

Paper code: 13515  
1515  
B.Sc. (Computer Science) (Part 2)  
Examination, 2018  
Paper No. 2.3  
DATA STRUCTURES USING C++  
Time: Three Hours] [Maximum Marks: 34

Note: Attempt five questions in all. Question No. 1 is compulsory.

1. (a) Compare and contrast object oriented programming and procedure oriented programming.  
(b) What do you mean by object ? Explain various characteristics of a class.
2. Write a C++ program to perform factorial of a given number by using :
  - (i) For loop
  - (ii) While loop
3. (a) What are various storage classes in C++ ? Explain.  
(b) What are Arrays ? Explain with appropriate example.
4. (a) What is Constructors ? Write and explain various types of constructors used in C++ ?  
(b) How can one pass object as a parameter ? Explain.
5. What is Inheritance ? Explain various types of inheritance in C++.
6. (a) What is abstract data type ? Explain. <http://www.mjpruonline.com>  
(b) What are difference between linear data type and non-linear data type ? Explain.
7. Write a program in C++ to implement stack data structure in C++.  
Also perform push and pop on it.
8. (a) What is binary tree ? Discuss various traversal in binary tree.  
(b) Explain various applications of binary tree.
9. Write short notes on (any two) :
  - (i) Graphs
  - (ii) Circular linked list
  - (iii) Queues
  - (iv) Linked list

.....End.....