

B.Sc. Sem.-6 (Rep.) Examination**ELE 308****Electronics****Time : 2-30 Hours]****September 2024****[Max. Marks : 70****Instruction :** (1) Symbols carry their usual meaning.

- 1 (a) Explain about R-2R type D/A converter in detail. 7
 (b) Explain about 3 bit simultaneous type A/D converter in detail. 7

OR

- 1 (a) Explain about dual slope A/D converter in detail 7
 (b) Explain about Resistive Divider D/A network in detail. 7

- 2 (a) Write a program to count 0 to 9 with 3 sec delay between each count. After count 9 it restarts to 0 & repeat the sequence continuously. Clock frequency = 1MHz. 7
 (b) Write a program to generate a continuous square wave with a period of 800 ns. Assume that system clock period is 325 ns. Use bit Do to O/P the square wave. 7

OR

- 2 (a) Explain time delay using register pair. 7
 (b) Explain time delay using a loop within a loop technique. 7

- 3 Write a program to provide the given ON/OFF time to 3 traffic lights & two pedestrian signs (Walk & Don't Walk). 14

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 the same direction & pedestrian should cross the road when green light is on.

OR

- 3 Write a program to perform following task : 14
 (i) Clear all the flags
 (ii) Load OOH in A & show that zero flag is not affected.
 (iii) Logically OR the accumulator with itself to set the zero flag & display at O/P port 1 & store the flag on the stack.

- 4 (a) List operating modes of 8255 A programmable peripheral interface. 7
 (b) Explain control word format of 8255 A. 7

OR

- 4 (a) Explain about saw tooth wave DAC application. 7
 (b) Explain about square wave DAC Application. 7

- 5 Answer in short (any 7) : 14

5 Answer in short (any 7) :

- (1) Give full form of “OS” & “SAR”
 - (2) What is the LSB weight of 8 bit & 16 bit resistive ladder?
 - (3) What is monotonicity test?
 - (4) What is stack pointer?
 - (5) LX1 B, 1234 H required & ORA D required T states.
 - (6) For masking of data bits, which instruction is used?
 - (7) In which mode all ports function as simple I/O?
 - (8) Give the name of two programmable devices of “INTEL” family.
Explain about the following instructions in detail.
 - (9) CNZ
 - (10) RPO
 - (11) RM
 - (12) CC
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