

**August-2020**

**Subject : Data Structure (Internal)**

**Roll Number - 231      Student Name - SHARMA NILESH MAHESH**

- 1) What is Data Structure? Explain different types of data structure.
- 2) What is Double Linked List? How to traverse a Doubly Linked List?
- 3) Write and explain an algorithm to insert a node in a circular linked list.
- 4) What are the applications of Stack? Explain.
- 5) Explain Binary search. Give its advantages.

**Roll Number - 247      Student Name - TIWARI PRAFUL JITENDRA**

- 1) Define Algorithm. What are the characteristics of algorithm?
- 2) What is Sparse matrix? Explain different ways of representing sparse matrix into memory.
- 3) What is Linked List? What are the operations that can be performed on the Linked List?
- 4) Differentiate between linked list and array.
- 5) Explain Linear search. Give its advantages and disadvantages.

**Roll Number - 241      Student Name - VAJPAI GAURAV SANJAY**

- 1) Explain Depth first traversal of Graph with example.
- 2) Explain different types of data structure.
- 3) What is Circular Linked List? How to traverse a Circular linked list.
- 4) Define Stack. Discuss the basic operations performed on the stack.
- 5) What is Searching? Explain different types of searching methods.

**Roll Number - 245      Student Name - YADAV RAJAN JITENDRA**

- 1) Explain Breadth-First of Graph traversal with example.
- 2) Write an algorithm to convert Infix expression to Postfix operations.
- 3) Explain the applications of linked list.
- 4) What is collision? Explain how it is resolve.
- 5) Explain the following terms: Connected Graph, Directed Graph, Cyclic Graph, Acyclic Graph and Weighted Graph.

**Roll Number - 220      Student Name - PAL SATISH HIRALAL**

- 1) What is sorting? Explain any one sorting algorithm with example.

- 2) Explain various applications of circular linked list.
- 3) Define Tree and explain the following terms: 1) path 2) Height of a tree 3) Level of a tree.
- 4) Explain with example Dijkstra shortest path Algorithm.
- 5) Write a short note on Doubly Linked List.

**Subject : Data Structure (Practical)**

**Roll Number - 229      Student Name - SHAIKH OWAIS MUZAFFAR**

- 1) Write a program to store the elements in 1-D array and perform the search operations on its elements.
- 2) Write a program to implement the concept of Stack with Push, Pop, Display and Exit operations.

**Roll Number - 233      Student Name - SINGH ANKIT JITENDRA**

- 1) Write a program to store the elements in 1-D array and perform the reverse operations on its elements.
- 2) Write a program to implement Tower of Hanoi problem.

**Roll Number - 234      Student Name - SINGH ANSHU ASHISH**

- 1) Write a program to store the elements in 1-D array and arrange the elements in ascending order.
- 2) Write a program to convert an infix expression to postfix and prefix conversion.

**Roll Number - 228      Student Name - SHAIKH ADIL WASIM**

- 1) Write a program to store the elements in 1-D array and arrange the elements in ascending order.
- 2) Write a program to implement the concept of Queue with Insert, Delete, Display and Exit Operation.

**Roll Number - 247      Student Name - TIWARI PRAFUL JITENDRA**

- 1) Write a program to implement merge sort.
- 2) **Write a program to implement the concept of Deque**

**Roll Number - 249      Student Name - YADAV VIKASH MUNNALAL**

- 1) Write a program to implement bubble sort.
- 2) Write a program to implement Tower of Hanoi problem.

**Roll Number - 220      Student Name - PAL SATISH HIRALAL**

- 1) Write a program to implement selection sort.
- 2) Write a program to implement the concept of Circular Queue

**Roll Number - 204      Student Name - GOHIL NIKHIL VINOD**

- 1) Write a program to implement insertion sort.
- 2) Write a program to search the element using sequential search.

**Roll Number - 212      Student Name - KHAN SHARIQUE MOHD MUNIR**

- 1) Write a program to create a single linked list and display the node elements.
- 2) Write a program to implement selection sort.

**Roll Number - 246      Student Name - MISHRA VINIT JAYPRAKASH**

- 1) Write a program to search the elements in the linked list and display the same.
- 2) Write a program to implement Tower of Hanoi problem.

**Subject : Computer Network (Internal)**

**Roll Number - 247      Student Name - TIWARI PRAFUL JITENDRA**

- 1) Draw and explain OSI Model in detail.
- 2) Explain concept of multiplexing and demultiplexing in detail.
- 3) Explain HDLC frame structure in detail.
- 4) Short note on Store and forward packet switching.
- 5) Draw and explain STOP AND WAIT ARQ system.

**Subject : Computer Network (Practical)**

**Roll Number - 247      Student Name - TIWARI PRAFUL JITENDRA**

- 1) Configure IP static routing.
- 2) Create virtual PC based network using virtualization software and virtual NIC.

**Roll Number - 220      Student Name - PAL SATISH HIRALAL**

- 1) Configure IP routing using RIP.
- 2) Configuring DHCP server and client.

## **Subject : Python Programming (Internal)**

### **Roll No. - 229 Student Name - SHAIKH OWAIS MUZAFFAR**

1. List and explain the different features of Python.
2. What is Error? Explain Runtime error and semantic error with example.
3. What are the different type of values that can be stored or created in Python?
4. What is function? Explain the usage of functions with example
5. List and explain any five string functions.

### **Roll No. - 231 Student Name - SHARMA NILESH MAHESH**

1. Write a note on string operations.
2. What is List? How to create List in python?
3. List and explain any five built-in functions for List.
4. What are the different ways to access values from dictionary?
5. Explain the difference between List and Tuple

### **Roll No. - 233 Student Name - SINGH ANKIT JITENDRA**

1. What is class? How to create class in python? What are the different class members?
2. List and explain the different types of inheritance.
3. List and explain any five built – in modules in python
4. List and explain standard properties for widgets.
5. Explain the use of Brackets, Braces and Parentheses

### **Roll No. - 227 Student Name - SAKPAL GANDHAR PRASHANT**

1. List and explain any five type conversion functions
2. List and explain the different interpretation modes in python
3. What are Boolean functions? Write a program to justify Boolean functions.
4. Write a note on string operations.
5. What is string slicing? Illustrate variations in slicing with example.

### **Roll No. - 247 Student Name - TIWARI PRAFUL JITENDRA**

1. Write a note on string operations.
2. What is List? How to create List in python?
3. What is function? Explain the usage of functions with example
4. Write a note on string operations.
5. List and explain the different types of inheritance.

**Roll No. - 238 Student Name - TEJAM MANISH SUNIL**

1. Write a note on membership operator.
2. How to read content from a text file in python
3. List and explain the types of files.
4. What is exception? How to handle exceptions in python?
5. List and explain various File Attributes.

**Roll No. - 241 Student Name - VAJPAI GAURAV SANJAY**

1. List and explain any five metacharacters with example.
2. List and explain quantifiers used in regular expressions.
3. What are the different functions used to match the regular expression?
4. How to create and use regular expression to match the valid mobile number in python?
5. What is class? How to create class in python? What are the different class members?

**Roll No. - 249 Student Name - YADAV VIKASH MUNNALAL**

1. Write a note on membership operator.
2. How to read content from a text file in python
3. What is function? Explain the usage of functions with example
4. List and explain standard properties for widgets.
5. Explain the use of Brackets, Braces and Parentheses

**Roll No. - 245 Student Name - YADAV RAJAN JITENDRA**

1. List and explain the different features of Python.
2. What is Error? Explain Runtime error and semantic error with example
3. Write a note on string operations.
4. What is string slicing? Illustrate variations in slicing with example.
5. What are the different ways to access values from dictionary?

**Roll No. - 220 Student Name - PAL SATISH HIRALAL**

1. Write a note on membership operator.
2. How to read content from a text file in python
3. Write a note on string operations.
4. What are the different types of polymorphism?
5. Explain parameters and arguments in function with example

**Roll No. - 250 Student Name - CHAURASIYA ANKIT  
RAJBAHADUR**

1. List and explain any five type conversion functions
2. What is function? Explain the usage of functions with example
3. Write a note on string operations.
4. List and explain the different types of inheritance.
5. List and explain any five string functions.

**Roll No. - 212 Student Name - KHAN SHARIQUE MOHD MUNIR**

1. List and explain any five type conversion functions
2. List and explain the different interpretation modes in python
3. What are the different functions used to match the regular expression?
4. How to create and use regular expression to match the valid mobile number in python?
5. Explain the difference between List and Tuple

**Roll No. - 246 Student Name - MISHRA VINIT JAYPRAKASH**

1. List and explain standard properties for widgets.
2. Explain the use of Brackets, Braces and Parentheses
3. List and explain the types of files.
4. What is exception? How to handle exceptions in python?
5. List and explain various File Attributes.

**Roll No. - 224 Student Name - PARMAR HRITIK SUNIL**

6. Write a note on membership operator.
7. How to read content from a text file in python
8. List and explain the types of files.
9. What is exception? How to handle exceptions in python?
10. List and explain various File Attributes.

**Subject : Python Programming (Practical)**

**Roll No. - 233 Student Name - SINGH ANKIT JITENDRA**

1. Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.
2. Define a function that computes the length of a given list or string.

**Roll No. - 234 Student Name - SINGH ANSHU ASHISH**

1. Write a function that reverses the user defined value
2. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and 5th elements

**Roll No. - 228 Student Name - SHAIKH ADIL WASIM**

1. Write a Python program to read an entire text file.
2. Implement the concept of inheritance using python

**Roll No. - 227 Student Name - SAKPAL GANDHAR PRASHANT**

1. Write a Python program to sum all the items in a dictionary.
2. Design a class that store the information of student and display the same

**Roll No. - 247 Student Name - TIWARI PRAFUL JITENDRA**

1. Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.
2. Write a recursive function to print the factorial for a given number

**Roll No. - 244 Student Name - VISHWASRAO RITESH SUBHASH**

1. Write a program that takes two lists and returns True if they have at least one common member.
2. Write a Python script to sort (ascending and descending) a dictionary by value.

**Roll No. - 220 Student Name - PAL SATISH HIRALAL**

1. Design a class that store the information of student and display the same
2. Write a Python program to append text to a file and display the text

**Roll No. - 250 Student Name - CHAURASIYA ANKIT  
RAJBAHADUR**

1. Write a function that reverses the user defined value
2. Write a Python script to sort (ascending and descending) a dictionary by value.



**Roll No. - 206 Student Name - GUPTA VIVEK RAMNATH**

1. Write a program to implement exception handling.
2. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and 5th elements

**Roll No. - 205 Student Name - GUPTA ANKIT BHARAT**

1. Write a Python program to read an entire text file.
2. Implement the concept of inheritance using python

**Roll No. - 212 Student Name - KHAN SHARIQUE MOHD MUNIR**

1. Write a function that reverses the user defined value
2. Design a class that stores the information of employees and display the same.

**Roll No. - 217 Student Name - NISHAD ANKITKUMAR  
SHESHNATH**

1. Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.
2. Define a function that computes the length of a given list or string.

**Roll No. - 248 Student Name - PAWASKAR ROHAN PRAKASH**

1. Design a class that store the information of student and display the same
2. Write a Python program to append text to a file and display the text

**Roll No. - 224 Student Name - PARMAR HRITIK SUNIL**

1. Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.
2. Write a recursive function to print the factorial for a given number

**Subject : Database Management Systems (Practical)**

**Roll No. - 212 Student Name - KHAN SHARIQUE MOHD MUNIR**

1. Write PL/SQL code to demonstrate Packages
2. Write PL/SQL code to demonstrate Procedures

**Roll No. - 220 Student Name - PAL SATISH HIRALAL**

1. Write a PL/SQL code to demonstrate Explicit Cursors
2. Write PL/SQL code to demonstrate Handling Exceptions

**Roll No. - 238 Student Name - TEJAM MANISH SUNIL**

1. Write PL/SQL code to demonstrate Triggers
2. Write PL/SQL code to demonstrate Procedures

**Roll No. - 245 Student Name - YADAV RAJAN JITENDRA**

1. Write PL/SQL code to demonstrate Functions
2. Write PL/SQL code to demonstrate Packages

**Subject : Applied Maths (Internal)**

**Roll No. - 229 Student Name - SHAIKH OWAIS MUZAFFAR**

1. Find the inverse of the matrix by adjoint method  $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 10 \end{bmatrix}$
2. Verify Cayley-Hamilton Theorem for  $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$
3. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
4. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$

**Roll No. - 231 Student Name - SHARMA NILESH MAHESH**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
3. Express the complex number in to Polar form  $(1 - \sqrt{3}i)$
4. Simplify  $\frac{(2+3i)(1+3i)}{(1+2i)^2}$

**Roll No. - 233 Student Name - SINGH ANKIT JITENDRA**

1. Find the inverse of the matrix by adjoint method  $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 10 \end{bmatrix}$
2. Verify Cayley-Hamilton Theorem for  $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$
3. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
4. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$

**Roll No. - 234 Student Name - SINGH ANSHU ASHISH**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
3. Express the complex number in to Polar form  $(1 - \sqrt{3}i)$
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**Roll No. - 227 Student Name - SAKPAL GANDHAR PRASHANT**

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**Roll No. - 247 Student Name - TIWARI PRAFUL JITENDRA**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
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**Roll No. - 238 Student Name - TEJAM MANISH SUNIL**

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2. Verify Cayley-Hamilton Theorem for  $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$
3. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
4. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$

**Roll No. - 239 Student Name - UPADHYAY ABHINAV K.**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
3. Express the complex number in to Polar form  $(1 - \sqrt{3}i)$
4. Simplify  $\frac{(2+3i)(1+3i)}{(1+2i)^2}$

**Roll No. - 241 Student Name - VAJPAI GAURAV SANJAY**

1. Find the inverse of the matrix by adjoint method  $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 10 \end{bmatrix}$
2. Verify Cayley-Hamilton Theorem for  $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$
3. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
4. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$

**Roll No. - 245 Student Name - YADAV RAJAN JITENDRA**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
3. Express the complex number in to Polar form  $(1 - \sqrt{3}i)$
4. Simplify  $\frac{(2+3i)(1+3i)}{(1+2i)^2}$

**Roll No. - 220 Student Name - PAL SATISH HIRALAL**

1. Find the inverse of the matrix by adjoint method  $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 10 \end{bmatrix}$
2. Verify Cayley-Hamilton Theorem for  $\begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$
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4. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$

**Roll No. - 248 Student Name - PAWASKAR ROHAN PRAKASH**

1. Solve :  $x + y + z = 4$ ,  $x - y + z = 0$ ,  $2x + y + z = 5$
2. Evaluate  $(1 + \sqrt{3}i)^{120} + (1 - \sqrt{3}i)^{120}$
3. Express the complex number in to Polar form  $(1 - \sqrt{3}i)$
4. Simplify  $\frac{(2+3i)(1+3i)}{(1+2i)^2}$

**Subject : Mobile Programming (Practical)**

**Roll No. - 248 Student Name - PAWASKAR ROHAN PRAKASH**

1. Creating and building simple “Hello World” App using Cordova
2. Create app to Add and Use Button

**Roll No. - 229    Student Name - SHAIKH OWAIS MUZAFFAR**

1. Creating and building simple “Calculator” App using Cordova
2. Create Cordova App to Install and use Contacts Plugin

**Roll No. - 233    Student Name - SINGH ANKIT JITENDRA**

1. Create Cordova App to Install and use Camera Plugin
2. Create Cordova App to Install and use Battery Plugin

**Roll No. - 234    Student Name - SINGH ANSHU ASHISH**

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