

General Instructions

- (i) This question paper contains 85 questions: Section A (15 questions, common to all candidates), Section B1 Computer Science (35 questions) and Section B2 Informatics Practices (35 questions).
- (ii) Candidates attempt Section A and any one of Section B1 or Section B2, that is 50 questions in all. Every question is a single-correct multiple-choice question.
- (iii) These questions follow the CUET (UG) examination pattern.
- (iv) Each correct answer is awarded +5 marks, with -1 for an incorrect answer.
- (v) The time allotted for this paper is 60 minutes.
- (vi) Attempt every question; detailed solutions are provided in the companion solutions booklet.

1. helps to enforce integrity and identify relationships among tables in a database.

- (A) Row
- (B) Tuple
- (C) Key
- (D) Column

2. Which of the following can uniquely identify the tuples of a relation in a database?

- (A) Foreign Key
- (B) Primary Key
- (C) Candidate Key
- (D) Composite Primary Key

Choose the **correct** answer from the options given below:

- (A) (A), (B) and (D) only
- (B) (A), (C) and (D) only
- (C) (A), (B), (C) and (D)
- (D) (B), (C) and (D) only

3. Rama stores the data in a specific format or structure in a file. If the structure or format itself is changed, all the existing application programs accessing that file also need to be changed. Otherwise, the programs may not work correctly. What is this concept called?

- (A) Data Sharing
 - (B) Data Inconsistency
 - (C) Data Dependency
 - (D) Data Isolation
-

4. is known as design of database.

- (A) Constraints
 - (B) Keys
 - (C) Schema
 - (D) Tuples
-

5. STUDENT

Name	Class	DOB	Gender	City	Marks
Rohan	XI	2008	M	Delhi	85
Priya	XII	2006	F	Mumbai	92
Ankit	XI	2007	M	Delhi	88
Nidhi	XII	2006	F	Mumbai	90
Aarav	IX	2009	M	Kolkata	78
Simran	XI	2007	F	Chandigarh	94
Rahul	XII	2006	M	Pune	80

From the above table 'STUDENT', which query will return all the students from class 'XI'?

- (A) SELECT * FROM STUDENT WHERE Class ='XI';
 - (B) SELECT * FROM STUDENT WHERE LIKE 'XI';
 - (C) SELECT Name, DOB FROM STUDENT WHERE Class >'XI';
 - (D) SELECT * FROM STUDENT WHERE Class IN ='XI';
-

6. Which Sql Statements correctly retrieves records from a 'Commodity' table where the Price is either above 1000 or the product Category is 'Sales'?

- (A) SELECT * FROM Commodity WHERE Price>1000 OR Category ='Sales';
 - (B) SELECT * FROM Commodity WHERE Price>1000 AND Category ='Sales';
 - (C) SELECT * FROM Commodity IF Price>1000 OR Category ='Sales';
 - (D) SELECT * FROM Commodity WHERE Price>1000 || Category =Sales ;
-

7. Which query correctly finds a category in the 'Commodity' table that has more than 5 products with a Price greater than 600?

(A)

```
SELECT category FROM Commodity GROUP BY category HAVING COUNT(*)>5 AND Price >600;
```

(B)

```
SELECT category FROM Commodity WHERE Price>600 GROUP BY category HAVING COUNT(*)>5;
```

(C)

```
SELECT category, COUNT(*) FROM Commodity GROUP BY Category HAVING Price>600 AND COUNT(*)>5;
```

(D)

```
SELECT category FROM Commodity GROUP BY HAVING COUNT(Price>600)>5;
```

8. Match List-I with List-II

List-I

List-II

- | | |
|--|----------------|
| (A) Retrieve all rows with duplicates removed | (I) GROUP BY |
| (B) Filter rows based on condition | (II) ORDER BY |
| (C) Aggregate data into groups | (III) DISTINCT |
| (D) Sort rows in ascending or descending order | (IV) WHERE |

Choose the **correct** answer from the options given below:

- (A) (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
- (B) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (C) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
- (D) (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
-

9. Which of the following are multiple row functions?

- (A) Sum
- (B) Count
- (C) Left
- (D) Max

Choose the **correct** answer from the options given below:

- (A) (A), (B) and (C) only
 - (B) (A) and (D) only
 - (C) (A), (B) and (D) only
 - (D) (A) and (B) only
-

10. Arrange the evolution of networking as per the development timeline:

- (A) The Berners - Lee at CERN developed HTML and URL, thus giving birth to World Wide Web (www).
- (B) TCP/IP introduced as standard protocol on ARPANET.
- (C) Roy Tomlinson develops network messaging or -mail symbol@ comes to mean "at".
- (D) ARPANET became functional by connecting UCLA and SRI.

Choose the correct answer from the options given below:

- (A) (A), (B), (C), (D)
 - (B) (D), (C), (B), (A)
 - (C) (B), (A), (D), (C)
 - (D) (C), (B), (D), (A)
-

11. Which of the following statement is CORRECT about GROUP BY clause in SQL?

- (A) The GROUP BY clause is used to sort data in ascending or descending order.
 - (B) GROUP BY allows you to aggregate data, but it cannot be used with aggregate functions like SUM, AVG or COUNT.
 - (C) The GROUP BY clause is used to arrange identical data into groups often used with aggregate functions such as SUM, AVG or COUNT.
 - (D) The GROUP BY clause merges the contents of two or more tables.
-

12. A is an access point between an organization's network and the outside world of the internet.

- (A) Switch
 - (B) Gateway
 - (C) Repeater
 - (D) Modem
-

13. An analog device which regenerates the weakened signal appearing on the cable and puts them back is known as .

- (A) Switch
- (B) Modem
- (C) Bridge
- (D) Repeater

14. Match List-I with List-II

List-I Network Devices	List-II Description
(A) Switch	(I) Sends signals only to the selected devices instead of sending to all.
(B) Repeater	(II) An analog device that works with signals on the cables to which it is connected.
(C) Hub	(III) A network device used to connect different devices through wires.
(D) Ethernet Card	(IV) A network adapter acts as an interface between the computer and the network.

Choose the **correct** answer from the options given below:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
- (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (D) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)

15. The RJ in RJ-45 connector stands for :

- (A) Registered Joint
- (B) Routing Jack
- (C) Registered Jack
- (D) Ring Joint

16. Arrange the following statements in the correct sequence in order to write multiple strings to a file.

- (A) `myobj.close()`
- (B) `lines= ["Hello everyone \n", "writing multiple strings into file"]`
- (C) `myobj.writelines(lines)`
- (D) `myobj = open ("myfile.txt", 'w')`

Choose the **correct** answer from the options given below:

- (A) (D), (B), (C), (A)
 - (B) (C), (D), (B), (A)
 - (C) (B), (A), (D), (C)
 - (D) (C), (B), (D), (A)
-

17. Stack follows the principle.

- (A) Last-In-First-out
 - (B) First-In-First-out
 - (C) Enqueue - Dequeue
 - (D) Last-In-Last-out
-

18. The 'raise' keyword in Python is used .

- (A) to throw an exception
 - (B) to avoid an exception
 - (C) to handle a keyword
 - (D) to find an exception
-

19. Which of the following statement is correct with respect to exception handling in python?

- (A) There can be multiple except clause associated with a single try block.
 - (B) The finally clause cannot be used if there are more than one except clause present with a try block.
 - (C) The raise statement is mandatory in a try block.
 - (D) An except clause can exist without any try block.
-

20. Which of the following methods is used to position a file object to a specific position in a file?

- (A) tell()
 - (B) peep()
 - (C) move()
 - (D) seek()
-

21. Consider an empty stack. What will the stack look like (starting from the top) after executing the following operations in sequence?

1. push(7)
2. push(5)
3. push(9)
4. push(11)
5. pop()
6. push (22)

- (A) 22
- (B) 9
- (C) 5
- (D) 7

Choose the **correct** answer from the options given below:

- (A) (A), (B), (C), (D)
- (B) (D), (C), (B), (A)
- (C) (B), (A), (D), (C)
- (D) (C), (B), (D), (A)



22. In the below stack operation, what will be the output value for the variable 'result'?

```
result = 0
stack = [10,20,30]
stack.append(40)
result += stack.pop()
result += stack.pop()
```

- (A) 70
- (B) 60
- (C) 90
- (D) 50



23. What will be the postfix equivalent of the expression $(A + B) * (C - D)$?

- (A) $A B + C D - *$
- (B) $A B * C D + -$
- (C) $A B - C D * +$
- (D) $A B C * + D -$



24. Which of the following elements will be present in a queue after the end of the following operation sequence? Assume the queue is empty initially.

```
enqueue(10)
enqueue(20)
enqueue(30)
dequeue()
enqueue(40)
dequeue()
enqueue(50)
enqueue(60)
```

- (A) 60
- (B) 30
- (C) 20
- (D) 50

Choose the **correct** answer from the options given below:

- (A) (A), (B) and (D) only
 - (B) (A), (B) and (C) only
 - (C) (A), (B), (C) and (D)
 - (D) (B), (C) and (D) only
-

25. Which of the following is a linear data structure?

- (A) Deque
- (B) Queue
- (C) Stack
- (D) Tree

Choose the *correct* answer from the options given below:

- (A) (A), (B) and (C) only
 - (B) (A), (B) and (D) only
 - (C) (A), (B), (C) and (D)
 - (D) (B), (C) and (D) only
-

26. Which of the following statements is true in the context of a Deque?

- (A) Insertion is done from front and deletion is done from rear.
 - (B) Insertion and deletion can be done at both ends.
 - (C) Insertion is done from front and deletion is done from front.
 - (D) Insertion is done from rear and deletion is done from rear.
-

27. Which of the following are the applications of binary search?

- (A) Telephone Directory
- (B) Finding the element with a minimum or maximum value in a sorted list
- (C) Implementing routing tables
- (D) Indexing in database

Choose the **correct** answer from the options given below:

- (A) (A), (B) and (D) only
 - (B) (A), (B) and (C) only
 - (C) (A), (B), (C) and (D)
 - (D) (B), (C) and (D) only
-

28. What happens even if a key is not present in the list during a linear search?

- (A) The algorithm stops mid way.
 - (B) The algorithm skips elements.
 - (C) The algorithm gives an error.
 - (D) The algorithm searches through entire list.
-

29. If a linear search is performed on 10 elements, how many comparisons will be needed in worst case?

- (A) 1
 - (B) 10
 - (C) 9
 - (D) 11
-

30. How many passes are required to sort a list of 6 elements using bubble sort?

- (A) 5
 - (B) 6
 - (C) 4
 - (D) 3
-

31. Which sorting algorithm involves repeatedly selecting the smallest element and placing it in its correct position?

- (A) Bubble Sort
 - (B) Selection Sort
 - (C) Insertion Sort
 - (D) Quick Sort
-

32. A loop within a loop will have the time complexity as .

- (A) n^2
 - (B) $\log(n)$
 - (C) n
 - (D) n^3
-

33. Which of the following are examples of unstructured data?

- (A) Writing tweets
- (B) Recording a video
- (C) Marking attendance by the teacher
- (D) Filling a form for opening an account

Choose the **correct** answer from the options given below:

- (A) (A) and (B) only
 - (B) (A), (B) and (C) only
 - (C) (C) and (D) only
 - (D) (B), (C) and (D) only
-

34. Calculate the standard deviation of the given temperature below recorded for the 7 days of a week:

24, 24, 21, 20, 26, 27, 30

- (A) 24
 - (B) 3.2
 - (C) 24.57
 - (D) 11.95
-

35. Which measure of central tendency is better suited for dealing with an outlier?

- (A) Median
- (B) Mean
- (C) Mode
- (D) Range

36. Match List-I with List-II

List-I	List-II
KEY CONCEPTS IN DATABASE DESCRIPTION	
(A) Database Schema	(I) Snapshot of the database
(B) Database Instance	(II) Restriction on the type of data
(C) Data Dictionary	(III) Skeleton of the database
(D) Data Constraint	(IV) Database catalog

Choose the **correct** answer from the options given below:

- (A) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

37. Sometimes, on calling a customer service center, the Interactive Voice Response System (IVRS) tells us to wait till a support person is available. Which data structure this application is of?

- (A) Enqueue
- (B) Binary Tree
- (C) Stack
- (D) Queue

38. Calculate the degree and cardinality of the given relation below:

ID	Name	Email	Address	Phone No.
001	Ajay	ajay@abc.com	A1-Shakti Nagar, Bangalore	55218936
002	Amit	amit@abc.com	C32- Indira Nagar, Lucknow	45321789
003	Ashu	ashu@abc.com	117/82 Patel Nagar, Delhi	98567894
004	Ashok	ashok@abc.com	249-250, Motinagar, Gujrat	97698541

- (A) Degree = 4, Cardinality = 5
 - (B) Degree = 5, Cardinality = 4
 - (C) Degree = 5, Cardinality = 1
 - (D) Degree = 4, Cardinality = 1
-

39. Suppose you want to select distinct salaries working in department 101 from the 'Employee' relation. What will be the correct order of writing the query?

- (A) FROM Employee
- (B) SELECT
- (C) WHERE
- (D) DISTINCT Salary
- (E) Dept_ID= 101

Choose the **correct** answer from the options given below:

- (A) (A), (B), (C), (D), (E)
 - (B) (A), (C), (B), (D), (E)
 - (C) (B), (D), (A), (C), (E)
 - (D) (B), (E), (C), (D), (A)
-

40. _____ is a search technique that makes use of the ordering of elements in the list to quickly search for a key.

- (A) Linear Search
 - (B) Binary Search
 - (C) Hashing
 - (D) Bubble Search
-

41. Sales

ID customer_id order_date total_amount

1	C101	2022-01-15	1000
2	C102	2022-02-20	500
3	C103	2022-03-10	800
4	C101	2022-04-05	600

What is the result of the following query with respect to given relation 'Sales'?

SELECT COUNT(DISTINCT customer_id) FROM Sales;

- (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
-

42. Which protocol is used to format and transmit the information from the World Wide Web?

- (A) FTP
 - (B) TCP
 - (C) HTTP
 - (D) DNS
-

43. Match **List-I** with **List-II**

List-I	List-II
Topology Characteristics	

- | | |
|------------|----------------------------|
| (A) Star | (I) Single backbone cable |
| (B) Bus | (II) Central hub or switch |
| (C) Ring | (III) Unidirectional link |
| (D) Hybrid | (IV) Multiple branches |

Choose the **correct** answer from the options given below:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
 - (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
 - (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
 - (D) (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
-

44. What describes the work of a repeater?

- (A) Regenerates weak signals
 - (B) Resolves domain to IP address
 - (C) Unique hardware address
 - (D) Circuit switching
-

45. What is the measurement unit of bandwidth?

- (A) Hertz
 - (B) Kilobytes
 - (C) Milliseconds
 - (D) Megabytes
-

46. What is the range of frequency for radio waves?

- (A) 3 KHz to 300 GHz
 - (B) 1 GHz to 10 Ghz
 - (C) 300 GHz to 400 Thz
 - (D) 3 KHz to 1 GHz
-

47. Consider the following numList:

8 7 13 1 -9 4

Sequence the following output obtained after each pass of comparison using bubble sort.

(A)

7 8 1 -9 4 13

(B)

7 1 -9 4 8 13

(C)

-9 1 4 7 8 13

(D)

1 -9 4 7 8 13

Choose the **correct** answer from the options given below:

- (A) (B), (D), (C), (A)
 - (B) (A), (B), (C), (D)
 - (C) (A), (B), (D), (C)
 - (D) (C), (B), (D), (A)
-

48. Match List-I with List-II

**List-I
(Malware)**

List-II (Threat)

- | | |
|---------------|---|
| (A) Keylogger | (I) It generates revenue using "pay per click" mechanism to charge its clients against the number of clicks on their displayed ads. |
| (B) Adware | (II) Makes the logs of daily keyboard usage and may send it to an external entity as well. |
| (C) Spyware | (III) Standalone programs that are capable of replicating on their own and can spread to other computers through the network. |
| (D) Worm | (IV) Usually tracks internet usage data and sells it to advertisers. |

Choose the **correct** answer from the options given below:

- (A) (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
 - (B) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
 - (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
 - (D) (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
-

49. Which statement is true about a Trojan?

- (A) It is not a malware.
 - (B) It does not self-replicate or infect other files.
 - (C) It cannot damage files.
 - (D) It does not spreads through user interaction.
-

50. Which malware type disguises itself as legitimate software?

- (A) Spyware
 - (B) Adware
 - (C) Virus
 - (D) Trojan
-

51. Which of the following operations can be performed with the UNION clause in SQL?

- (A) Fetch only common rows between two tables
- (B) Combine rows from two tables without duplicates
- (C) Combine rows from two tables allowing duplicates
- (D) Combine columns with duplicates

52. Which clause is used to combine rows from two tables that meet a condition?

- (A) UNION
- (B) INTERSECT
- (C) JOIN
- (D) MINUS

53. What is the degree of the resulting table when performing a Cartesian product of two tables with degrees 3 and 4?

- (A) 3
- (B) 4
- (C) 7
- (D) 12

54. Sequence the following steps involved in Project Based Learning:

- (A) Fixing of a time frame and processing
- (B) Identification of a project
- (C) Defining a plan
- (D) Providing guidance and monitoring a project
- (E) Outcome of a project

Choose the **correct** answer from the options given below:

- (A) (A), (B), (C), (E), (D)
 - (B) (A), (B), (C), (D), (E)
 - (C) (B), (A), (D), (C), (E)
 - (D) (B), (C), (A), (D), (E)
-

55. Match **List-I** with **List-II**

List-I
AGGREGATE
FUNCTIONS

List-II
DESCRIPTION

- | | |
|--------------|---|
| (A) COUNT() | (I) Returns the average of the values in a specified column |
| (B) AVG() | (II) Returns the number of records in a table |
| (C) COUNT(*) | (III) Truncate numerical values to a specified position |
| (D) ROUND() | (IV) Returns the number of values in a specified column, ignoring NULL values |

Choose the **correct** answer from the options given below:

- (A) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
 - (B) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
 - (C) (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
 - (D) (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
-

56. Which of the following are the components of successful teamwork?

- (A) Teams listen to each other and follow the steps of their own
- (B) Share ideas with others
- (C) Do not have respect for team members
- (D) Participate in completing the project

Choose the **correct** answer from the options given below:

- (A) (B) and (D) only
 - (B) (A), (C) and (D) only
 - (C) (A), (B) and (D) only
 - (D) (B), (C) and (D) only
-

57. What will be the output of `df.isnull().any()`?

- (A) True if all columns contain null values
 - (B) False if no missing values are present in any column
 - (C) True or false for each column depending whether it contains missing values or not
 - (D) A count for missing values in all columns
-

58. Identification of a project leader generally falls under which of the following steps of Project Based Learning?

- (A) Defining a plan
 - (B) Fixing of a time frame and processing
 - (C) Identification of a project
 - (D) Providing guidance and monitoring a project
-

59. In data handling, pandas support index values.

- (A) Unique
 - (B) Non-unique
 - (C) Homogeneous
 - (D) NaN
-

60. Match **List-I** with **List-II**

List-I

List-II

- | | |
|------------------------|---|
| (A) pip install pandas | (I) one-dimensional array containing a sequence of values |
| (B) Numpy array | (II) can have different data types |
| (C) Pandas DataFrame | (III) requires homogeneous data |
| (D) Series | (IV) install Pandas library |

Choose the **correct** answer from the options given below:

- (A) (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
 - (B) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
 - (C) (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
 - (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
-

61. While appending two dataframes, if we want to raise error in case row labels are duplicate, we shall use which parameter of append() method?

- (A) ignore_index = False
 - (B) row_index = False
 - (C) in_place = True
 - (D) verify_integrity = True
-

62. Order the following steps to for creation of series from NumPy Arrays.

(A)

```
>>> import numpy as np
```

(B)

```
>>> array1 = np.array([1,2,3,4])
```

(C)

```
>>> import pandas as pd
```

(D)

```
>>> series3 = pd.Series(array1)
```

(E)

```
>>> print(series3)
```

Choose the **correct** answer from the options given below:

(A) (A), (D), (C), (B), (E)

(B) (A), (C), (B), (D), (E)

(C) (B), (A), (D), (C), (E)

(D) (C), (B), (D), (A), (E)

63. What will be the output of the command `df.count(axis = 1)`?

(A) The total number of row in a dataframe.

(B) The total number of values in each row.

(C) The total number of columns in each dataframe

(D) The total number of NaN values in each row

64. What does `pivot_table()` do in pandas that `pivot()` cannot?

(A) It aggregates the values from rows with duplicate entries for the specified columns.

(B) It does not allow duplicate data to be reshaped.

(C) It merges multiple dataframes into one.

(D) It converts NaN values to zero.

65. _____ will display the total number of values for each column or row of a DataFrame.

- (A) count()
 - (B) tail(n)
 - (C) head(n)
 - (D) max(n)
-

66. Which of the following functions are used to split the data into groups based on some criteria?

- (A) split()
 - (B) GROUP BY()
 - (C) first()
 - (D) reset_index()
-

67. Arrange the following steps to calculate the total number of values for each row of a DataFrame.

- (A) Load the DataFrame as 'df'
- (B) Use the df.count() method
- (C) Print the result
- (D) import pandas as pd

Choose the **correct** answer from the options given below:

- (A) (D), (C), (B), (A)
 - (B) (D), (A), (B), (C)
 - (C) (D), (C), (A), (B)
 - (D) (C), (B), (D), (A)
-

68. Extracting a part of a series can be done through .

- (A) Indexing
 - (B) Subtracting
 - (C) Slicing
 - (D) Partitioning
-

69. Which type of chart is most suitable for statistical summary, including quartiles?

- (A) Line Plot
- (B) Box Plot
- (C) Pie chart
- (D) Scatter Plot

70. What does the explode property in the pie chart do?

- (A) Adds border to the pie chart
- (B) Changes the chart color
- (C) Specifies the fraction of the radius with which to expand each slot
- (D) Rotates the chart clockwise

71. Which statements are true regarding the scatter plot?

- (A) Shows how two variables are correlated
- (B) Summarizes categorical data
- (C) Displays proportions as a whole
- (D) Uses dots to represent data

Choose the **correct** answer from the options given below:

- (A) (A), (B) and (D) only
- (B) (A), (B) and (C) only
- (C) (A), (B), (C) and (D)
- (D) (A) and (D) only

72. Match **List-I** with **List-II**

List-I

List-II

- | | |
|--------------------|---|
| (A) xticks, yticks | (I) Sets the user defined markings for x and y-axis |
| (B) kind | (II) Displayed by default associating the colours with the plotted data |
| (C) legend | (III) A symbol representing data value |
| (D) marker | (IV) Customizing different plot types |

Choose the **correct** answer from the options given below:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (C) (A) - (I), (B) - (IV), (C) - (II), (D) - (III)
- (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

73. How can you save a matplotlib figure to a file?

- (A) plt.savefile()
- (B) plt.savefig(filename)
- (C) plt.storefig(filename)
- (D) plt.save(filename)

74. Which of the following determines the height of each column in a histogram?

- (A) The number of intervals
- (B) The frequency of datapoints within the range
- (C) The x-axis values
- (D) The y-axis values

75. Arrange the following steps in sequence to transmit a message over the internet.

- (A) The message is displayed on a web page
- (B) Packets are reassembled at the destination
- (C) The message is disassembled as packets
- (D) Packets are transmitted over the network

Choose the **correct** answer from the options given below:

- (A) (A), (B), (C), (D)
- (B) (A), (C), (B), (D)
- (C) (B), (A), (D), (C)
- (D) (C), (D), (B), (A)

76. Which of the browser settings contains cookies and site data?

- (A) General Panel
- (B) Privacy and Security Panel
- (C) Home panel
- (D) Search Panel

77. Which topology has a backbone wire that is shared among all nodes?

- (A) Ring
 - (B) Bus
 - (C) Star
 - (D) Mesh
-

78. Which of the following can be viewed as Project Specification?

- (A) Item Category is Book, then the Item Type can be either Academic or Non-Academic, and Item Id should be prefixed with a 'B'.
- (B) Teenagers spend a good amount of time on social networking sites, and it plays a vital role in their behaviour.
- (C) Total population, total male population and total female population aged 10 to 24 in India.
- (D) Realising the importance of Reduce, Reuse and Recycle, the Bookworm club every year organises a Book Donation Camp.

Choose the **correct** answer from the options given below:

- (A) (A), (C) and (D) only
 - (B) (B), (C) and (D) only
 - (C) (A) and (C) only
 - (D) (B) and (D) only
-

79. The physical organization of devices and connecting media in a network is called .

- (A) Web Server
 - (B) Web page
 - (C) WAN
 - (D) Topology
-

80. attribute name is used to display a NumPy ndarray having all the values in the DataFrame, without the axes labels.

- (A) DataFrame.columns
- (B) DataFrame.size
- (C) DataFrame.shape
- (D) DataFrame.values

81. Match List-I with List-II

List-I	List-II
ETIQUETTE	DESCRIPTION
(A) Credibility	(I) Choose your password wisely.
(B) Security	(II) Cautious while making comments.
(C) Reliability	(III) No copyright violation.
(D) Ethical	(IV) Think before you upload anything.

Choose the **correct** answer from the options given below:

- (A) (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (B) (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (C) (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
- (D) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

82. A permission agreement between the creator and the party who wants to use the creator's work is called .

- (A) Trademark
- (B) Copyright
- (C) Patent
- (D) Licensing

83. Using another person's work, without permission or without paying for it, if it is being sold is known as .

- (A) Cyber crime
- (B) Fair use
- (C) Copyright infringement
- (D) Identity theft

84. Which of the following is an example of cyberbullying?

- (A) Sending phishing links to known friends or acquaintance.
 - (B) Creating fake profiles of your friends and uploading embarrassing pictures.
 - (C) Blocking your friends from any communication with you.
 - (D) Hacking in to your friends system and read his mails
-

85. The 3 "R" of e-waste management leading to efficient disposal are:

- (A) Reduce, Reuse, Return
- (B) Retire, Reuse, Recycle
- (C) Recycle, Reuse, Reduce
- (D) Rescue, Reuse, Return