

NAME: .....

## MAT 518 , ASSIGNMENT-3

1. Construct the Huffman Code for the following letters with given frequencies:

A:.25 B:.10 F:.14 H:.20 M:.07 N:.15 U:.09

Sketch the tree, provide with the details.

2. Decode 110000100100000101001 according to the code you have constructed in the previous problem.

3. Construct the sum of products expansion for the boolean function  $F(x, y, z)$  defined by the table :

$x$	$y$	$z$	$F$
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

4. Using inverters, OR, AND gates construct the circuit that produces the expression

$$\overline{(\bar{x} + z)}(\bar{y} + z)$$