Seat No. : _____

AH-115

April-2017

B.Sc., Sem.-VI

CC – 308 : Electronics

Time : 3 Hours] **[Max. Marks : 70**

Instructions : All the questions carry equal marks.

1. (a) Explain about R-2R type D/A converter in detail. **10**

OR

Explain about dual slope A/D converter in detail.

(b) Find the output voltage from a 5 bit binary ladder that has a digital i/p of 11010. Assume that 0 = 0V & 1 = + 10 V. **4**

OR

Draw the circuit diagram of 3 bit simultaneous type A/D converter.

2. (a) Write a program to count from 0 to 9 with 2 sec delay between each count. After count 9 it restarts to 0 & repeat the sequence continuously. Clock frequency = 1 MHz. **10**

OR

Write a program to generate a continuous square wave with a period of 600 μs. Assume that system clock period is 325 ns. Use bit D_0 to o/p the square wave.

(b) Explain time delay using a loop within a loop technique. **4**

OR

Write a program to turn a light on & off every 10 seconds.

3. (a) Write a program to provide the given ON/OFF time to 3 traffic lights (G, Y & R) & two pedestrian signs (walk & don't walk) **10**

Lights	Data bits	ON time
Green	D_1	20
Yellow	D_3	7
Red	D_5	23
Walk	D_6	20
Don't walk	D_7	30

The traffic & pedestrian flow are in same direction & pedestrian should cross the road when green light is on.

OR

Write a program to perform following task : 10

(1) Clear all the flags

(2) Load 00 H in A & show that zero flag is not affected.

(3) Logically or the accumulator with itself to set the zero flag & display at o/p Port 1 & store all the flags on the stack.

(b) Explain about all conditional call instructions. 4

OR

Explain about all conditional return instructions.

4. Draw the block diagram of 8255 A and explain each block in detail. Also explain MODE 0 as simple input or output. 14

OR

Explain DAC 0808 giving its features, pin configuration, block diagram & typical applications.

5. Do as directed : 14

(1) What is BSR ?

(2) What is RST ?

(3) Give the full form of O.S.

(4) Define setting time of DAC.

(5) What is LSB weight of 8 bit resistive ladder ?

(6) What do you understand by SAR ?

(7) A stack is _____ bit register.

(8) ORA B require how many T states ?

(9) Under which control logic condition 8255 A is not selected ?

(10) What is modules ?

(11) 16 bit instructions DCX affect the flags ?

(12) Explain about the following instructions :

(a) RRC (b) RLC (c) RAR
