

Total No. of Questions :10]

SEAT No. :

**P3606**

**[5560]-561**

[Total No. of Pages :2

**T. E. (Electrical)**

**ADVANCED MICROCONTROLLER AND ITS APPLICATIONS**

**(2015 Course) (Semester - I) (End Sem.) (303141)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Attempt Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6, Q.No.7 or Q.No.8, Q.No.9 or Q.No.10.*
- 2) *Neat diagram must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

**Q1) a) Compare CISC and RISC Architecture. [6]**

b) Explain the following instruction with suitable example [4]

i) BN n

ii) BCF f,b,a

OR

**Q2) a) Write C program to generate delay of 50m sec using Timer 0. Assume crystal frequency of 10 MHz. [6]**

b) Mention alternate function of Port B. [4]

**Q3) a) Explain the following in detail : [6]**

i) Immediate addressing mode

ii) Direct addressing mode

b) Write an assembly language program to blink LED connected to RBI. [4]

OR

**Q4) a) Explain RAM memory organisation in detail. [6]**

b) Write assembly language program to add the contents of five consecutive memory locations starting from 20H and store the result into WREG. [4]

**P.T.O.**

- Q5)** a) Explain CCP1CON register in detail and also give its count, if we want to toggle CCP1 pin upon match. [8]  
b) Mention the steps of programming Capture mode. [8]

OR

- Q6)** a) Write a C program to generate 2.5 KHz PWM frequency at 75% duty cycle on CCP1 pin. [8]  
b) Explain speed control of DC motor using Compare mode. [8]

- Q7)** a) Write programming steps to receive data serially, also find the value in SPBRG register to have baud rate to 9600 at  $F_{osc} = 10$  MHz. [8]  
b) Draw and explain LCD interfacing with pic18f458. [9]

OR

- Q8)** a) Explain the steps of Timer interrupt programming. [8]  
b) Write C program to transmit character "A" continuously at a baud rate of 9600 and crystal frequency of 10 MHz. [9]

- Q9)** a) Explain ADCON0 and ADCON1 register in details. [8]  
b) Draw the interfacing diagram of voltage measurement and also explain its interfacing procedure. [9]

OR

- Q10)** a) Explain interfacing of LM35 for Temperature measurement. [8]  
b) Show interfacing and write C program to generate Square wave using DAC. [9]

