FACULTY OF ENGINEERING AND TECHNOLOGY
Department of Computer Engineering
Result Analysis of MID Sem. Exam A.Y. 2024-25

Assignment for Premium Category

Subject: Design and Analysis of Algorithm(01CE1503) **Semester:** 5th

Submission Date: 25 October 2024

S. No.	Questions

1	What is time complexity of fun()?
	int fun(int n)
	{
	int count = 0;
	for (int i = n; i > 0; i /= 2)
	for (int j = 0; j < i; j++)
	count += 1;
	return count;
	}

2	Consider the following array of elements: (89,19,50,17,12,15,2,5,7,11,6,9,100). The minimum number of interchanges needed to convert it into a max-heap is _____. Explain answer.
3	Consider a situation where you don't have function to calculate power (pow() function in C) and you need to calculate x^n where x can be any number and n is a positive integer. What can be the best possible time complexity of your power function?
4	A networking company uses a compression technique to encode the message before transmitting over the network. Suppose the message contains the following characters with their frequency: character Frequency a 5 b 9 c 12 d 13 e 16 f 45 Note : Each character in input message takes 1 byte. If the compression technique used is Huffman Coding, how many bits will be saved in the message?
5	The Floyd-Warshall algorithm for all-pair shortest paths computation is based on which algorithmic approach? Explain

Categorization Rule based on marks of Mid Sem. Exam

P - Premium: Above 18 marks
A - Average: Between 13 to 18 marks
C - Challenge: Below 13 marks

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