Government City College (Autonomous)

H.T.No.: Code No: 2019103326

B.Sc., THIRD SEMESTER EXAMINATIONS MAY/JUNE 2023

Computer Science Paper - III

Data Structure

Max. Marks: 80

Time: 3 hrs.

Answer any five questions: 5X 4=20

1.What is an algorithm

2.Write general structure of Prefix expression

3.Differentiate between push() and POP() operation

4.List applications of linked list

5.What is binary Recursion

6.What is circular linked list

7.Define Binary tree

8.Define BFS

Answer the following questions: **4X15-60**

9 (a) Describe use of flow chart using an example.

Or

(b) Describe concept of stack and steps of push() operations.

10 (a) Explain the dynamic of insertion in detail.

Or

(b) Explain in detail the types of Linked Lists.

11 (a) Explain a) In-order Traversal b) Post-order - Traversal algorithm

Or

(b) Explain depth first search method with an example.

12 (a) Define Bubble Sort and write a program for implementation of bubble sort using C++

Or

(b) Explain the detail Insertion Sort with an example.

Government City College (Autonomous),

H.T.No.: Code No : 2019103326

B.Sc. THIRD SEMESTER EXAMINATIONS, DECEMBER 2023

(Computer Science) Data Structures

Time: 3 hrs **Max. Marks: 80**

I.Answer any five Questions: **5X4=20**

1. List Linear data structures
2. Example of Postfix to Prefix notation.
3. Snippet on inserting an element in the stack
4. Circular linked list
5. DFS
6. Graphs in Data Structures.
7. Binary search
8. Bubble sort

II.Answer the following questions: **4X15=60**

9. (a) What is a stack? Write a program on the stacks using arrays.

OR

(b) Define Queue. Explain the queues concept with applications as example.

10.(a) Define Linked list? Explain double linked list with program.

OR

(b) Differentiate between the stacks using arrays and stacks using Linked list.

11.(a) Discuss about the binary tree traversal with all notaions.

OR

(b) Explain the Prim's algorithm with an example.

12.(a) Explain sequential search with an Example Program.

OR

(b) Discuss about the Heap sort with the Program.

Government City College (Autonomous), Hyderabad

H.T.No.: **Code No : 2020103326**

B.Sc. THIRD SEMESTER EXAMINATIONS, DECEMBER 2022

Computer Science DATA STRUCTURES

Time: 3 hrs Max. Marks: 80

Section-A

I.**Answer any five Questions:** **5x4=20**

1.What is Pseudo code?

2.Define Stacks.

3.Explain different types of notations for arithmetic expression.

4.What is Tail Recursion?

5.Explain the concept of Queues.

6.Explain a General Tree with diagram.

7.Mention the advantages and disadvantages of bubble sort. 8. Define 8.Merge Sort.

Section -B

II.**Answer the following questions:** **4x15=60**

9. (a) Explain the Concept of ordered list with an example.

Or

(b) Write an algorithm and program to reverse string using Stack.

10. (a) Define and Explain the operation of Circular Queues.

Or

(b) Explain the features of Linked list along with commonly used Terminology in Linked List.

11. (a) Explain Kruskal's Algorithm with an Example.

Or

(b) Explain (1) Preorder (2) Inorder algorithm with an example.

12. (a) Explain Merge Sort with an example.

Or

(b) Explain Quick Sort with an example.

Government City College (Autonomous), Hyderabad

H.T.No.: **Code No: 3443**

B.Sc., THIRD SEMESTER EXAMINATIONS AUGUST 2021

Computer Science Paper-III

Data Structures using C++

Time: 2 hrs. Max. Marks: 80

Section -A

I.Answer any four of the following questions: **4X20=80**

1. What is an Array? Explain about different types of Arrays?

2. What is a Stack? Explain the operations of STACK?

3. Write a program in C++ to convert infix expression to postfix expression?

4. Define linked list? List the operations possible on a linked list? And also the advantages and disadvantages of it?

5. What is graph? Explain different types of graph traversal?

6. Write about binary Tree. Explain binary Tree traversals?

7. Explain heap sort with example?

8. Explain concept of merge sort with example programme?

Government City College (Autonomous), Hyderabad

H.T.No.: **Code No: 7293**

B.Sc., THIRD SEMESTER EXAMINATIONS NOV 2019

Computer Science

Paper-III

Time: 3 hrs. Max. Marks: 80

Section -A

I. **Answer any five questions:** **5X 4=20**

1. Define Stack? Write operations of stack?
2. Define algorithm? Write algorithm for greatest of 3 numbers?
3. Define Circular Queue and Priority Queues?
4. What is the difference between recursion and iteration?
5. Write about binary tree representations?
6. What is graph? Explain graph terminology?
7. Write algorithm for linear search?
8. What is Heap? Explain its operations?

Section -B

II. **Answer the following questions:** **4X15=60**

9 (a) Explain about ordered list Abstract data type and its operations?

Or

(b) Explain the process of converting infix expression to postfix expression?

10. (a) What is Double linked list? Explain its operations?

Or

(b) Explain the representations of queues using linked list?

11. (a) Explain in detail the basic operations of Tree?

Or

(b) What is graph? Explain DFS and BFS algorithms?

12.(a) Define searching? Explain the algorithm for Binary search?

Or

(b) Explain about merge sort and write its applications?

Government City College (Autonomous), Hyderabad

H.T.No. : Code No: 5293/S

B.Sc., THIRD SEMESTER EXAMINATIONS APRIL 2018

Computer Science Paper-III

Time: 3 hrs. Max. Marks: 80

Section -A

I. Answer any five questions: **5X 4=20**

1. What are types of data structures?
2. Explain about Flowcharts.
3. Explain about Double ended queue.
4. What is recursion? How Stack used in recursion?
5. Define a) Binary tree b) Hashing C) Graph d) Degree of Tree
6. What is Prim's algorithm?
7. Write a program to linear search.
8. Write a program to Bubble sort.

Section -B

II. Long Answer questions: 4X15-60

9 (a) Explain about Stacks concept.

Or

(b) Explain about Linear data structure using 1-D & 2-D arrays.

10. (a) Explain about Single linked list & double linked list.

Or

(b) Describe about Queues concept.

11. (a) Explain in detail about pre-in-post order methods.

Or

(b) Write about BFS & DFS methods in Graphs.

12. (a) Write a program to Sort elements using Quick sort.

Or

(b) Write a program to Binary search.

Government City College (Autonomous), Hyderabad

H.T.No.: Code No: 6293

B.Sc., THIRD SEMESTER EXAMINATIONS NOV 2018

Computer Science Paper-III

Time: 3 hrs. Max. Marks: 80

Section -A

I. Answer any five questions: **5X 4=20**

1. What are the pros and Cons of Arrays?
2. What are the different types of Data structures?
3. Explain the use of Stack in Recursion?
4. Write a short note on Abstract Data types of Queues.
5. Explain the representation of a general tree?
6. Write about Hashing functions?
7. What is Heap? Explain its operations?
8. Write algorithm for Linear and Binary search?

Section -B

II. Answer the following questions: **4X15=60**

9 (a) Explain the process of converting Infix expression to prefix expression and evaluate postfix expression?

Or

(b) What is an Algorithm? Explain Linear Data Structure using Arrays.

10.(a) Explain briefly about Single, double, Circular Linked List.

Or

(b) Explain about (i) Iteration verses Recursion

(ii) Queue and its operation

11. (a) Explain briefly about Binary Tree Traversals.

Or

(b) Explain Prim's and Kruskal's Algorithm in detail.

12. (a) Explain briefly about Insertion, Selection and Bubble sort.

Or

(b) Explain Heap sort and its implementation.

B.Sc., THIRD SEMESTER EXAMINATIONS, (CBCS) OCT/NOV 2016

Code No.: C-4893.

Computer Science Paper -III

Time: 22 hrs Max. Marks: 75.

Note: All the questions are to be answered in serial order and in one place only.

SECTION - A

I.**Answer the following questions:** 5x2=10

1. Define a variable and constant in Java

2.What is an output statement in Java. Give example.

3.Give the examples to increment and decrement operators

4 . Define class and object

5.Define a constructor

SECTION - B

II.**Answer any Seven questions:** **7x5=35**

6.Explain data types used in Java

7.Briefly explain about Java Features.

8.Explain about switch statement

9.Write an example code by using Do-While loop

10. Give the example to STUDENT class.

11.Give the example to Bitwise operators.

12. Write a Java program using "if" statement.

13. Briefly explain about class members.

14.Write a sample Java code using constructor.

SECTION-C

III. Answer the following questions: 3x10=30.

15. (a) Explain about Benefits and Applications of Java.

Or

(b) Explain about command line arguments.

16. (a) Describe about Relational, Logical, Assignment operators.

Or

(b) Explain in detail about if, if else statements with examples.

17. (a) Describe about while loop & for loop statements.

Or

(b) Define Inheritance and explain the types of inheritance.

B.Sc., THIRD SEMESTER EXAMINATIONS, MARCH/APRIL 2015

Code No: 4093/S

Computer Science Paper-III

Time: 2 hrs. Max. Marks: 50.

Note: All the questions are to be answered in serial order and in one place only.

Section - A

Answer Any Four Of The Following questions **4x5=20**

1. What are the properties provided by object oriented systems.
2. Write the minimum hardware and software requirements to run a Java program.
3. Explain conditional operators of Java with examples.
4. Compare constructors and methods in Java with examples.
5. Explain Enumerated data types in Java with examples.
6. Discuss the concept of two-dimensional array with an example.

Section - B

Answer All The Following 3x10-30

7 (a) i) Discuss various applications of java.

ii) Write the features of WWW.

Or

(b) What is command line arguments. Explain Echoing commend line arguments and parsing numeric command line arguments.

8 (a). i) Explain switch statement with examples.

ii) Describe Do-WHILE loop with examples.

Or

(b) Explain various types of Inheritance in Java with examples. Discuss why multiple inheritance is not supported in Java.

9 (a) What is a string class? Write a program to find whether the given string is a palindrome or not.

Or

(b) What is a user defined package. Explain the steps to execute a user defined package

and demonstrate it with a java.

B.Sc., THIRD SEMESTER EXAMINATIONS, OCT/NOV 2015

Computer Science Paper-III

Time: 2 hrs. Max. Marks; 50.

Note: All the questions are to be answered in serial order and in one place only.

Section - A

Answer Any Four of the Following questions **4x5=20**

1. Explain about benefits of oops
2. Explain about statements used in Java
3. Write a Java program using If-Else conditional statement.
4. Explain about class and its members
5. What is Multiple Inheritance?
6. Describe about enumerated Data types.

Section - B

Answer All The Following **3x10=30**

7. (a) Explain about Java features.

Or

(b) Explain about structure of Java program with examples.

8. (a) Explain about while loop, Do. While & for loop statements.

Or

(b) Explain about method overloading & overriding.

9. (a) What is a package? And explain any 5 system packages

Or

(b) Explain in detail about Arrays.

B.Sc. THIRD SEMESTER EXAMINATIONS, OCT/NOV 2014

Code No: 4093 Time: 2 hrs

Computer Science Paper - III

Max. Marks: 50.

Note: All the questions are to be answered in serial order and in one place only.

Section-A

Answer any Four of the following questions: **4X5=20.**

1. Explain the features of world wide web.

2. What is type casting. Explain with an examples

3. Write about various operators in Java

4. Explain switch statement with an example

5. What do you mean by a wrapper class. Explain with the help of a Java program. 6. Explain various string operations in Java.

Section-B

Answer the following questions: **3X10=30.**

7.(a) i) Explain the feature of Java.

ii) Write about Web Browsers.

Or

(b) i) What is a Java Virtual Machine (JVM). Explain the procedure to execute a Java program.

ii) Explain various Data types in Java.

8.(a) i) Demonstrate WHILE, DO-WHILE and FOR statements with simple Java programs.

Or

(b) i) Write a Java program to implement Method overloading.

ii) Explain the importance of Abstract classes in Java program.

9. (a) Define an Interface. Explain the creation and implementation of an Interface using an example.

Or

(b) Write a Java program to demonstrate user defined packages. Explain the steps to execute a user defined package.

B.Sc., THIRD SEMESTER EXAMINATIONS, MARCH/APRIL 2013

Code No: 3293/S

Computer Science, Paper-III

Object Oriented Programming with Java and Data Structures

Time: 2 hrs. Max. Marks: 50.

Section - A

Answer any Four of the following questions: **4x5=20**

1. Explain how java differs from 'C' language.
2. Define type casting. Explain different types of it.
3. Write about switch statement with an example.
4. Explain method over loading.
5. Write about vector class.
6. Write about wrapper classes.

Section-B

Answer the following questions : **3x10=30.**

7.(a) Explain in detail about Java features.

Or

(b) i)Explain data types in Java.

ii) Write about command line arguments.

8. (a) Explain different types of loops available in Java with examples.

Or

(b) Write a detail about constructors.

9. (a) Define interface. Explain the usage of Interface with examples.

Or

(b) What is a package. Explain the process of creating packages.

B.Sc., THIRD SEMESTER EXAMINATIONS, OCTOBER/NOVEMBER 2013

Code No: 4413

COMPUTER SCIENCE, Paper-III

Time: 2 hrs. Max. Marks: 50

Section - A

Answer any Four of the following questions: **4x5=20**

1. Differentiate the features of C++ and java.
2. Explain the hardware and software requirements for Java.
3. Explain Java Tokens with example.
4. Describe method overloading with and example.
5. Write about wrapper class with an example.
6. What is inheritance? Explain various types of inheritance.

Section - B

Answer the following questions: **3x10=30**

7. (a) Explain the concepts of OOPS. What are the advantages and application of OOPS.

Or

(b) Write a simple Java program and explain how it is executed.

8. (a) Describe all java operators with examples.

Or

(b) Differentiate WHILE and DO-WHILE with example. Write a Java program to implement method overloading.

9. (a) Explain a program to implement java interfaces.

Or

(b) Write a program to implement java interfaces.