

**B.TECH. SEM -V ELECTRONICS 2014 COURSE (CBCS) : WINTER
- 2017**

SUBJECT : MICROPROCESSORS AND MICROCONTROLLERS

Day : **Thursday**
Date : **11/01/2018**

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

W-2017-2144

N. B. :

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

Q.1 Draw a neat and clean block diagram of 8085 microprocessor and explain in detail. (10)

OR

Q.1 State the function of following blocks in architecture of 8085 microprocessor in detail. (10)

- | | |
|-------------------------|--------------------------|
| i) Program counter | ii) Stack pointer |
| iii) Timing and control | iv) Instruction register |
| v) Interrupt control | |

Q.2 Draw neat and clean block diagram of 8051 microcontroller and explain each block in detail. (10)

OR

Q.2 What is addressing modes of 8051 microcontroller also explain following addressing modes with suitable example. (10)

- i) Immediate addressing mode
- ii) Register addressing mode
- iii) Direct addressing mode
- iv) Register Indirect addressing mode
- v) Indexed addressing mode

Q.3 What is main function of SCON register? Explain the different serial communication modes in 8051 microcontroller? (10)

OR

Q.3 Write a Assembly language program to transfer letter "Y" serially at 9600 Baud rate continuously and also send letter "N" through port 0 which is connected to display device. (10)

Q.4 Explain following protocols in detail. (10)

- i) SPI
- ii) SSP

OR

Q.4 Explain the parallel protocols PCI and PCI/X buses in detail? (10)

Q.5 Compare and explain the different addressing modes of PIC microcontroller? (10)

OR

Q.5 Explain the following in detail.

- i) Timer programming in PIC (06)
- ii) RAM/ROM allocations in PIC (04)

Q.6 Briefly explain the sensor interfacing using PIC microcontroller. (10)

OR

Q.6 Draw and Design interfacing circuit to interface DAC 0808 with PIC microcontroller. (10)