

DAV PUBLIC SCHOOLS CG ZONE

SAMPLE QUESTION PAPER 8

CLASS XII

INFORMATICS PRACTICES (065)

TIME: 03 HOURS

General Instructions:

- 1) This question paper contains five section A to E.
- 2) All the questions are compulsory.
- 3) Section A has 8 questions carrying 01 mark each.
- 4) Section B has 07 Very Short Answer type question carrying 02 marks each.
- 5) Section C has 05 Short Answer type questions carrying 03 marks each.
- 6) Section D has 02 questions carrying 04 marks each.
- 7) Section E has 03 questions carrying 05 marks each.
- 8) All programming questions are to be answered using Python Language only.

SECTION A

1. The device that can operate in place of a hub is a:
a) Switch b) Bridge c) Router d) Gateway
2. A company buys old discarded laptops, smartphones, tablets etc. and extracts precious metals from these and recycles these. What type of material is the company recycling?
a) Business Waste b) Commercial Waste c) E-Waste d) Solid Waste
3. The rights of the owner of information to decide how much information is to be shared / exchanged / distributed are collectively known as _____ (IPR).
a) Intelligent Property Rights b) Intellectual Property Rights
c) Interactive Property Rights d) Instance Property Rights
4. Predict the output of the following query:
SELECT INSTR("INDIA","DI")
a) 2 b) 3 c) -2 d) -3
5. Which one of the following is not an aggregate function?
a) ROUND() b) SUM() c) COUNT() d) AVG()
6. _____ Operating system comes under FOSS.
a) Windows b) Ubuntu c) Mac d) Oracle
7. Select the INCORRECT statement
a. CSV files occupies less memory space
b. CSV files are easy to read and write manually
c. CSV files are compatible only with spreadsheet
d. Data value of CSV files can be separated by any delimiter like comma/semicolon/space/tab
8. Which clause is used with "aggregate functions"?
a) GROUP BY b) SELECT c) WHERE d) Both (a) and (c)
9. Which of the following function converts the characters of an argument string to the uppercase characters?
a) UCASE() c) Both (a) and (b)
b) UPPERCASE() d) None of the above
10. Which of the following commands will show the first three rows from a pandas series named Ser.
a. Ser.Head() c. Ser.HEAD(3)
b. Ser.head(3) d. None of the above
11. Which of the following is correct data type in SQL-
(a) DATE (b) DAY (c) MONTH (d) YEAR
12. When you print/display any series object then the left most column is showing -

- a. Index
b. Row
- c. Value
d. Attribute
13. Our digital footprint can be created by.
a. Visiting any website
b. Sending email
c. Posting online
d. All of the above
14. What will be returned by the given query?
SELECT SUBSTR('ABCDEFGH', -5,4);
(a) EDCB
(b) ABCDE
(c) CDEF
(d) CDEFG
15. WWW stands for.
a. World Wide Web
b. Web World Wide
c. Wide World Web
d. Wide Web Word
16. The following is automatically granted to the creator or owner of any invention.
a) Patent b) Copyright c) Trademark d) Licence
17. Assertion (A): A modem is a network device used to convert digital signals into analog signals.
Reason (R) : Modems are used to transmit data over telephone lines.
a) Both A and R are true and R is the Correct explanation for A
b) Both A and R are true and R is not the Correct explanation for A
c) A is True But R is False
d) A is False But R is True
18. Assertion (A): The head and tail functions in Pandas are used to display the first and last few rows of DataFrame.
Reason (R) : The head and tail functions in Pandas are used to display the first and last few rows of a Series.
a) Both A and R are true and R is the Correct explanation for A
b) Both A and R are true and R is not the Correct explanation for A
c) A is True But R is False
d) A is False But R is True

SECTION - B

19. Explain the following terms :
i. web server
ii. web hosting
OR
What do you understand by term URL?
20. Consider the following code :
Section = ['A', 'B', 'C']
Classes = [6,4,3]
dc = { 'Section': section, 'No. of Classes': classes }
clasdf = pd.DataFrame(dc,index = ['True', 'False', 'True'])
print(clasdf.loc[True])
(i).why is it giving KeyError if you run the given code ?
(ii) Suggest the correction / solution for the above problem
21. Consider the string “preoccupied”, write sql command to display:
(a) the position of the string ‘cup’ in the string “preoccupied”.
(b) the first 4 letter of the string.
22. What will be the output of the following program?
import pandas as pd
fst = [9,10,11]
scd = pd.Series(fst)
ob1 = pd.Series(data= fst * 2)

```
ob2 = pd.Series(data=scd * 5)
print("ob1")
print(ob1)
print("ob2")
print(ob2)
```

23. What are the difference between the active digital footprint and passive digital footprint?

24. What will be the output of the following code?

```
Data = np.array(['a1','b1','c1','d1','e1'])
S = pd.Series(data ,index=[1001,1002,1003,1004,1005])
# retrieve multiple elements with the labels or index
print(s[1002,1003,1004])
```

25. What are the string and numeric functions in sql? Name any two function for each.

SECTION – C

26. Based on the SQL table PRODUCT, write suitable queries for the following:

i. Display average price from table product.

PCODE	PNAME	UPRICE	MANUFACTURER
P01	Washing Powder	120	Surf
P02	ToothPaste	54	Colgate
P03	Soap	25	Lux
P04	ToothPaste	65	Pepsodant
P05	Soap	38	Dove
P06	Shampoo	245	Dove

ii. Display pname wise highest price from table product.

iii. Display the data in descending order of price.

OR

Predict the output of the following queries based on the table PRODUCT given below:

i. SELECT RIGHT(PNAME,3) FROM PRODUCT WHERE MANUFACTURER = "DOVE";

ii. SELECT UPRICE/2 "AVG PRICE" FROM PRODUCT WHERE PNAME = "TOOTHPASTE".

iii. SELECT SUM(UPRICE) "TOTAL PRICE" FROM PRODUCT WHERE MANUFACTURER = "DOVE".

27. Write a Python code to create a DataFrame with appropriate column headings from the list given below:

```
[[101,'Gurman',98],[102,'Rajveer',95],[103,'Samar',96],[104,'Yuvraj',88]]
```

28. Write MySQL statements for the following:

I. To create a database named STREAMS_OF_STUDENTS.

II. To create a table named STUDENTS based on the following specification:

Column Name	Data Type	Constraints
Admission_no	Integer (5)	Primary Key
Name	Varchar (20)	

29. Neha has recently shifted to a new city and school. She does not know many people in her new city and school. But all of a sudden, someone is posting, demeaning comments on her social networking profile etc. She is also getting repeated mails from unknown people. Every time she goes online, she finds someone chasing her online.

a. What is this happening to Neha?

b. What immediate action should she take to handle it?

c. Is there any law in India to handle such issues? Discuss briefly.

OR

What do you understand by plagiarism? Why is it a punishable offence? Mention any two ways to avoid plagiarism.

30. Consider the given DataFrame 'ClassFrame':

Roll. No	Name	Class	Section	CGPA	Stream
1	Aman	IX	E	8.7	Science
2	Preeti	X	F	8.9	Arts
3	Kartikey	IX	D	9.2	Science
4	Lakshya	X	A	9.4	Commerce

Write suitable Python statements for the following:

I. Add a new column 'Activity' to the Dataframe with the following data:

["Swimming", "Dancing", "Cricket", "Singing"].

II. Add a new row with values (5, Mridula, X, F, 9.8, Science).

III. Rename the column "Roll.No" to "RN".

SECTION - D

31. Roshni manages database in a Employee start-up. For business purposes, She created a table named EMPL. Assist her by writing the following queries:

TABLE : BLOCKCHAINED

id	user	value	hash	transaction_date
1	Ramu	600	THUYR	2018-08-13
2	Swetha	600	DFJF	2019-08-12
3	Priyanka	457	DFJF	2020-03-15
4	Rounak	569	@TR\$6	2020-03-18
5	Kopal	768	@ThKI	2022-08-28
6	Pihu	452	U&SLV	2021-07-26
7	Meesha	356	UPOLV	2021-05-26

- Write a query to display the month name of oldest transaction.
- Write a query to display the year of most recent transaction.
- Write a query to display all the transactions done in the month of August.
- Write a query to count total number of transactions in the year 2021.

32. Mr. Som, a data analyst has designed the DataFrame **df** that contains data about Computer Olympiad with 'CO1', 'CO2', 'CO3', 'CO4', 'CO5' as indexes shown below. Answer the following questions:

	School	Tot_students	Topper	First_Runnerup
CO1	PPS	40	32	8
CO2	JPS	30	18	12
CO3	GPS	20	18	2
CO4	MPS	18	10	8
CO5	BPS	28	20	8

- Predict the output of the following python statement:
 - print(df.shape)
 - Print(df[2:4])
- Drop the CO4 row from the DataFrame.
- Write Python to add a new column Second_Runnerup values will be = [9,5,7,2,5].

OR

(Option for part c only)

Write Python Statement to create a dataframe DF from an existing csv file "CardioGoodFitness.csv".

SECTION – E

33. Write a suitable SQL queries for the following:

- a) To calculate the sqrt for 4 raised to the the power of 2.
- b) To display current data and time.
- c) To round off the value -3452875.4567 to -2 decimal place.
- d) To remove all the probable leading and trailing spaces from the column userid of the table named user.
- e) To display the length of the string “ Classteacher Smart board”.

OR

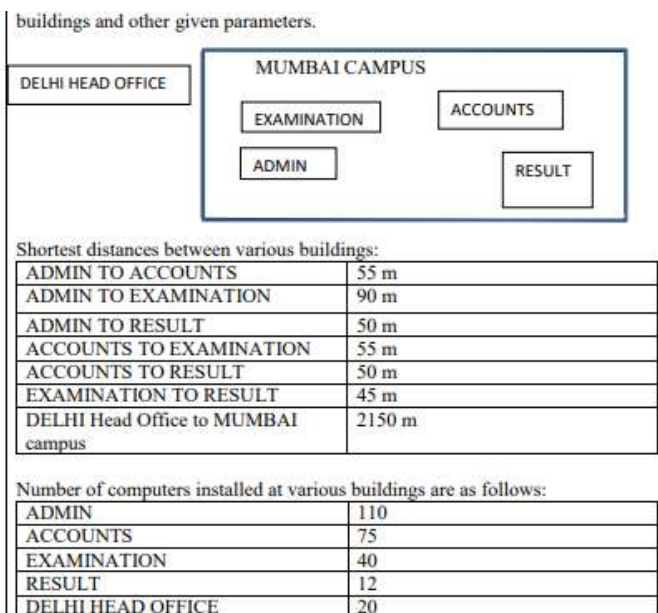
Radhika has creatd following table name Purchase:

Employee_Name	Year	Country	Product	Sale
Bob	2017	US	Computer	15000.00
Bob	2018	US	Computer	10000.00
Bob	2019	US	TV	20000.00
Joseph	2017	India	Laptop	10000.00
Joseph	2018	India	Laptop	15000.00
Joseph	2019	India	TV	20000.00
Peter	2017	Canada	Mobile	20000.00
Peter	2018	Canada	Calculator	1500.00
Peter	2019	Canada	Mobile	25000.00

Help her in writing SQL queries to the perform the following task:

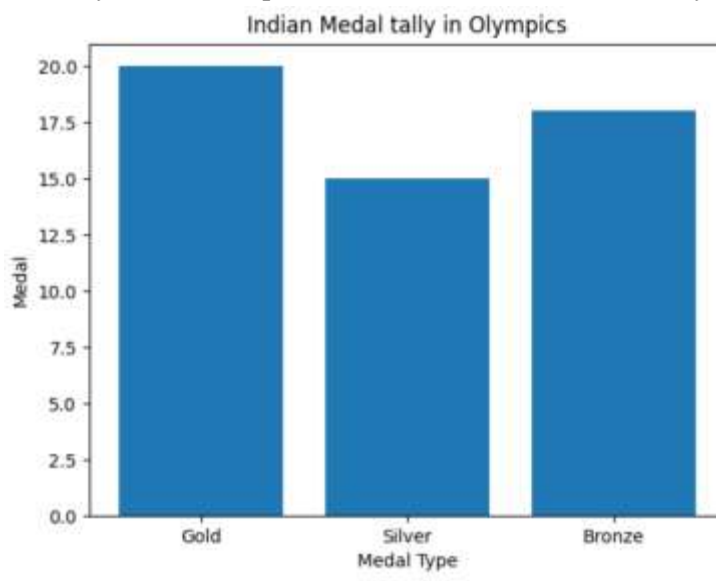
- a) Insert a new record in the table having following values:
[“Ekam”,2020,”Italy”,Mobile,6000]
 - b) To change the value “Mobile” to “Android_phone” in Product column.
 - c) To remove the records of those Employee whose sale are less than 15000.
 - d) T o add a new column **Joining_Date** of suitable datatype.
 - e) To display record of those Employee whose sale is more than 14000.
34. Prime Computer services Ltd. is an international educational organization. It is planning to set up its India campus at Mumbai with its head office in Delhi. The Mumbai office campus has four main buildings- ADMIN, ACCOUNTS, EXAMINATION and RESULT.

You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (v), keeping in mind the distances between the buildings and other given parameters.



- a) Suggest the most appropriate location of the server inside the MUMBAI campus (out of the four buildings) to get the best connectivity for maximum number of computers. Justify your answer
- b) Suggest and draw cable layout to efficiently connect various buildings within the MUMBAI campus for a wired connectivity.
- c) Which networking device will you suggest to be procured by the company to interconnect all the computers of various buildings of MUMBAI campus?
- d) Company is planning to get its website designed which will allow students to see their results after registering themselves on its server Out of the static or dynamic, which type of website will you suggest?
- e) Which of the following will you suggest to establish the online face to face communication between the people in the ADMIN office of Mumbai campus and Delhi head office?
 - i. Cable TV
 - ii. Email
 - iii. Video conferencing
 - iv. Text Chat

35. Write Python code to plot a bar chart for India's medal tally as shown below:



Also give suitable python statement to save this chart

OR

Write a python program to plot a line chart based on the given data to depict the changing weekly average temperature in uttarpradesh for four weeks.

Week=[1,2,3,4]

Avg_week_temp=[34,45,32,40]