

SUBJECT: MICROPROCESSORS & MICROCONTROLLERS

Date: Thursday
Day: 22/11/2018

W-2018-2435

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data if necessary.

- Q.1 a) Differentiate between CISC and RISC processors. (04)
b) Explain stack operations of 8085 with neat diagram. (06)

OR

- Q.1 a) Write a note on interrupts of 8085. (06)
b) Compare microprocessors and microcontrollers. (04)

- Q.2 a) Explain following instructions of 8051 with examples. (06)
i) DIV ii) MOVX iii) MOV C
b) Write a note on ports of 8051. (04)

OR

- Q.2 Draw and explain the architecture of 8051. (10)

- Q.3 a) Write a program for 8051 to transfer following string serially. (07)
"TIGER ZINDA HAI"
b) Explain the contents of TCON register. (03)

OR

- Q.3 a) Draw and explain the interfacing of 8051 with ADC. Draw timing diagrams. (06)
b) Write a program for 8051 to generate saw tooth waveform at port P2. (04)

- Q.4 a) Explain the addressing modes of PIC18F with examples. (05)
b) Write a note on ports of PIC18F. (05)

OR

- Q.4 Explain following features of PIC18F (10)
i) Brown-out reset
ii) Watchdog timer
iii) Oscillator options

- Q.5 a) Explain the operation of Timer0 in PIC18F along with the contents of (05)
associated registers.
b) Write a program to perform 8-bit subtraction in PIC18F. (05)

OR

- Q.5 a) What is the role of GIE and PEIE in PIC? Mention the interrupt flag names in (05)
PIC18F.
b) Write a note on PWM generation using PIC. (05)

- Q.6 a) Explain CAPTURE mode in PIC with neat diagram. (05)
b) What are the different acknowledgements generated in I2C protocol. Draw the (05)
timing diagrams.

OR

- Q.6 a) Explain COMPARE mode in PIC with neat diagram. (05)
b) Write an algorithm to configure UART to transmit data in PIC. Explain the (05)
baud rate calculations associated with it.