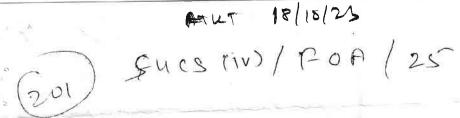
18/18/23



Q. P. Code: 35762

		(2 1/2 Hours)	Total Marks: 75
	N.B. 1) All questions are compulsory.		
	2) Figures to the right indicate ma	arks.	
	3) Draw suitable diagrams and ill	lustrations wherever nece	ssary.
8	4) Mixing of sub-questions is not	allowed.	
Q. 1	Attempt All the Questions		
A)	Choose the correct alternative		(5M)
i)	Ω-notation provides an asymptotic	bound.	
	a) upper	b) both upper and	lower
	c) lower	d) none of these	
***	WILL CALCH		
ii)	Which of the following statement is true.		
	i. Quicksort, like merge sort, is based on the divide-and-conquer paradigm.		
	ii. ω -notation to denote a lower bour		ight.
	a) i-true, ii-false	b) i-true, ii-true	
	c) i-false, ii-true	d)√i-false, ii-true	
iii)	In binary search trees,tree we the values in its left subtree and those a) postorder c) inorder	valk prints the key of the r in its right subtree. b) preorder d) none of these	oot of a subtree between
iv)	Which of the following holds true for Prims algorithm?		
	i. The edges in the set A always form a single tree.		
	ii. It follows a greedy strategy.		
	a) Only i	b) Both i and ii	
	c) Only ii	d) Neither i nor ii	
v)	An acyclic graph contains cycles.		
	a) no	b) many	
	c) one	d) none of these	
B)	Fill in the blanks:		(5M)
	{ lower, halts, upper, moves, recurrenc	e, efficient, $\Omega(n^2)$, $\Theta(n^2)$)}
i)	O-notation describes a bound.	3	
ii)	An algorithm is said to be correct if, for every input instance, it with the correct output.		
iii)	An algorithm that is asymptotically more will be the best choice for all but very		

iv) A ____ is an equation or inequality that describes a function in terms of its value on

v) The worst-case running time of insertion sort is _____.

smaller inputs.

Q.5 Attempt the following: (Any THREE)

(15M)

N.I

Q.

(a)

- A What is Analysis of Algorithm? Why is it important? Explain.
- B List the various properties of binary tree.
- C What is a threaded binary tree? Explain.
- D Write a note on Partition-based Selection Algorithm.
- E What is a Topological Sort? Explain it with a suitable example.