B.Sc. DEGREE (CBCS) EXAMINATION, NOVEMBER 2018

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

F28B27C2

Maximum Marks: 80   **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What is the purpose of using array?

2. Explain sparse matrix representation with example.

3. Why stack is called a LIFO list?

4. Give any two reasons why postfix expressions are used in expressions?

5. What are the operations performed on a linked list?

6. What are the advantages and disadvantages of a circular linked list?

7. What do you mean by memory management?

8. What is a skewed binary tree?

9. How will you find the depth of a complete binary tree, give an example ?

10. Discuss the structure of file?

11. What is Direct Access Storage Device (DASD)?

12. What are inverted files. Give suitable examples?

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Discuss various operations performed with data structures.

14. Explain binary searching method with an example?

15. Write a program/algorithm to perform various operations on queues?

16. Describe the two types of dequeues?

17. Write an algorithm or program for traversing a linked list with suitable example

18. Explain the applications of linked stack and linked queue

19. How will you develop a recursive algorithm ?

20. How can traverse a binary tree? Explain.

21. What is hashing? Explain with suitable example?

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain any two types of sorting with example

23. What are the limitations of linear queue? How it can be solved?

24. Explain the concept of tree searching? Explain about binary search tree and its creation.

25. How collision is occurred? How can we resolve collision? Explain.

(2×15=30)