

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH/IMSC
BRANCH: CSE/IT/MATH & COMP.

SEMESTER : III
SESSION : MO/19

SUBJECT: CS201 DATA STRUCTURES

TIME: 3 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Define Asymptotic notations. Discuss the significance and limitations of Asymptotic notations with examples. [5]
- Q.1(b) Write a procedure/algorithm/program which deletes all duplicate elements from the array. [5]
- Q.2(a) How does linked stack differ from linear stack. Can stack be used for non-recursive program? Justify. [5]
- Q.2(b) Define circular Queue. List the advantages of Circular queue over linear queue with examples. [5]
- Q.3(a) Write a procedure/algorithm/program to convert an infix to prefix equivalent expressions. Explain with an example. [5]
- Q.3(b) Write a procedure/algorithm/program for merging of two link list. Explain with diagram. [5]
- Q.4(a) Write a procedure/algorithm/program for PREDORDER traversal of a TREE. Explain with an example. [5]
- Q.4(b) Write a procedure/algorithm/program to find a Minimum spanning tree. Explain with an example. [5]
- Q.5(a) Write a procedure/algorithm/program for Insertion sort and explain with an example. [5]
- Q.5(b) Write a procedure/algorithm/program to create a Binary search tree and explain with example. [5]

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