## Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - ECE



## NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 1\_MCQ

Attempt : 1 Total Mark : 10 Marks Obtained : 1

Section 1: MCQ

1. Which of the following statements is used to create a new node in a singly linked list?

```
struct node {
  int data;
  struct node * next;
}
typedef struct node NODE;
NODE *ptr;
Answer
ptr = (NODE*)malloc(sizeof(NODE*));
Status : Wrong
```

Marks : 0/1

- 2. Consider an implementation of an unsorted singly linked list. Suppose it has its representation with a head pointer only. Given the representation, which of the following operations can be implemented in O(1) time?
  - i) Insertion at the front of the linked list
  - ii) Insertion at the end of the linked list
  - iii) Deletion of the front node of the linked list
  - iv) Deletion of the last node of the linked list

## Answer

2020

Status: -

Marks : 0/1

3. Consider the singly linked list:  $13 \rightarrow 4 \rightarrow 16 \rightarrow 9 \rightarrow 22 \rightarrow 45 \rightarrow 5 \rightarrow 16 \rightarrow 6$ , and an integer K = 10, you need to delete all nodes from the list that are less than the given integer K.

What will be the final linked list after the deletion?

## **Answer**

16 -> 22 -> 45 -> 16

Status: Wrong Marks: 0/1

4. The following function takes a singly linked list of integers as a parameter and rearranges the elements of the lists.

The function is called with the list containing the integers 1, 2, 3, 4, 5, 6, 7 in the given order. What will be the contents of the list after the function completes execution?

```
struct node {
  int value;
  struct node* next;
};
```

```
void rearrange (struct node* list) {
    struct node *p,q;
    int temp;
    if (! List || ! list->next) return;
    p=list; q=list->next;
    while(q) {
        temp=p->value; p->value=q->value;
        q->value=temp;p=q->next;
        q=p?p->next:0;
    }
}
Answer
Status: - Marks: 0/1
```

5. Consider the singly linked list:  $15 \rightarrow 16 \rightarrow 6 \rightarrow 7 \rightarrow 17$ . You need to delete all nodes from the list which are prime.

What will be the final linked list after the deletion?

Answer

15 -> 16 -> 6

Status : Correct Marks : 17

6. Given a pointer to a node X in a singly linked list. If only one point is given and a pointer to the head node is not given, can we delete node X from the given linked list?

Answer

Status: - Marks: 0/1

7. Linked lists are not suitable for the implementation of?

Status: Skipped Marks: 0/1

8. In a singly linked list, what is the role of the "tail" node?

Answer

-

Status: - Marks: 0/1

9. Given the linked list: 5 -> 10 -> 15 -> 20 -> 25 -> NULL. What will be the output of traversing the list and printing each node's data?

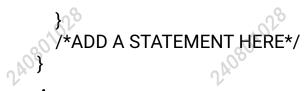
Answer

Status: Skipped Marks: 0/1

10. The following function reverse() is supposed to reverse a singly linked list. There is one line missing at the end of the function.

What should be added in place of "/\*ADD A STATEMENT HERE\*/", so that the function correctly reverses a linked list?

```
struct node {
  int data;
  struct node* next;
};
static void reverse(struct node** head_ref) {
  struct node* prev = NULL;
  struct node* current = *head_ref;
  struct node* next;
  while (current != NULL) {
    next = current->next;
    current->next = prev;
    prev = current;
    current = next;
```



Answer

Status: Skipped Marks: 0/1