P-1541



[Total No. of Pages : 2

[Max. Marks: 70

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

Time : 2¹/₂ Hours] Instructions to the candidates

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and 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) Explain the interrupt structure of PIC18 microcontroller along with IVT.[7]

- b) Draw and explain the interfacing of LCD with Port D and Port E of PIC18FXX microcontroller. [7]
- c) Illustrate the use of following bits of INTCON2 register i) INTEDG1 ii)TMR0IP. [4]

OR

- (Q2) a) Discuss the steps in executing interrupts in PIC18 microcontroller. [7]
 - b) Explain with neat diagram the external hardware interrupts of PIC18 microcontroller in detail. [8]
 - c) What are peripheral interrupts, IVT and ISR?
- Q3) a) Explain the function of CCP1CON SFR along with its format. [6]
 b) Write short note on SPI protocol. [5]
 - Explain the stepper motor interfacing with PIC18FXX microcontroller [6]

OR

- *Q4*) a) Explain operation of capture mode of PIC18FXX microcontroller along with diagram. [6]
 - b) Write short note on RS232 standard. [6]
 - c) State the applications of CCP module in PIC. [5]

P.T.O.

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- Explain interfacing of LM35 temperature sensor with PIC 18FXX **Q**5) a) microcontroller. [6]
 - State the features of on-board ADC of PIC18FXX microcontroller. [6] b)
 - Explain RTC DS1306 interfacing with PIC18FXX microcontroller. [6] c) **POR**
- **06**) a) Explain in detail the functions of ADCON0 SFR of PIC 18 microcontroller. [6]
 - State the features of RTC. b)
 - Draw and explain the interfacing diagram of DAC0808 with PIC18FXX c) microcontroller. [6]

[6]

[6]

- Explain the AMBA BUS Protocol and programmer's model of ARM **Q7**) a) [6] processor.
 - Compare the ARM7, ARM9 and ARM11 processors. b) [6]
 - c) Describe CPSR of ARM7 in detail along with diagram and use of SPSR.[5]
- Describe the ARM design philosophy [4] **08**) a)

OR

- Differentiate between the PIC microcontroller and the ARM processor.[7] b)
- $\frac{6}{9.16.10}$ Draw and explain the ARM family core architecture? c)

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