



HALF YEARLY EXAMINATION (2021-21)

Subject: Informatics Practices

Max. Marks:

Grade: XII

Time: 3 hours

Name:

Section:

Roll No:

PART A
SECTION I

- 1 State whether True or False : 1
Open Source Software means only that the software is free of cost.
2. CSV stands for _____ 1
3. Which statement is used to add records in to a table? 1
 - a) add
 - b) append
 - c) insert
 - d) addnew
4. The command used to give a heading to a graph is _____ 1
 - a) plt.show()
 - b) plt.plot()
 - c) plt.xlabel()
 - d) plt.title()
5. The name of Pandas is derived from the word _____ 1
6. Which amongst the following is not an example of browser ? 1
 - a) Chrome
 - b) Firefox
 - c) Avast
 - d) d. Edge
7. According to a survey, one of the major asian country generates approximately about 2 million tonnes of electronic waste per year. Only 1.5 % of the total e-waste gets recycled. Suggest a method to manage e-waste . 1
8. Data which has no restriction of usage and is freely available to everyone under Intellectual Property Rights is categorised as 1
 - a) Open Data
 - b) Open Content
 - c) Open Education
9. The _____ command can be used to makes changes in the rows of a table in SQL. 1
10. Given a Pandas series called S, the command which will display the last 5 rows 1
 - a) print(S.tail())
 - b) print(S.Tail(5))
 - c) print(S.tail(5))
 - d) Both a and c

11. Which Python package is used for 2D graphics ? 1
12. In a DataFrame, Axis= 0 represents the _____ elements. 1
13. Write a suitable Python code to create an empty dataframe.
14. Which method is used to explain what each line means in the current figure. 1
- Legend
 - Show
 - Save
15. What will be the output of the following program 1
- ```
import pandas as pd
s1=pd.Series(['1','2'])
s2=pd.Series(['11','22','33'])
print(s1+s2)
```
16. What will be the output of the following program ? 1
- ```
import pandas as pd
x=6
S1=pd.Series(x,index=[1,2,4,6,8,9])
Print(S1)
```
17. Name the primary law in India dealing with cybercrime and electronic commerce. 1
18. Explain any two ways to delete a column from a dataframe ? 1
19. Which one of the following would arrange the rows in ascending order in SQL ? 1
- SORT BY
 - ALIGN BY
 - GROUP BY
 - ORDER BY
20. Write the command used to save a graph on your system. 1

SECTION II

21. Consider the following dataframe. Find out the following
- ```
d={"Name":["Abbas",'Jithin','Rahul','Pranav'], "Marks":[100,72,14,16]}
df3=pd.DataFrame(d,index=['R1','R2','R3','R4'])
```
- print(df3.loc['R3']) 1
  - print(df3.iloc[0]) 1
  - print(df3[df3['Marks']>90]) 1
  - print(df3.Marks.max()) 1

22. Consider the table Library

| Bid | Name                          | Author              | Price | M_Name | Issue_Date | Status       |
|-----|-------------------------------|---------------------|-------|--------|------------|--------------|
| B01 | Wings of Fire                 | APJ Abdul Kalam     | 550   | Sarita | 2022-08-05 | Returned     |
| B02 | The Monk who sold his Ferrari | Robin Sharma        | 340   | Simmi  | 2022-08-15 | Not Returned |
| B03 | You can win                   | Shiv Khera          | 240   | Rajat  | 2022-08-25 | Returned     |
| B04 | Who moved my cheese           | Spencer Johnson     | 345   | Ram    | 2022-08-24 | Not Returned |
| B05 | Real Success                  | Patrick Mather Pike | 350   | Sia    | 2022-08-22 | Not Returned |

- i) Suggest the suitable data type for Issue\_Date and status column. 1
- ii) Suggest the SQL command to change the size of column M\_name from 30 to 50 chars 1
- iii) Suggest the suitable command to display a list of the books in a sequence so that first all the book's name should be displayed which has not been returned and after that all the book's name which has been returned should be displayed. 1
- iv) Mention the significance of Bid column in table Library. 1

## PART B

### SECTION 1

- 23. Write a Python program to create a series that stores the marks of each subject. Assume there are 5 subjects "English","B.Studies","Accounts","Maths","Mktg" . The marks are 75,80,45,95,78 respectively. The index number will be the subject name. 2
- 24. Explain the difference between DDL and DML and also write the sql commands for each. 2
- 25. Consider the following Series object, S\_amt 2

```
Table 350
Chair 200
Sofa 800
Cot 50
```

- i. Write the command which will display the name of the furniture having rent>250.
- ii. Write the command to name the series as Furniture.

- 26. Rishi, a class XII student has given following commands for the given purposes: 2

i. To add a new column "Rating" :

```
update table library add column rating varchar(20);
```

ii. To give an increase of 50 Rs. to all the books:

```
alter library set price=price+50;
```

Check if above given SQL commands will be able to achieve desired task or not. Justify your answer. Suggest the correction (s) if required

- 27. Define cookies. Give two practical applications that require the use of cookies. 2

- 28. Jai is an IT expert and a freelancer. He recently used his skills to access the Administrator password for the network server of Megatech Corpn Ltd. and provided confidential data of the organization to its Director, informing him about the vulnerability of their network security. Out of the following options (i) to (iv), which one most appropriately defines Jai ? Justify the reason for your chosen option : 2

- (i) Hacker
- (ii) Cracker
- (iii) Operator
- (iv) Network Admin

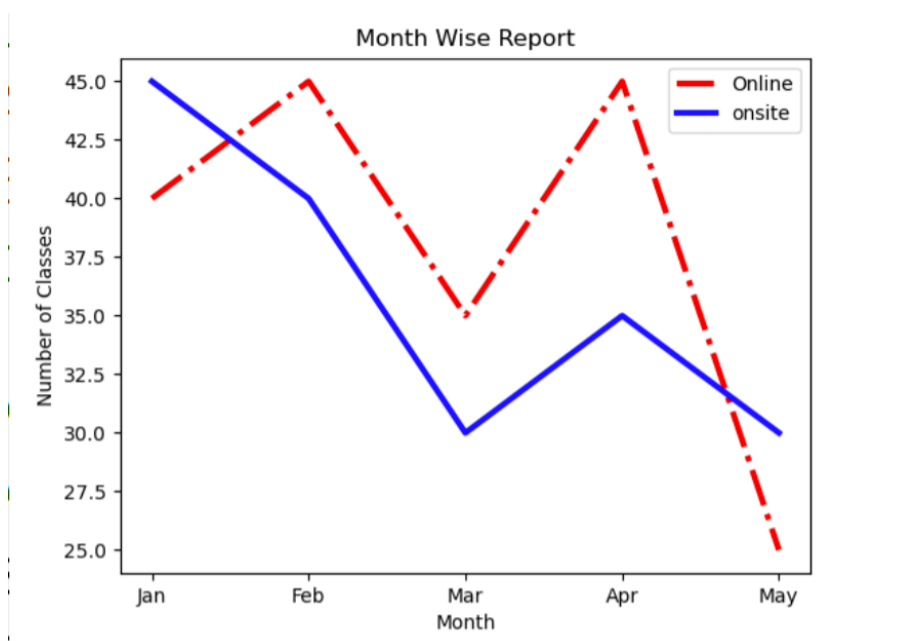
- 29. Create a table name as Inventory with the following structure : 2

| Field        | Type         | Constraint  |
|--------------|--------------|-------------|
| MaterialId   | Integer      | Primary key |
| Material     | Varchar (50) | NOT NULL    |
| Category     | Char         |             |
| DatePurchase | Date         |             |

- 30. What will be the output of the Python program ? 2

```
import pandas as pd
I=['Apple','Banana','Mango','Orange','Litchi']
df=pd.DataFrame(I,index=[1,2,3,4,5])
print(df.iloc[1:3])
print(df1.iloc[3:])
```

31. What do you understand by Net Etiquettes? Explain any two such etiquettes. 2
32. Explain the term digital foot prints. Specify two types of digital foot prints with example. 3
33. Write the code to create a line Graph as given below 3



34. Observe the following tables, EMPLOYEES and DEPARTMENT carefully and answer the questions that follow : 3

| TABLE : EMPLOYEES |        |            |     | TABLE : DEPARTMENT |          |
|-------------------|--------|------------|-----|--------------------|----------|
| ENO               | ENAME  | DOJ        | DNO | DNO                | DNAME    |
| E1                | NUSRAT | 2001-11-21 | D3  | D1                 | ACCOUNTS |
| E2                | KABIR  | 2005-10-25 | D1  | D2                 | HR       |
|                   |        |            |     | D3                 | ADMIN    |

- Give the Degree of the table EMPLOYEE & the cardinality of the table DEPARTMENT.
- Differentiate between Primary Key and Foreign Key.
- Specify the Primary key and Foreign key of Table employees

### SECTION III

35. Write a program to create a dataframe for the following and perform the following. 5

|   | Name   | Marks1 | Marks2 |
|---|--------|--------|--------|
| 0 | Amit   | 10     | 20     |
| 1 | Jeevan | 12     | 30     |
| 2 | Rani   | 14     | 40     |
| 3 | Pranav | 16     | 50     |

- Add a new column Average to store the average of both the marks.

- ii) Delete the last row from the dataframe.
- iii) Display the details of Jeevan and Rani

36. Consider the following table.

5

#### Loan\_accounts

| AcNo | Cust_name     | Loanamount | IntRate | StartDate  | Type        |
|------|---------------|------------|---------|------------|-------------|
| 1    | Mr.R.K.Gupta  | 300000     | 12.00   | 2019-07-19 | HouseLoan   |
| 2    | Mr.S.P.Sharma | 500000     | 10.00   | 2018-03-22 | VehicleLoan |
| 3    | Ms.K.P.Jain   | 300000     | NULL    | 2017-03-08 | HouseLoan   |
| 4    | Mr.M.P.Yadav  | 800000     | 10.00   | 2018-12-06 | HouseLoan   |
| 5    | Mr.S.P.Sinha  | 200000     | 12.50   | 2020-01-03 | VehicleLoan |
| 6    | Mr.P.Sharma   | 700000     | 12.50   | 2018-06-05 | HouseLoan   |
| 7    | Ms.Shanu      | 500000     | NULL    | 2016-03-05 | GoldLoan    |

Write MySQL commands for the following

1. Display the IntRate of all the loans started in 2018.
2. Display the details of all the loans whose rate of interest is not NULL.
3. Display the details of Goldloan
4. Display names of female customers.
5. Display the AcNo, Cust\_Name, and Loan\_Amount for all the loans for which the Cust\_Name does not contain 'S'.

37. Write a program in Python Pandas to create the following DataFrame batsman

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from a Dictionary:

| B_NO | Name          | Score1 | Score2 |
|------|---------------|--------|--------|
| 1    | Sunil Pillai  | 90     | 80     |
| 2    | Gaurav Sharma | 65     | 45     |
| 3    | Piyush Goel   | 70     | 90     |
| 4    | Kartik Thakur | 80     | 76     |

Perform the following operations on the DataFrame :

- 1) Add both the scores of a batsman and assign to column "Total"
- 2) Display the highest score in both Score1 and Score2 of the DataFrame

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