

Total No. of Questions :6]

SEAT No. :

P28

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Oct./ TE/ Insem. - 142

T.E. (Electrical)

ADVANCE MICROCONTROLLER & ITS APPLICATIONS

(2015 Course) (Semester - I) (303141)

Time : 1 Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Draw the status register and explain the function of each flag. **[6]**

b) On execution of the following program state the memory location in which contents of WREG are copied. **[4]**

```
#include<p18f458.inc>
```

```
ORG 0x00
```

```
MOVLB 0X01
```

```
MOVWF 0X60,0
```

```
END
```

OR

Q2) a) Explain any three addressing modes of PIC18 microcontroller. **[6]**

b) Explain the function of Bank select register. Write an instruction in assembly language which will select BANK 15 **[4]**

Q3) a) Explain the instruction **[6]**

i) MULWF 0x20,0 ii) BTFSC 0X20,1,0 iii) MOVLW 0XA0

Note that Generalized formats for above instructions are as follows.

i) MULWF f,a ii) BTFSC f,b,a iii) MOVLW k

P.T.O.

- b) Write a program in assembly language to configure bits RD0 and RB0 as input bits. [4]

OR

- Q4)** a) Explain the CALL and RETURN instructions of PIC 18 microcontroller. [6]

- b) Write an assembly language program for PIC18 microcontroller to add a number 0x04 to contents of a memory location 0x003 and store the result of addition in working register. [4]

- Q5)** a) Write a program in C to copy data from PORTB to PORTD continuously. [6]

- b) Write a short note on any two C data types for PIC 18 microcontroller. [4]

OR

- Q6)** a) Write a C18 program to toggle all bits of PORT D continuously with a delay of 250 ms. Assume the crystal frequency =10MHz [6]

- b) Write a program in C language to load timer 0 by data 0x01 and start Timer 0. [4]

