KENDRIYA VIDYALAYA SANGATHAN JAMMU REGION
1st Pre Board Examination 2020-21
INFORMATION PRACTICES
Class 12th

Time allowed: 3 hours   *Max marks: 70*

1. This question paper contains two parts A and B. Each part is compulsory.

2. Part-A has 2sections:

    a. Section – I is short answer questions, to be answered in one word or oneline.

    b. Section – II has two case studies questions. Each case study has 5 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.

3. Part- B has three sections

    a. Section-I is short answer questions of 2 marks each in which two questions have internal options.
    b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
    c. Section-III is very long answer questions of 5 marks each in which one question has internal option.

PART- A
SECTION – I
(Attempt any 15 questions from questions 1 to 21)

1. State whether True or False :   1
    a. It is okay to copy and paste information from the internet into your report files and then organize it. _____

    b. Shareware software allows you to try the software before you buy it._____

2. Fill in the blanks :   1

    The command used to set label for x-axis in graphics is _____
    a. plt.show()
    b. plt.plot()
    c. plt.xlabel()
    d. plt.title()

3. Write the output of the following SQL command.   1
    select round(15.872,1);

    a. 15.87
    b.15.9
    c.15.8
    d. 16

4.Given a Pandas series called Marks, the command which will display the first 6 rows is____.   1
    a. print(Marks.head(6))
    b. print(Marks.Head(6))
    c. print(Marks.heads(6)
    d. print(Marks.Heads(6))

5. Given the following Series A1 and A2:   1

   A1   A2

A1		A2	
a	20	a	70
b	10	b	30
c	24	c	84
d	70	d	80

Write the command to find the sum of series A1 and A2

6. Python's matplotlib.pyplot.bar() is used to draw a _____.   1
     i)   lineplot
     ii)   bargraph
     iii)   histogram

7. Mr. Sharma wants a device that connects a local area network (LAN) to another LAN that uses the same protocol. Which of the following devices you would like to suggest him.   1
    a. Repeater
    b. Hub
    c. Bridge
    d. Switch

8. The_____ attribute of a dataframe object returns the row labels of a dataframe.   1

9. Identify the type of topology from the following statement: 1

It is a connection of computers in which all the nodes are connected to a central node.

10. What is the difference between Static and dynamic webpage?   1

11. Manish wants to select all the records from a table named "Students" where the value of the column "FirstName" ends with an "a". Which of the following SQL statement will do this?   1
    a. SELECT * FROM Students WHERE FirstName = 'a';
    b. SELECT * FROM Students WHERE FirstName LIKE 'a%';
    c. SELECT * FROM Students WHERE FirstName LIKE '%a';
    d. SELECT * FROM Students WHERE FirstName = '%a%';

12. Any work/ information that exists in digital form either on Internet or on an electronic device, is known as _____ property.   1

13. A Dataframe object is _____ mutable.   1

14. Theft of digital personal information in order to commit fraud, is called online _____ theft. 1

15. Which amongst the following is an example of browser ?   1
    a. MSword
    b. MSaccess
    c. Quick heal antivirus
    d. Netscape Navigator

16. Bombarding of email messages to the inbox in your mail account from known or unknown sources, is known as _____.   1

17. Which of the following operation does not belong to e-waste management?   1

    a. Dismantling

    b. Disposal of Dangerous materials.

    c. Segregation of ferrous metal.

    d. Selling it to knacker

18. The _____ command can be used to add a new column to the table.   1
19. Which SQL command is used to describe the structure of the table ?   1
20. Which network device is used to avoid the loss of signals in case of long distances ?   1
21. Software that automatically displays or downloads advertising material such as banners or pop-ups when a user is online _____   1

Section – II

Both the case study based questions (22 & 23) are compulsory. Attempt any four sub parts from each question. Each sub question carries 1 mark.

22. Consider the following DataFramedf and answer any four questions from (i) – (v)

	Age	Name
rank1	28	Tom
rank2	34	Jack
rank3	29	Steve
rank4	42	Ricky

  i)   Write down the command that will give the following output.   1

	Age
rank1	28
rank2	34
rank3	29
rank4	42

    a) Print(df['Age'])
    b) print(df['Age'])
    c) print(df('Age'))
    d) Print(df['Age'], axis=1)

  ii)   The instructor wants to know the age of the persons with rank3. Help her to identify the correct set of statement/s from the given options: 1
    a) Print(df.loc['rank3'])
    b) print(df.iloc['rank3'])

c) print(df.loc['rank3'])

d) Print(df.loc('rank3'))

iii)   Which of the following statement/s will give 2 rows from bottom of the dataframe ?   1

a) Print(df.tail())

b) print(df.tail(2))

c) print(df.tail[2])

d) print(df.tail(4))

iv)   Which of the following statement will delete rank2 row from the dataframe ?   1

a) df.drop('rank2')

b) df.drop(rank2)

c) delete df(rank2)

d) df.del("rank2")

v)   The instructor wants to add a new column, Marks to the dataframe. The values of the marks will be 12, 22, 21, 24. Help him to choose the correct command to do so.   1

a) Df.columns=[12, 22, 21, 24]

b) df['marks'] = [12, 22, 21, 24]

c) df.loc[marks] = [12, 22, 21, 24]

d) Both (b) and (c) are correct

23. Consider the following table named "SOFTDRINK".

DRINKCODE	DNAME	PRICE	CALORIES
101	Lime and Lemon	20.00	120
102	Apple Drink	18.00	120
103	Nature Nectar	15.00	115
104	Green Mango	15.00	140
105	Aam Panna	20.00	135
106	Mango Juice Bahar	12.00	150

i)   State the Choose the correct option that will give the output as :   1

Green Mango
Mango Juice Bahar

a) SELECT DNAME FROM SOFTDRINK WHERE DNAME LIKE"%Mango%";

b) SELECT * FROM SOFTDRINK WHERE DNAME LIKE"%Mango%";

c) SELECT DNAME FROM SOFTDRINK WHERE DNAME LIKE"%Mango;

d) SELECT DNAME FROM SOFTDRINK WHERE DNAME LIKE Mango%";

ii)   What will be the output of the following command?   1

SELECT COUNT(DISTINCT(PRICE)) FROMSOFTDRINK;

a. 4

b. 5

c. 100

d. 6

iii)   Priya has given the following command to display drink codes, names and calories of all drinks, in descending order of calories.

Select DRINKCODE,DNAME, CALORIES from SOFTDRINK group by CALORIES desc;

But she is not getting the desired result. Help her by writing the correct command.   1

    a. Select DRINKCODE, CALORIES from SOFTDRINK order by CALORIES desc;

    b. Select DRINKCODE,DNAME, CALORIES from SOFTDRINK order by 'CALORIES' desc;

    c. Select DRINKCODE,DNAME, CALORIES from SOFTDRINK order by CALORIES;

    d. Select DRINKCODE,DNAME, CALORIES from SOFTDRINK order by CALORIES asc;

iv)   State the command to display the average price of softdrinks.   1
    a. Select avg price from softdrink;
    b.Select avg('price') from softdrink;
    c. Select avg (price) from softdrink;
    d. Select price from softdrink

v)   Help Ritika to write the command to display the name of cheapest softdrink   1
    a. select DNAME,max(PRICE) from SOFTDRINK ;
    b. select DNAME,min(PRICE) from SOFTDRINK
    c. select DNAME, min PRICE from SOFTDRINK;
    d. select DNAME, avg(PRICE) from SOFTDRINK

PART- B
SECTION- I

24. Consider a given Series, S1:   2

	Marks
AMAN	34
RAMAN	37
SUMAN	30
AJAY	40

Write a program in Python pandas to create the series.

25. Aman wants to display the month of his birthdate. He has written the following command but it is not giving the correct output:

    SELECT MONTH from (birthdate);

Identify the error and write the correct command.   2

<div align="center">OR</div>

Aman want to arrange the data of his class in alphabetical order starting from 'A' and he has written the following command:

    SELECT * FROM STUDENT ORDER BY NAME desc;

But he is not getting the correct output. Help him write the correct command with justification.

26. Consider a decimal number x with value 123.789. Write commands in SQL to :   2

    i)   round it off to a whole number

    ii)   round it to 2 places before the decimal.

27. Consider the following Series object , S_num   2

Apple	200
Banana	150
Pineapple	300
Guava	100

    i)   Write the command which will display the names of the fruits having price >200.

    ii)   Write the command to name the series as Fruits.

28. Sumit writes the following commands with respect to a table STU having fields, STUNO, SNAME, SCLASS, SMARKS   2

Command 1 : SELECT COUNT(*) from STU;

Command 2 : SELECT COUNT(marks) from STU ;

He gets the output as 6 and 5 respectively. Explain the output with justification.

29. Consider the following SQL String: "KVSangathan"

Write commands to display :   2

    a. "Sangathan"

    b. "KVS"

       OR

Considering the same String "KVSangathan"
Write SQL commands to display:

    a. The position of the substring "an" in the string "KVSangathan"

    b. The last 3 letters of the string

30. Consider the following DataFrame STUDENT,   2

	ROLLNO	NAME	CLASS	MARKS
Stu1	1	AMAN	IX	42
Stu2	2	RAMAN	X	37
Stu3	3	SURAJ	IX	40

Write commands to:

    a. Add a new column STREAM to the DataFrame

    b. Add a new row with values (4, Vishal, X, 41)

31. Arun's mobile is broken and not working properly. He threw it in the dustbin and purchased a new mobile. What is this type of waste material known as and what is the proper method to dispose off such wastes ?

32. Suman wants to access her marksheet on her email. Name the term for the software which she can use to do this. Also tell which of the following softwares cannot be used for the same activity?

    2

    a. Internet explorer
    b. Firefox
    c. Avast
    d. Edge

33. What is digital property? Give some examples of digital properties.   2

SECTION- II

34. Consider two objects A and B. A is a List whereas B is a Series. Both have values 10,20,30,40,50.   3

    a. print(A * 2)   b. print(B * 2)

    What will be the output of the following two statements considering that the above objects have been created already.
    Justify your answer.

35. Posing someone else online and using his/her personal/financial information shopping online or posting something is a common activity these days:

    a)   Name the type of cyber crime.

    b)   What measures can be taken to prevent it (anytwo)

    c)   Under which Act, a case can be filed against the criminal ?   3
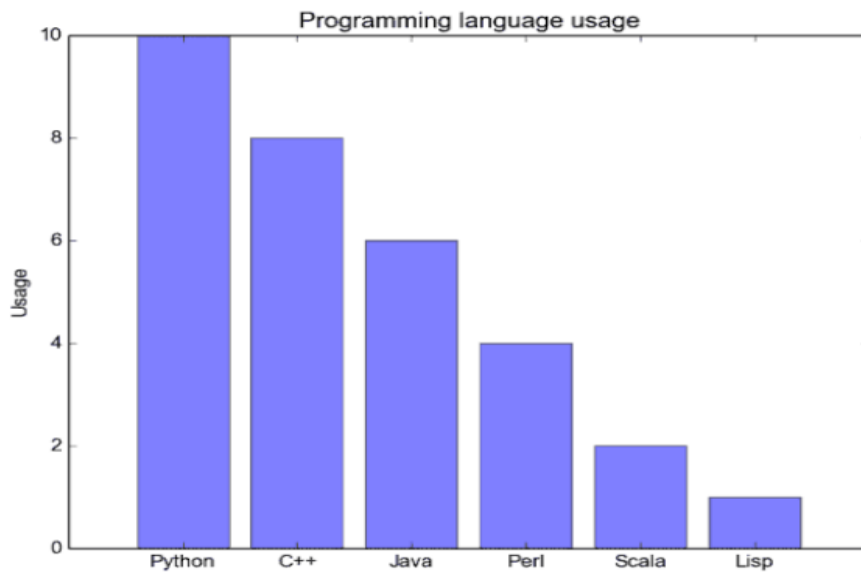
                    OR

    What do you understand by Intellectual Property Rights ?

36. Write Python code to display the following bar chart that represents data regarding different

    programming languages. Write appropriate statements to provide labels to x and y axis

    respectively.   3

OR

Ms. Shruti wants to plot a line graph for the given set of values of subject on x-axis and number of students who opted for that subject on y-axis. Complete the code to perform the following :

(i) To plot the line graph in statement 1

(ii) To display the TITLE as "SUBJECTS" in statement 2

(iii) To display the graph in statement3

import matplotlib.pyplot as plt

x=['Hindi', 'English', 'Science', 'SST']

y=[10,20,30,40]

_____ Statement 1

_____ Statement 2

_____ Statement3

37. A relation STUDENT is given below: 3

RollNo	SName	Class	Marks
1000	Kritika	12	90
1001	Malavika	12	95
1002	Mohan	11	70
1003	Vivek	11	62

Write SQL Commands to:

a. Display the total marks of students in each class.

b. Count the number of students in each class who have secured marks > 90.

c. Display the maximum and minimum marks of the students.

38. Write a Python code to create the following Dataframe**df**from a Dictionary: 5

	Name	Age
0	Alex	10
1	Bob	12
2	Clarke	13
3	John	11

Perform the following operations on the dataframe :
   a. Extract column 'Age'
   b. Display the dataframe
   c. Add a column 'Marks' with default values as '50'

39. Write the names of SQL functions which will perform the following operations: 5

   i)   To display the current date

   ii)   To convert the string in capital letters 'Kendriya'

   iii) To remove spaces from the end of string "Kvs RO Jammu   "

   iv)   To display the month from the current date

   v)   To compute the power of a number n1 raised to the power n2

   OR

Consider the following tables STATIONERY and answer the questions:

Table: STATIONERY

S_ID	StationeryName	Company	Price
DP01	Dot Pen	ABC	10.50
PL02	Pencil	XYZ	6.00
ER05	Eraser	XYZ	7.50
PL01	Pencil	CAM	5.75
GP02	Gel Pen	ABC	15.00

Write SQL commands using SQL functions to perform the following operations:

   i)   Display the stationary name and price after rounding off to zero decimal places.

   ii)   Display the occurrence of 'en' in stationary name.

   iii) Display the first four characters of the stationary name.

   iv)   Display the names of company after converting to lower case.

   v)   Display the length of stationany names

40. KVS organization is setting up the network between the different wings. There are 4 Wings names as Science(S), Junior(J), Admin(A) and Hostel(H).   5

Distance between various wings in **meters.**

A TO S	100
A TO J	200
A TO H	400
S TO J	300
S TO H	100
J TO H	450

Number of computers in each wing

Senior	200
Admin	10
Junior	50
Hostel	20

    i.   Suggest a suitable Topology for networking the computer of all wings.
   ii.   Name the wing where the server is to be installed. Justify your answer
  iii.   Suggest the placement of Hub/Switch/Repeater in the network
  iv.   Mention an economic technology toprovide internet accessibility to all wings
   v.   Suggest the type of Network LAN/MAN/WAN.

_____**************_____