B.TECH. SEM -VII ELECTRICAL 2014 COURSE (CBCS) :
SUMMER - 2018
SUBJECT: ADVANCED MICROCONTROLLER

Day: **Friday** | **S-2018-2498** | Time: **02.30 PM TO 05.30 PM**
Date: **25/05/2018** | Max Marks: 60

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.

Q.1 **a)** Give comparison between CISC and RISC. **[05]**
b) Explain oscillatory support for PIC18F458. **[05]**

OR

a) Draw and explain RAM organization including SFR and GPR. **[05]**
b) What is importance of stack how much is stack memory? Explain stack pointer register. **[05]**

Q.2 **a)** Explain addressing modes with examples. **[05]**
b) Explain following instructions with examples: **[05]**
i) BSF f, b, a **ii)** ADD FWC f, d, a

OR

a) Explain data types that support PICI8F458. **[05]**
b) Explain following instructions: **[05]**
i) MOVFF 0 x 20, 0 x 24 **ii)** BCF PORT B, 0, 0

Q.3 **a)** Explain in detail registers that are used for PORT programming. **[05]**
b) Explain following development tools: **[05]**
i) Assembler **ii)** Compiler **iii)** Debugger.

OR

a) Write a C program to transfer data from PORT B to PORT C. **[05]**
b) Explain TOCON register in details. **[05]**

Q.4 **a)** Write short note on serial port programming. **[05]**
b) Explain SPI protocol. **[05]**

OR

a) Draw interfacing diagram of PIC18F458 with LED. **[05]**
b) Draw interfacing diagram of PIC18F458 with keypad (4 × 4). **[05]**

Q.5 **a)** Explain capture mode of PIC microcontroller. **[05]**
b) Explain speed control of DC motor using PIC microcontroller. **[05]**

OR

a) Explain PWM mode with interrupt of PIC microcontroller. **[05]**
b) Draw interfacing diagram of stepper motor with PIC microcontroller. **[05]**

Q.6 **a)** Explain interfacing of ADC with PIC microcontroller. **[05]**
b) Explain temperature measurement with PIC microcontroller. **[05]**

OR

a) Interface DAC with PIC18F458 PIC microcontroller. **[05]**
b) Explain voltage measurement with PIC microcontroller. **[05]**

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