

**B.TECH. SEM -VII ELECTRICAL 2014 COURSE (CBCS) : WINTER
- 2017
SUBJECT: ADVANCED MICROCONTROLLER**

Day: **Monday**
Date: **22/01/2018**

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

W-2017-2293

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Assume suitable data if necessary.

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- Q.1** a) Give comparison between CISC and RISC. [05]
b) Explain in detail RAM organization. How is bank selection done? [05]

OR

- a) Draw and explain program counter register. [05]
b) Explain memory support given for PIC18F458. [05]

- Q.2** a) Explain addressing modes in detail with example. [05]
b) Write a assembly program to add 2, 16 bit numbers, first number stored Ram location at 0 x 31 and 0 x 32. Second number stored at 0 x 33, 0 x 34 and store answer in location 0 x 61 and 0 x 62. [05]

OR

- a) Explain following instructions: [05]
i) SWAP ii) BTFSZ PORT C, 02, 0
b) Explain preprocessor directives and its use. [05]

- Q.3** a) Explain in detail TOCON and use of prescaler. [05]
b) Write a C program to generate square wave on RB2 pin. [05]

OR

- a) Explain following Development tools. [05]
i) Assembler ii) Linker iii) Simulators
b) Write a C program to toggle all bits of PORTB. [05]

- Q.4** a) Write short note on SPI protocol. [05]
b) Draw interfacing diagram of LCD (16 × 2) with PIC microcontroller. [05]

OR

- a) Draw interfacing diagram of PIC18F458 with keypad (4 × 4). [05]
b) Explain serial port programming. [05]

- Q.5** a) Explain speed control of DC motor using PIC microcontroller. [05]
b) Write a program for interfacing stepper motor to PIC microcontroller. [05]

OR

- a) Explain PWM mode of PIC microcontroller. [05]
b) Explain compare mode of PIC microcontroller. [05]

- Q.6** a) Explain flow measurement using PIC microcontroller. [05]
b) Draw interfacing diagram of DAC with PIC18F458. [05]

OR

- a) Explain current measurement using PIC microcontroller. [05]
b) Interface ADC with PIC microcontroller. [05]

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