explain bits in CPSR of ARM7 in detail along with diagram. What is the use of SPSR. **[6]**

b) Explain ARM core dataflow Model with suitable diagram. **[6]**

c) Compare PIC microcontroller and ARM core processor. **[5]**

OR

Q8) a) Write significance of special registers R13, R14 and R15 in ARM7. **[6]**

b) State difference between the ARM7, ARM9 and ARM 11 processors. **[6]**

c) Why ARM processors are suitable in embedded system applications? **[5]**

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