



Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2019

Bachelor in Computer Applications
Course Title: Data Structures & Algorithms
Code No: CACS 201
Semester: III

Full Marks: 60
Pass Marks: 24
Time: 3 hours

Center:

Symbol No:

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions.

[10x1 = 10]

1. Circle (O) the correct answer.
 - i) What is the measurement for time complexity of an algorithm?
a) Counting microseconds b) Counting kilobytes of algorithms
c) Counting number of key operations d) Counting number of statements
 - ii) Which of the following is the result of evaluation of $5 \ 7 \ 4 \ - \ * \ 8 \ 4 \ / \ + \ ?$
a) 5 b) 8 c) 10 d) 17
 - iii) What is the recursive formula for post order traversal of binary tree?
a) Left-Root-Right b) Root-Left-Right
c) Left-Right-Root d) Right-Left-Root
 - iv) What is the number of disk movement in TOH with 4 disks?
a) 9 b) 14 c) 17 d) 15
 - v) What is the Big-Oh of best case complexity of insertion sort?
a) $O(n)$ b) $O(n\log n)$ c) $O(1)$ d) $O(n^2)$
 - vi) How does the rear index incremented in circular queue?
a) $\text{front}=(\text{rear}+1)\% \text{SIZE}$ b) $\text{rear}=(\text{rear}+1)\% \text{SIZE}$
c) $\text{rear}=\text{rear}+1$ d) $\text{rear}=(\text{rear}-1)\% \text{SIZE}$
 - vii) A variation of linked list in which none of the node contains NULL pointer is
a) Singly b) Multiple c) Circular d) Doubly
 - viii) Which of the following data structure is used in depth first search of graph?
a) Stack b) Queue c) Linked List d) None of the above

- ix) Which of the following is true for B-Tree of order M?
- a) Leaf nodes should be at different level
 - b) All the key values within a node must be in descending order
 - c) Every node has at least M children
 - d) All non-leaf nodes with M-1 keys must have M number of children
- x) Which of the following is not a hash function?
- a) Division remainder
 - b) Folding
 - c) Chaining
 - d) Mid square