

CUET (UG) Exam Paper 2024

National Testing Agency

Section II

INFORMATIC PRACTICES

Time Allowed: 45 Mins.

Maximum Marks: 200

General Instructions :

- (i) This paper consists of 50 MCQs, attempt any 40 out of 50 .
- (ii) Correct answer or the most appropriate answer: Five marks (+5) .
- (iii) Any incorrect option marked will be given minus One mark (-1) .
- (iv) Unanswered/Marked for Review will be given No mark (0) .
- (v) If more than one option is found to be correct then Five marks (+5) will be awarded to only those who have marked any of the correct options.
- (vi) If all options are found to be correct then Five marks (+5) will be awarded to all those who have attempted the question.
- (vii) If none of the options is found correct or a Question is found to be wrong or a Question is dropped then all candidates who have appeared will be given five marks (+5).
- (viii) Calculator / any electronic gadgets are not permitted.

Compulsory

1. Match List-I with List-II

LIST-I	LIST-II
A. Candidate Key	I. It is an attribute in a table which is the primary key in linked table
B. Primary Key	II. It refers to any attribute that can uniquely identify a record in a table
C. Alternate Key	III. It refers to designated attribute(s) that uniquely identify a record in the table
D. Foreign Key	IV. It is often used when primary key fails

Choose the correct answer from the options given below:

- (1) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (2) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

Ans. Option (3) is correct.

Explanation: Primary Key: It refers to the unique attribute in the table. It does not contain null values. For a table, only one attribute can be referred to as the primary key. It can be chosen from the set of candidate keys.

Candidate Key: All the subset of attributes that can uniquely identify a tuple are known as candidate keys. For a table, one or more than one can be available as candidate key.

Alternate Key: All the candidate keys which are not primary keys are referred to as alternate keys.
AK=CK-PK

Foreign Key: A non-key attribute of a table that is primary key in another table and links the two tables is a foreign key.

2. A program is given to read data from the "CUET.TXT" file and display the result on the screen.

- (A) data = fout.read()
- (B) fout.close()
- (C) print (data)
- (D) fout = open ("CUET.TXT","r")

Choose the correct sequence from the options given below:

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

Ans. Option (4) is correct.

Explanation: The correct sequence of the program is:

```
fout = open ("CUET.TXT", "r")
data = fout.read ()
print (data)
fout.close ()
```

First, the respective file has to be opened in read mode ("r"). Since, the data present in the file has to be read and displayed. Hence, the read mode has to be used. After reading of the data, the data has to be printed on the screen. After all the processes are over, the file handle has to be closed.

3. ARPANET stands for

- (1) Automatic Research Practical Agency Network
- (2) Advanced Research Project Application Network
- (3) Advanced Research Projects Agency Network
- (4) Automatic Research Practical Application Network

Ans. Option (3) is correct.

Explanation: ARPANET stands for Advanced Research Projects Agency Network. It was a mini version of Internet. It was first funded by US Department of Defense's Advanced Research Projects Agency in the late 1960s and early 1970s. This Project stood as a central pavement for the development of the Internet.

4. In _____ topology, each device is connected to every other device on a network through a dedicated point-to-point link.

- (1) Ring (2) Tree
(3) Bus (4) Mesh

Ans. Option (4) is correct.

Explanation: In Mesh Topology where each device is connected to other device with a dedicated link. It is similar to the peer-to-peer network concept. Mesh topology uses routing and flooding concepts to transfer the packets. It is best for data transmission but the setup cost is very high compared to other topologies.

5. Which of the following command(s) can be used to open a file "c:\cs\ip\cueto.txt" for writing as well as reading in text file format?

- (A) f = open("c:\cs\ip\cueto.txt", "w+")
(B) f = open("c:\cs\ip\cueto.txt", "w+")
(C) f = open(r"c:\cs\ip\cueto.txt", "w+")
(D) f = open("c:\cs\ip\cueto.txt", "w+")

Choose the correct answer from the options given below:

- (1) (A) and (C) only (2) (B) and (C) only
(3) (A), (B) and (C) only (4) (A), (C) and (D) only

Ans. Option (1) is correct.

Explanation: w+ is the mode which can be used to read and write in the text files. To open the text file, the syntax is: f = open("path", "mode").

6. Consider an SQL table having the following fields INVOICENO, CARID, CUSTID, SELLDATE, PAYMENTMODE, EMPLOYEEID, SALEPRICE, COMMISSION.

To display the payment mode and number of payments made using that mode more than once, choose the correct sequence of the following

- (A) SELECT (B) HAVING
(C) GROUP BY (D) ORDER BY
(1) (A), (C), (B), (D) (2) (A), (B), (D), (C)
(3) (B), (A), (D), (C) (4) (B), (D), (A), (C)

Ans. Option (1) is correct.

Explanation: The correct sequence of the query to display the payment mode and the number of payments made by that mode is: SELECT, GROUP BY, HAVING, ORDER BY.
SELECT – It is used to select or display data.
GROUP BY – It is a clause on common values in an attribute which can be used to group the data based.

HAVING – It is a clause which can be used instead of WHERE condition. HAVING clause is associated with the aggregate functions. Hence,

it can be used to identify the number of payments made by the user using the same payment mode.
ORDER BY – It is used to sort the records either in ascending or descending order.

7. Match List-I with List-II on the basis of the following statements.

a = "Hello CUET"
b = 10
c = 0

LIST-I (Statement)		LIST-II (Type of Error)	
A.	print(a[20])	I.	NameError
B.	print(a+b)	II.	IndexError
C.	print(b / c)	III.	ZeroDivisionError
D.	print(d)	IV.	TypeError

Choose the correct answer from the options given below:

- (1) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
(2) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)
(3) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
(4) (A)-(I), (B)-(IV), (C)-(II), (D)-(III)

Ans. Option (1) is correct.

Explanation:

(A) print(a[20]) results in IndexError because index 20 is out of range.

(B) print(a + b) results in TypeError because you can't concatenate a string (a) with an integer (b).

(C) print(b / 0) results in ZeroDivisionError because dividing by zero is not allowed.

(D) print(d) results in NameError because d is not defined.

8. Number of tuples in a relation is called:

- (1) Degree of the relation
(2) Cardinality of the relation
(3) Domain of the relation
(4) Foreign key

Ans. Option (2) is correct.

Explanation: The total number of rows or tuples present in a table or relation is called as the Cardinality.

9. If we want to delete all records of a table without deleting its structure, then which SQL command is used?

- (1) drop (2) delete
(3) modify (4) alter

Ans. Option (2) is correct.

Explanation: Delete command is used to delete the contents of the table without deleting its structure or schema. Whereas drop command is used to delete the whole structure along with the contents of the table.

10. The overall design of the database is called:

- (1) Application Program
(2) Data Manipulation Language (DML)
(3) Schema
(4) Relational Algebra

Ans. Option (3) is correct.

Explanation: The overall design or structure of the table which can include attribute names, their datatypes and the constraints is called as Schema.

11. Which of the following SQL statement is used to select distinct subject names from a table "Student"?
- (1) mysql> SELECT distinct subject from Student,
(2) mysql> SELECT subject from Student
(3) mysql> SELECT new subject from Student,
(4) mysql> SELECT unique subject from Student,

Ans. Option (1) is correct.

Explanation: DISTINCT is a keyword which can be used to select the distinct or unique values from the particular attribute or field.

12. Which of the following functions are valid functions for string manipulation in SQL?

(A) ltrim() (B) lcase()
(C) mid() (D) power()

Choose the correct answer from the options given below:

- (1) (A), (B) and (D) only (2) (A), (B) and (C) only
(3) (A), (B), (C) and (D) (4) (B), (C) and (D) only

Ans. Option (2) is correct.

Explanation: ltrim() – removes the leading spaces (space that occur before the string or character).
lcase() – It converts the given string into lower case form.
mid() – It extracts the substring from the given string based upon the starting and ending position.
power() – It is used to return the value of number raised to the power of another number.
ltrim(), lcase(), mid() are related to the string functions whereas power() is related to the numerical functions.

13. The result of which join is equivalent to cartesian product?
- (1) Natural Join (2) Cross Join
(3) Inner Join (4) Outer Join

Ans. Option (2) is correct.

Explanation: Cross Join is equivalent to cartesian product. Cross join provides the resultant row as the product of the number of rows in the two tables. Cartesian product also provides the same result as cross join. Hence, both are equivalent.

14. _____ is used to physically identify a machine on the network.
- (1) IP address (2) MAC address
(3) Port Address (4) URL

Ans. Option (2) is correct.

Explanation: Media Access Control (MAC) address which is used to identify the physical address of a device on the same network. It is a permanent address for each system. Using this address, the system can be easily identified through a network.

15. A network in which every computer is capable of playing the role of a client, or a server, or both, at the same time is called _____.

(1) Peer-to-Peer Network
(2) Local Area Network
(3) Dedicated Server Network
(4) Wide Area Network

Ans. Option (1) is correct.

Explanation: Peer-to-Peer Network is a type of network which can be used within a small organization or business. In this method, all the computers are connected with each other. Hence, each computer acts as a server or client or sometimes both and it communicates directly with other computers.

INFORMATICS PRACTICE

1. Arun is trying to fetch only one record from the result set at a time. Which method should be used by him?

(1) fetchno (2) fetchone
(3) fetchall (4) fetchonebyone

Ans. Option (2) is correct.

Explanation: fetchone() is a method which can be used to retrieve only one record from the result set at a time. By using the attribute names, the records can be fetched from the table.

2. Which of the following is a text-based markup language that allows the user to create their own tags to store data in a structured format?

(1) XML (2) PPP
(3) HTML (4) XHTML

Ans. Option (1) is correct.

Explanation: XML (Extensible Markup Language) is a markup language that provides rules to define the data. It allows the user to create their own tags and stores the data in a structured format. It is also similar to HTML language.

3. In which of the following generations VoLTE system in mobile communication is launched?

(1) Fourth Generation (4G)
(2) Third Generation (3G)
(3) Fifth Generation (5G)
(4) Second Generation (2G)

Ans. Option (1) is correct.

Explanation: VoLTE or Voice over LTE was launched in the 4th generation of mobile communication. It can be used to make video or voice calls over the high-definition network.

4. Consider the following code:

```
import pandas as pd
s1 = pd.series (34567,890,450,78902,67892)
print (s1 [s1>50000]).
```

What will be the output of the above code?

- (1) It will print the series data which is < 50000
(2) It will print the series data > 50000

- (3) It will print the series data = 50000
(4) Error

Ans. Option (2) is correct.

Explanation: There seems to be a typo in the code. The `pd.Series` function is used to create a Series from a list or array, but the syntax and usage in the provided code are incorrect. Here is the corrected code and explanation:

```
python
import pandas as pd
sl = pd.Series([34567, 890, 450, 78902, 67892])
print(sl[sl > 50000])
```

In the corrected code:

- `sl` is a pandas Series with the values `[34567, 890, 450, 78902, 67892]`.
- `sl > 50000` creates a boolean Series where each value indicates whether the corresponding element in `sl` is greater than 50000.
- `sl[sl > 50000]` filters and returns the values in `sl` where the condition is `True`.

The output will be the values from the Series that are greater than 50000:

```
3 78902
4 67892
dtype: int64
```

So the correct answer is:

- (2). It will print the series data > 50000

5. Consider a dataframe 'x'. How many rows will the following command return?

`x.loc[0:5]`

- (1) 5 (2) 4
(3) 6 (4) 0

Ans. Option (3) is correct.

Explanation: loc is similar to array index. It can be used to access the values based upon their index number. This will include both the start and stop index also. Here `x.loc[0:5]`, in total it will return 6 rows (from 0th index to 5th index).

6. Which of the following is an application layer protocol that is used for chatting by sending and receiving messages?

- (1) HTTP (2) SMTP
(3) VoIP (4) IRC

Ans. Option (4) is correct.

Explanation: IRC means Internet Relay Chat. It is an application layer protocol which can be used to chat with other persons by sending and receiving messages through the internet. It creates a real time experience for the users. It works like a client-server model.

7. Which of the following is NOT a method for malware identification used by the antivirus softwares?

- (1) Sandbox Detection
(2) Heuristics
(3) Signature-based Detection
(4) Adware

Ans. Option (4) is correct.

Explanation: Adware is a type of malware. It can be expanded as Advertisement supported software. It creates unwanted advertisements on the devices via the web browser and generate the revenue for their developers. Hence, it is not a method used in the antivirus software. Sandbox, Heuristics, Signature based detection are the methods that will be used in the antivirus software.

8. Which of the following are the messages that a web server transmits to a web browser so that the web server can keep track of the user's activity on a specific website?

- (1) Scripts (2) URL
(3) Cookies (4) IP Address

Ans. Option (3) is correct.

Explanation: Cookies are plain text files which can be used to store the activities of the user on the browser. It stores each and every activity and the details of the user entered on that particular website.

9. Which of the following is true in context of digital footprints?

- (A) An active digital footprint is created when a user intentionally shares personal information.
(B) Digital footprints get washed away after some time.
(C) Apps and websites that use geo-location to detect a user's location are the example of passive digital footprint.
(D) Digital footprints are also termed as digital tattoos.

Choose the correct answer from the options given below:

- (1) (A), (C) and (D) only (2) (A), (B) and (C) only
(3) (A), (B), (C) and (D) (4) (B), (C) and (D) only

Ans. Option (1) is correct.

Explanation: Digital Footprints refer to the traces created by the user in the browser or each activity carried out by the user online are stored. It is also called as Digital Tattoos. These digital footprints never get erased. It remains forever. It can be classified into two types:

Active Digital Footprint: The user is aware of that they are giving their details in that website. For example: Filling up an online form, signing up in a website.

Passive Digital Footprint: The user is not aware of that they are giving details to the third-party users. For example: Apps and websites use geo location.

10. If the column "SALARY" of EMPLOYEE table contains the data set (5000, 10000, 5000, 10000), what will be the output after the execution of the given query?

```
SELECT SUM (DISTINCT SALARY) FROM EMPLOYEE;
```

- (1) 30000 (2) 15000
(3) 5000 (4) 10000

Ans. Option (2) is correct.

Explanation: SUM () – It is a method used to return the total values of the particular attribute or field.
DISTINCT – It is a keyword which can remove the duplicate values on that attribute or field.
SUM (DISTINCT SALARY) means
→ 5000 + 10000 (removes the duplicate values)
→ 15000 (finds the sum for the distinct values alone)
Output: 15000

11. Match List-I with List-II

LIST-I	LIST-II
A. Virus	I. Blocks the users from accessing their own data
B. Worms	II. Mimics behaviour of biological virus
C. Ransomware	III. Looks like a legitimate software and does not self-replicate
D. Trojan	IV. It does not need a host program to insert its code

Choose the correct answer from the options given below:

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (3) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
- (4) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)

Ans. Option (2) is correct.

Explanation: Virus – It has a similar behaviour like the biological virus. It needs a host program to infect the computer. Once it enters into the system, it gets self-replicated and makes the system to malfunction such as corrupting the data or files in the system, make the system to run slow.
Worms – It is also similar to Virus only. The major difference is it is a standalone program, it does not need any host program to run.
Ransomware – It is also a type of malware. It collects the user personal details from their social media sites and threaten them by asking some money or bribes. This will block the user to access their data until they give the concerned bribes.
Trojan – It is also type of malware. It acts like a legitimate or original software and collects all the details from the user and then hacks their system. It is also similar to virus and worm but it does not get self replicated.

12. Consider the following table 'Employee':

EID	Name	Post	Salary
1	Ajay	Manager	180000
2	Anil	Engineer	145000
3	Puja	Manager	170000
4	Vineeta	Engineer	140000

Write SQL statement to increase salary of all Managers by 10%.

- (1) Update Employee Set Salary=Salary * 1.1 where post='Manager'
- (2) Alter Employee Set Salary=Salary * 1.1 where post='Manager'
- (3) Update Employee Set Salary Salary". 1 where post='Manager'
- (4) Update Employee Update Salary = Salary+.1 * Salary where post='Manager'

Ans. Option (1) is correct.

Explanation: To increase the salary of all the Managers:
UPDATE Employee
Set Salary = Salary * 1.1 (increase by 10%)
Where post = 'Manager' (only the manager post salary alone will be increased)

13. Which of the following statement(s) are true in reference to Circuit Switching?

- (A) Circuit Switching provides end-to-end connection between two computers.
- (B) In Circuit Switching, entire data is divided into small fragments called packets of fixed size.
- (C) The data is first stored in a buffer and then sent to the next node.
- (D) When the data transmission is complete, then the connection can be terminated.

Choose the correct answer from the options given below:

- (1) (A) and (D) only
- (2) (A), (B) and (D) only
- (3) (A), (B), (C) and (D)
- (4) (B) and (C) only

Ans. Option (1) is correct.

Explanation: Circuit Switching provides a dedicated path between the source and the destination. It provides an end-to-end connection. Data is transmitted directly to the destination. Once the data transmission is completed, then the connection between this will get terminated automatically.

14. HTTP stands for:

- (1) Hyper Transit Transfer Protocol
- (2) Hyper Text Transfer Protocol
- (3) Higher Transfer Text Protocol
- (4) Hyper Transit Text Protocol

Ans. Option (2) is correct.

Explanation: HTTP stands for Hyper Text Transfer Protocol. It can be used to send the clients request URL or web address through this protocol and it retrieves the information from the server and sends it back to the client.

15. To change the name of any column in the original dataframe, the following argument is to be supplied in the rename function

- (1) apply = true
- (2) inplace = true
- (3) inplace_apply = true
- (4) apply_inplace = true

Ans. Option (2) is correct.

Explanation: To rename a column, the syntax is `dataframe.rename(columns = {col name}, inplace = True)`

inplace – It is a parameter which can be used to make changes directly on the data frame without creating any copy of the data frame. If it is set to **True**, then the changes are made directly on the data frame. It is an optional parameter.

16. Which of the following functions is used to close the connection between Python and the database?
- (1) `cursor.close()` (2) `is.close()`
(3) `execute.close()` (4) `connection.close()`

Ans. Option (4) is correct.

Explanation: To close a connection between the database and the python programming, the syntax is:

`Sqlconnector connection.close()`.

It is used to close the connection between the database and the python whenever the program has been executed completely.

17. Consider a dataframe `df` having the following columns:
- toys
books
uniforms
shoes

The command to display the data for columns `books` and `shoes` will be:

- (1) `print(['books', 'shoes'])`
(2) `print(df.books, df.shoes)`
(3) `print('df.books', 'df.shoes')`
(4) `print(df[['books', 'shoes']])`

Ans. Option (4) is correct.

Explanation: To display data for specific columns in a DataFrame, you should use the column names as a list within double square brackets.

So the correct command is:

`print(df[['books', 'shoes']])`

18. The chart which displays information as a series of data points called 'markers' connected by straight line segments is
- (1) Scatter chart (2) Pie chart
(3) Line chart (4) Frequency plot

Ans. Option (3) is correct.

Explanation: A line chart is also known as line plot or line graph. It is a one way of representing the information in a 2D form. It connects all the points called as markers by a straight-line segment.

19. To create a horizontal bar chart, which of these functions is to be used?
- (1) `barh()` (2) `horizontal bar()`
(3) `h_bar()` (4) `bar_horizontal()`

Ans. Option (1) is correct.

Explanation: `barh()` is a method used in matplotlib library in python to draw the charts in a horizontal manner. It represents the data in the form of bars in a horizontal manner.

20. Which browser tool can be used among the following, to enable videos and animation to be played on the web browser?

- (1) Control Panel (2) Add Tool
(3) Plug-ins (4) Download Settings

Ans. Option (3) is correct.

Explanation: Plugins are the extensions that will be available on the web browser. This can be used to view PDF files, watch videos, animated contents etc.

21. Consider the two dataframes named `df1` and `df2`. What will be the command(s) to add the values of these two dataframes?

- (A) `df1.add(df2)` (B) `df1+d2`
(C) `df1_add(df2)` (D) `addition(df1.df2)`

Choose the correct answer from the options given below:

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

Ans. Option (2) is correct.

Explanation: Two data frames can be added by using this syntax:

`df1.add(df2)` // uses `add()` method

`df1 + df2` //uses addition symbol

22. Which of the following will fall in the category of Psychological Disorder?

- (1) Cyberstalking
(2) Infornography
(3) Computer Vision Syndrome
(4) Carpal Tunnel Syndrome

Ans. Option (1) is correct.

Explanation: Cyberstalking: Persistent online harassment that can cause psychological distress and is considered a psychological disorder due to its impact on mental health.

23. The aggregate functions are:

- (A) `max()` (B) `sum()`
(C) `count()` (D) `replace()`

Choose the correct answer from the options given below:

- (1) (A), (B) and (D) only (2) (A), (B) and (C) only
(3) (A), (B), (C) and (D) (4) (B), (C) and (D) only

Ans. Option (2) is correct.

Explanation: Aggregate functions are the function which can perform mathematical operations on a group of values and return a single value as output. `Max()`, `Min()`, `Sum()`, `Count()`, `Avg()` are examples of the aggregate functions.

24. Arrange the following in increasing order of their geographical area covered.

- (A) WAN (B) MAN
(C) LAN (D) PAN

Choose the correct answer from the options given below:

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

Ans. Option (3) is correct.

Explanation: PAN – Personal Area Network. It covers a particular area such as Home or office room.

LAN – Local Area Network. It can cover up to 10 km. For example: A single building in the campus.

MAN – Metropolitan Area Network. It can cover up to 60–70 km. For example: A city-to-city connection.

WAN – Wide Area Network. It can span up to a wide geographical area. For example: Internet.

25. Consider a program to input temperature in Celsius and convert it into Fahrenheit.

- (A) print("temperature in Celsius is", C)
 (B) print ("temperature in Fahrenheit is", F)
 (C) C=float(input("Enter Temperature in Celsius"))
 (D) F=C*9/5+32

Choose the correct order of the statements from the options given below:

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

Ans. Option (1) is correct.

Explanation: The correct sequence of the program coding is:

```
C = float(input("Enter Temperature in Celsius"))
// Get the temperature from the user.
print ("Temperature in Celsius is", C) // Print the
temperature in Celsius entered by the user.
F = C*9/5 + 32 // Convert the given temperature
to Fahrenheit
print ("Temperature in Fahrenheit is", F) // print
the converted temperature.
```

26. To find Standard Deviation

- (A) Divide the sum of square values by total number of values and take the square
 (B) Take the square of every value subtracted from the mean
 (C) Take the mean
 (D) Subtract each data value from the mean

Choose the correct answer from the options given below:

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

Ans. Option (3) is correct.

Explanation: To find the standard deviation, follow these steps:

1. ****Subtract each data value from the mean****: This gives the deviation of each data point from the mean.

2. ****Take the square of each deviation****: Squaring the deviations removes any negative signs and gives a measure of variance.

3. ****Find the mean of these squared deviations****: This provides the variance.

4. ****Take the square root of the variance****: This gives the standard deviation.

So the correct sequence of steps is: C,D,B,A

27. Match List-I with List-II

LIST-I		LIST-II	
A.	Doxing	I.	Posting threatening, hurtful or intimidating messages online for someone.
B.	Harrassment	II.	Tracking and monitoring a person's online activity.
C.	Impersonation	III.	Publishing revealing personal information about an individual online to hurt someone's reputation.
D.	Cyberstalking	IV.	Creating a fake account or getting access to a person's real social media account.

Choose the correct answer from the options given below:

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
 (2) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
 (3) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
 (4) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)

Ans. Option (4) is correct.

Explanation: Doxing – Publish the private information in public in order to make revenge or wants to hurt someone or in a form of punishment.

Harassment – Threatening people by sending some of their private post or sending some harmful messages.

Impersonation – Creating a fake website or social media page to act like a legitimate one and attack the people by sending improper messages or take the access of their original social media page.

Cyberstalking – It is a serious crime which involves harassing people, or control someone by tracking their activity.

28. Match List-I with List-II

LIST-I (Protocol)		LIST-II (Use)	
A.	POP3	I.	Used to access mailbox and download messages to the local computers
B.	FTP	II.	Responsible for delivering packets from the source host to the destination host based on the address mentioned in the packet headers
C.	IP	III.	Used to transfer files from server system to requesting node, primarily for information sharing
D.	SMTP	IV.	Used for sending email messages to other networks or computers

Choose the correct answer from the options given below:

- (1) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
 (2) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
 (3) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)
 (4) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

Ans. Option (1) is correct.

Explanation: POP3 – It is a protocol which can be used to handle emails and they operate in different ways to download or access the email messages. It is mainly used to access mailbox.
FTP – File Transfer Protocol. It can be used to transfer files from one system to another system. Especially for sharing the information,
IP – Internet Protocol. This protocol is mainly used in the transformation of packets. It is responsible for sending the data packets to the destination place by checking their IP address in the header.
SMTP – Simple Mail Transfer Protocol. It is used for sending mail to other persons through different networks.

29. What is the command to drop a row labelled as 0, from a dataframe named as df?

- (1) df_drop(0) (2) df.drop(0)
(3) df.iloc(0) (4) df.iloc(0)

Ans. Option (2) is correct.

Explanation: drop () method is used to remove the columns or rows from a data frame.
drop (0) – the argument 0 mentions that particular row indexed with 0 has to be removed or deleted.

30. _____ involves tapping into network packet for the purpose of further analysis.

- (1) Malware (2) Ransomware
(3) Snooping (4) Phishing

Ans. Option (3) is correct.

Explanation: Snooping is also known as Eavesdropping or sniffing. It hacks the attackers network packet through the network and get the information from them. Based on that information, it attacks the user.

31. Consider the table named as T1.

To drop a column named INCOME from the table T1, specify the correct order of words to complete the query.

- (A) TABLE T1 (B) ALTER
(C) DROP (D) INCOME

Choose the correct answer from the options given below:

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

Ans. Option (2) is correct.

Explanation: To drop or delete a column in the table, the syntax is:
ALTER TABLE tablename
DROP COLUMN colname;
The correct sequence to execute this query is:
ALTER TABLE T1
DROP INCOME

32. Which of the following does NOT fall under cyberbullying?

- (1) Social Exclusion (2) Wikipediholism
(3) Dissing (4) Cyberstalking

Ans. Option (2) is correct.

Explanation: Wikipediholism is a way of addiction to the browsers. The people who get addicted to this keep on clicking the refresh or reload button of the web browser more frequently. It does not come under the category of cyberbullying. It is a curiosity about knowing the things immediately.

33. An attempt to acquire sensitive information such as username, password, credit card information, etc. in an electronic communication is called:

- (1) Phishing (2) Hacking
(3) Cyberbullying (4) Doxing

Ans. Option (1) is correct.

Explanation: Phishing is one of the fraudulent activities. It can mostly happen through the electronic mail communication. The hackers can send the malicious link through the email and get the sensitive information such as credit card, bank password, user id, etc. and attack the people using this information.

34. Computer security system designed to protect a trusted private network from the unauthorised access or traffic originating from an untrusted outside network is called:

- (1) Firewall (2) Cookies
(3) Antivirus (4) Spam

Ans. Option (1) is correct.

Explanation: A Firewall is a security system designed by the computer networks to prevent the unauthorised access and also denies the traffic from the unauthorised site to enter into the trusted website. It can be available in hardware as well as software.

35. In Python plots, if you want to specify limits of scale on X axis and Y axis, which of the following functions can be used?

- (1) x.limit () y.limit()
(2) xaxis.limit() yaxis.limit()
(3) xlim() ylim()
(4) xaxis_lim() yaxis_lim()

Ans. Option (3) is correct.

Explanation: xlim () and ylim () methods are used in the matplotlib to set the x and y limits. The limits can be set in the form of range only. The syntax for both the methods are:
xlim (left, right)
ylim (top, bottom).