

Assignment 2

1st + 2nd Semester (A): Fall-2025
Advanced Analysis of Algorithms
Issue Date: 20th DEC, 2025

MS CS/IT
Maximum Marks: 10
Due Date: 28th DEC, 2025

Student Name:

Roll No:

Q.1	Given the following characters and their frequencies:		2*5 =10
C5 CLO3 PLO3	Character	Frequency	
	A	4	
	B	7	
	C	10	
	D	15	
	E	20	
	F	45	
	A. Construct the Huffman Tree step by step.		
	B. Generate the Huffman codes for each character.		
	C. Verify that the generated codes satisfy the prefix property .		
	D. Calculate the total number of bits required using Huffman encoding.		
	E. Compare the result with fixed-length encoding and comment on the compression achieved.		