

Student ID -

Name -

United International University (UIU)
Dept. of Computer Science & Engineering (CSE)
CSE 2217 Spring 2022
Class Test 2 Total Marks: 10

You have to answer here. No extra page will be provided.

Use the value of x in Ques. 1 and 2, where $x = \text{last_three_digits_of_your_student_id} \bmod 5 =$

- 1 Find the Huffman code for the following characters given their frequencies. Also, [5]
draw the Huffman code tree.

Char	A	B	C	D	E
Frequency	3	10	$6+x$	7	$7-x$

- 2 Find the maximum profit for the following fractional knapsack problem, where [3]
the capacity of the knapsack is 7 kg. Show details calculation.

Item	Price (Tk)	Weight (kg)
1	60	$x+1$
2	15	3
3	80	4
4	30	1

- 3 Find the runtime of the following recurrence equation in asymptotic notation. [2]
 $T(n) = 4T(n/4) + O(n)$