QP CODE: 19102230

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Reg No : .....

Name : .....

B.Sc. DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Third Semester

CORE COURSE - CS3CRT08 - DATA STRUCTURE USING C++

(Common to B.Sc Computer Applications Model III Triple Main, B.Sc Computer Science Model III ,B.Sc Information Technology Model III, Bachelor of Computer Application)

2017 Admission Onwards

2D440292

Maximum Marks: 80 Time: 3 Hours

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What you meant by non-primitive data structure? Give example.
2. What is difference between linear and binary search?
3. Define infix, prefix, postfix expressions?
4. What are double ended queues?
5. What is the significance of NULL pointer in a linked list?
6. What are the steps involved in deleting the first node from a linked list
7. What is garbage value?
8. Write a note on binary tree?
9. How will you represent a binary tree using (A>B)||(C
10. What is cellular partitioning?
11. Define file organization
12. What are the two classes of collision resolution techniques?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain memory allocation and implementation of arrays in memory.

14. Explain the working of selection sort

15. Explain the concept of stacks along with their implementation in memory

16. What is circular queue? Describe briefly the different operations can be performed on circular queues?

17. Briefly explain doubly linked list? Write an algorithm or program for inserting a new node into a doubly linked list.

18. How can we dynamically implement stack and queue?

19. Explain complete binary tree with an example ?

20. Create a binary search tree using given elements through step by step procedure : 10,12,5,4,20,8,7,15,13

21. What is hashing? Explain with suitable example?

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain sparse matrix representation with operations.

23. Explain organization and operations on queue with example

24. Explain trees and tree terminologies with an example diagram of degree 3.

25. Explain the following : 1) Linked File Organization 2) Inverted File Organization

(2×15=30)