ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

WORKSHEET – 36

Topic : Introduction to Data Structures, ADT and Linked Lists Subject: COMPUTER SCIENCE Class - 12 F.M:15 **Chapter: Data structures** Date: 22/08/2020 Choose the correct answer for each question: 15x1=15 1. ______ is a way to store and organize data so that it can be used efficiently. a) Data Structure b) Linked List c) Abstract Data type (ADT) d) None of these 2. Linked List can be defined as collection of objects called ______ that are randomly stored in the memory. a) Data b) Memory unit c) Nodes d) Address 3. The last node of the ______ list contains pointer to the null. a) Circular Linked list b) Single linked list c) both (a) and (b) d) none of these 4. The following figure represents: HEAD 1 Next 2 Next Next a) Circular Linked list b) Single linked list c) Double linked list d) none of these 5. Each node in double linked list contains:

- a) node data
- b) pointer to the next node in sequence (next pointer)
- c) pointer to the previous node (previous pointer)





- d) All of these
- 6. ______ is a type (or class) for objects whose behaviour is defined by a set of value and a set of operations.
 - a) Data Structure
 - b) Linked List
 - c) Abstract Data type (ADT)
 - d) None of these
- 7. Which among the following is/are disadvantage(s) of linked lists?
 - a) Data Access
 - b) Extra Storage
 - c) both (a) and (b)
 - d) data insertion
- 8. A linear collection of data elements where the linear node is given by means of pointer is called? a) Linked list
 - b) Node list
 - c) Primitive list
 - d) Unordered list
- 9. What differentiates a circular linked list from a normal linked list?
 - a) You cannot have the 'next' pointer point to null in a circular linked list
 - b) It is faster to traverse the circular linked list
 - c) You may or may not have the 'next' pointer point to null in a circular linked list
 - d) Head node is known in circular linked list
- 10. Which of the following is false about a doubly linked list?
 - a) We can navigate in both the directions
 - b) It requires more space than a singly linked list
 - c) The insertion and deletion of a node take a bit longer
 - d) Implementing a doubly linked list is easier than singly linked list
- 11. In the following single linked list node, what is contained in y?



- a) Numbers/ strings
- b) Data node
- c) Next
- d) Address of next node
- 12. In linked list each node contain minimum of two fields. One field is data field to store the data second field is?
 - a) Pointer to character
 - b) Pointer to integer

c) Pointer to node

d) Node

13. What is the data contained in the head node for the following:





- a) First node
- b) Second node
- c) Third node
- d) Fourth node
- 15. Which among the following is/are limitations of array over linked list?
 - a) The size of array must be known in advance before using it in the program.
 - b) It is almost impossible to expand the size of the array at run time.
 - c) Inserting any element in the array needs shifting of all its predecessors.
 - d) All of these

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