

Total No. of Questions : 4]

SEAT No. :

P5037

[Total No. of Pages : 1

[6187]-437

**T.E. (Electrical Engineering) (Insem)
ADVANCED MICROCONTROLLER AND EMBEDDED
SYSTEMS**

(2019 Pattern) (Semester - I) (303145 A) (Elective - I)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable additional data, if necessary.*
- 5) *Use of non-programmable calculator is allowed.*

- Q1)** a) Explain in brief with neat diagram the data memory organization of PIC 18. [7]
- b) Explain status register in detail. State the flags affected after addition of 02H and FE H. [8]

OR

- Q2)** a) Explain C data types character and integer in detail. Also explain pre-processor directives with examples. [7]
- b) Explain Stack pointer (STKPTR) and Bank Select Register (BSR). Also, write instruction to select bank 15. [8]

- Q3)** a) Explain SFR's related with I/O Ports. Also give dual function of PORTB. [7]
- b) Write a C program to generate a delay of 20msec on pin RB0 using Timer0 programming without prescaler, assume XTAL = 10 MHz. [8]

OR

- Q4)** a) Explain in detail bitwise TOCON register. Also, Explain Prescaler in details. [7]
- b) State different types of delay generation. And, write a C program to toggle LEDs connected to Port D with 50msec delay. [8]
