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Section "C"

## Assignment 01

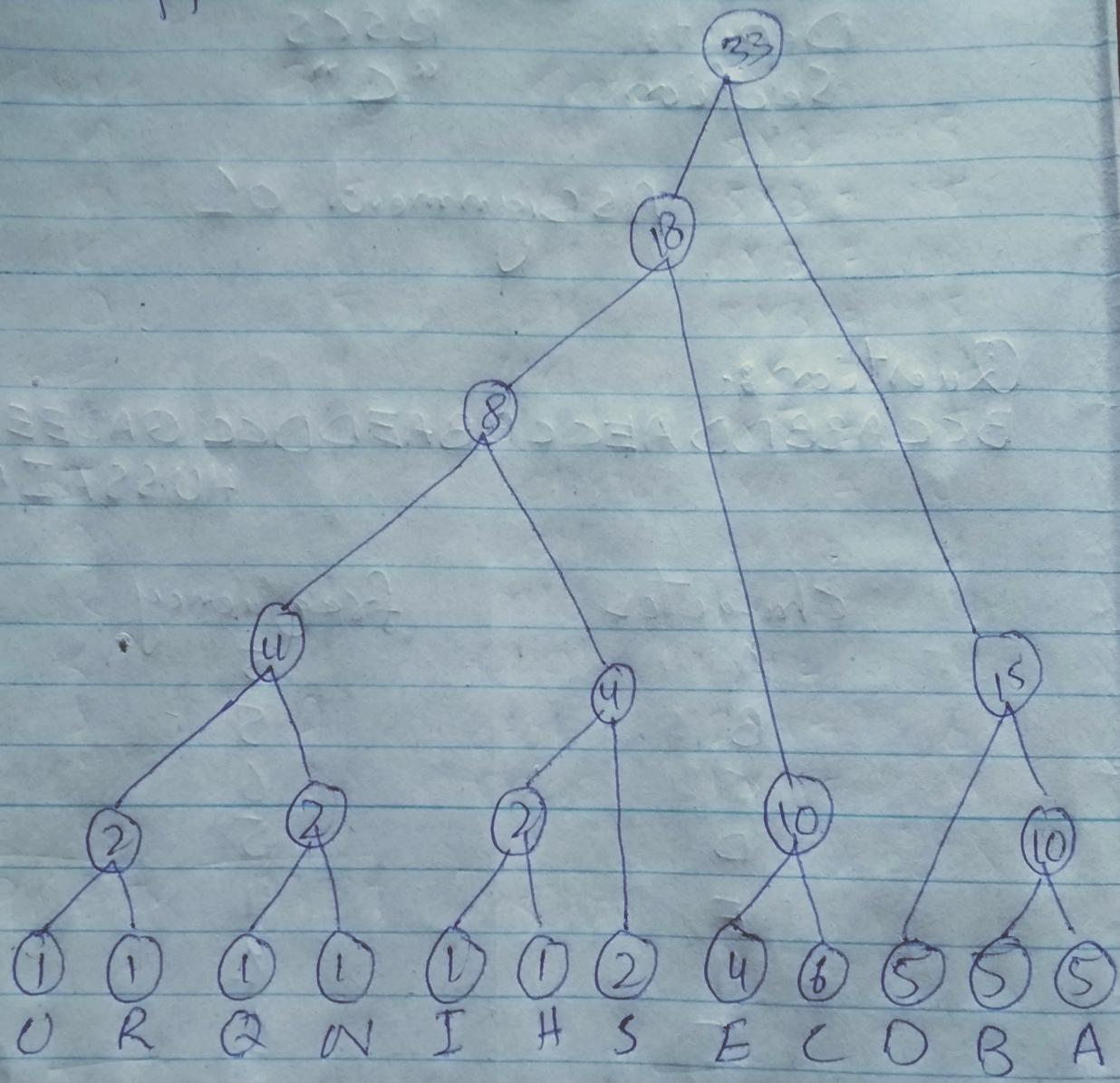
Questions:-

BCCABBDDAECCBBAEEDDCC QADEER  
HUSSAIN

Character	frequency
A	5
B	5
C	6
D	5
E	4
H	1
I	1
N	1
Q	1
R	1
S	2
U	1

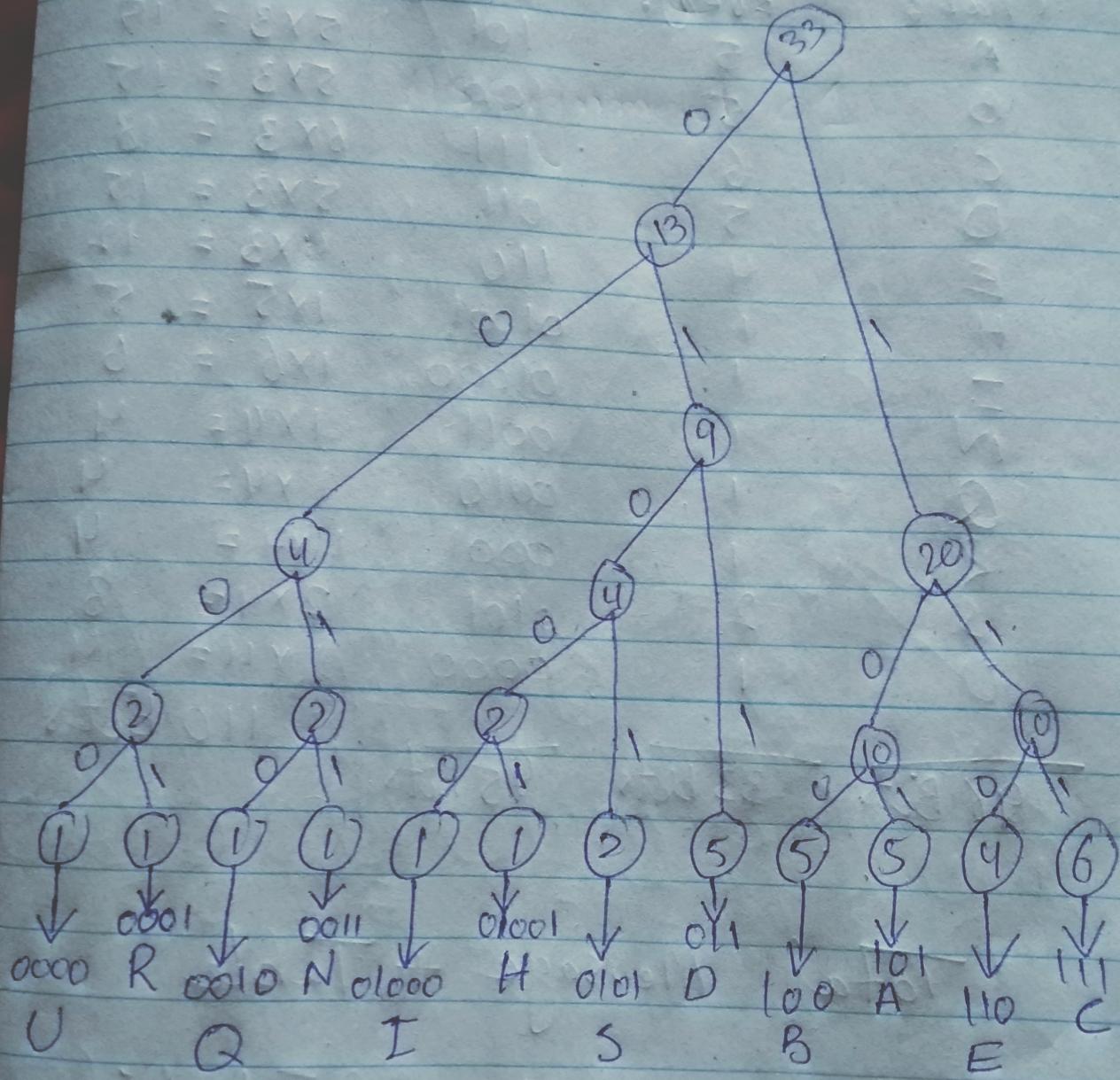
(2)

## Huffman Tree



# Traverse Tree

(3)



(4)

char:	Freq:	Code	
A	5	101	$5 \times 3 = 15$
B	5	100	$5 \times 3 = 15$
C	6	111	$6 \times 3 = 18$
D	5	011	$5 \times 3 = 15$
E	4	110	$4 \times 3 = 12$
H	1	01001	$1 \times 5 = 5$
I	1	01000	$1 \times 6 = 6$
N	1	0011	$1 \times 4 = 4$
Q	1	0010	$1 \times 4 = 4$
R	1	0001	$1 \times 4 = 4$
S	2	0101	$2 \times 4 = 8$
O	1	0000	$1 \times 4 = 4$
			110 bits
96 Bits	33 bits	45 bits	

Total Message + Table

$$= 110 + 141 = 251 \text{ bits}$$

(5)

Table

char:

A

fixed Length

0000

B

0001

C

0010

D

0011

E

0100

H

0101

I

0110

N

1000

Q

1001

R

1010

S

1011

U

1100

96 bits48 Bits

= 144 bits