

MARKING SCHEME
CLASS XII SESSION: 2024-25
INFORMATICS PRACTICES (065)

Time allowed: 3 Hours

Maximum Marks:70

Q No.	Section-A	Marks
1	True <i>(1 mark for correct answer)</i>	1
2	(B). Filter rows based on a specific condition <i>(1 mark for correct answer)</i>	1
3	(D). Router <i>(1 mark for correct answer)</i>	1
4	(A). DROP TABLE <i>(1 mark for correct answer)</i>	1
5	(D). Electronic devices that are no longer in use <i>(1 mark for correct answer)</i>	1
6	(B). df['column_name'] <i>(1 mark for correct answer)</i>	1
7	(D). line <i>(1 mark for correct answer)</i>	1
8	True <i>(1 mark for correct answer)</i>	1
9	(B). pd.read_csv('filename.csv') <i>(1 mark for correct answer)</i>	1
10	(A) Using copyrighted material without giving proper acknowledgement to the source <i>(1 mark for correct answer)</i>	1
11	(D). Rows <i>(1 mark for correct answer)</i>	1
12	(A). Star	1

	(1 mark for correct answer)	
13	(D). 5 (1 mark for correct answer)	1
14	(B). Phishing (1 mark for correct answer)	1
15	(B). Indices of the Series (1 mark for correct answer)	1
16	(B). P-2, Q-4, R-1, S-3 (1 mark for correct answer)	1
17	(D). Filtering data based on condition (1 mark for correct answer)	1
18	(C). Line plot (1 mark for correct answer)	1
19	(C). LAN (1 mark for correct answer)	1
20	(A). Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A) (1 mark for correct answer)	1
21	(D). Assertion (A) is False, but Reason (R) is True (1 mark for correct answer)	1
Q No.	Section-B (7 x 2 = 14 Marks)	Marks
22	(A) A Series is a one-dimensional array containing a sequence of values of any data type (int, float, list, string, etc) which by default have numeric data labels starting from zero. We can imagine a Pandas Series as a column in a spreadsheet. An example of a series containing the names of students is given below: Index Value 0 Arnab 1 Samridhi 2 Ramit 3 Divyam (1 mark for correct definition)	2

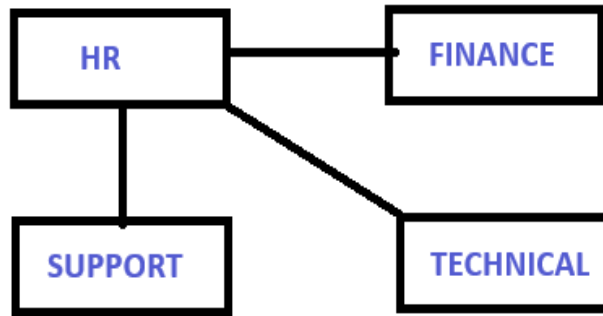
		<p><i>(1 mark for correct example)</i></p> <p style="text-align: center;">OR</p> <p>(B) Library: A collection of modules providing functionalities for specific tasks. Pandas: Used for data analysis Matplotlib: Used for creating plots <i>(1 mark for correct definition)</i> <i>(1/2 mark each for correct use of each library)</i></p>	
23	<p>Intellectual Property Rights (IPR)</p> <p>These are legal rights that protect the creations of the human intellect. The nature of these works can be artistic, literary or technical etc.</p> <p>Importance in the digital world</p> <p>These rights help prevent the unauthorized use or reproduction of digital content and ensure that creators are fairly compensated and incentivized for their original work.</p> <p><i>(1 mark for correct definition)</i> <i>(1 mark for correct importance)</i></p>		2
24	<p>I. SELECT SUBSTRING('Database Management System', 10, 6); II. SELECT INSTR('Database Management System', 'base');</p> <p><i>(1 mark for each correct query)</i></p>		2
25	(A)	<p>The Internet is a vast network of interconnected computer networks facilitating global communication and data exchange. The World Wide Web (WWW), on the other hand, is a system of interlinked hypertext documents accessed via the Internet.</p> <p><i>(1 mark for correct definition)</i> <i>(1 mark for correct difference)</i></p> <p style="text-align: center;">OR</p>	2
	(B)	<p>Browser cookies: Small pieces of data stored on our digital devices by websites to remember information and personalize our experience.</p> <p>Advantage: Improve user experience by remembering preferences, like our preferred language and other settings.</p> <p><i>(1 mark for correct definition)</i> <i>(1 mark for correct advantage)</i></p>	

26	<p>Primary Key : A set of attributes that can uniquely identify each row in a table (relation). It must contain unique values and cannot be null.</p> <p>How it differs from Candidate Key</p> <p>There can be multiple Candidate Keys in a table (relation), but only one of them is selected as Primary Key.</p> <p><i>(1 mark for correct definition)</i></p> <p><i>(1 mark for correct difference)</i></p>	2
27	<p>Two health concerns due to excessive use of Digital Devices:</p> <p>a) Eye strain and vision problems.</p> <p>b) Musculoskeletal issues like neck and back pain.</p> <p><i>(1 mark for each correct health concern)</i></p>	2
28	<p>(A)</p> <pre>import <u>pandas</u> as pd D1 = {'Name': 'Rakshit', 'Age': 25} D2 = {'Name': 'Paul', 'Age': 30} D3 = {'Name': '<u>Ayesha</u>', 'Age': 28} data = [<u>D1</u>, <u>D2</u>, <u>D3</u>] df = pd.<u>DataFrame</u>(data) print(df)</pre> <p>Changes Made :</p> <ol style="list-style-type: none"> Changed Pandas to pandas. Corrected mismatched string quotation marks Corrected the closing parenthesis in the list data. Changed Dataframe to DataFrame. <p><i>(1/2 mark for each correct correction and underlining)</i></p> <p style="text-align: center;">OR</p> <p>(B)</p> <pre>import <u>pandas</u> as pd data = ['Chennai', '<u>Lucknow</u>', 'Imphal'] indx = ['Tamil Nadu', 'Uttar Pradesh', 'Manipur'] s = pd.Series(<u>data</u>, indx) print(<u>s</u>)</pre> <p><i>(1/2 mark for each correct fill in the blank)</i></p>	2

Q No	Section-C (4 x 3 = 12 Marks)	Marks
29	<p>I. E-waste can release harmful substances like lead and mercury into the environment. (1 mark for correct answer)</p> <p>II. They can donate or sell it to a certified e-waste recycling center. (1 mark for correct answer)</p> <p>III. Recycling e-waste helps conserve natural resources and reduces pollution. (1 mark for correct answer)</p>	3
30	<p>(A) import pandas as pd d1 = {'Product': 'Laptop', 'Price': 60000} d2 = {'Product': 'Desktop', 'Price': 45000} d3 = {'Product': 'Monitor', 'Price': 15000} d4 = {'Product': 'Tablet', 'Price': 30000} data = [d1, d2, d3, d4] df = pd.DataFrame(data) print(df) (1 mark for correct import statement) (1 mark for correct list of dictionary) (1 mark for correct creation of DataFrame)</p> <p style="text-align: center;">OR</p> <p>(B) import pandas as pd data = {'Russia': 'Moscow', 'Hungary': 'Budapest', 'Switzerland': 'Bern'} s = pd.Series(data) print(s) (1 mark for correct import statement) (1 mark for correct dictionary) (1 mark for correct creation of Series)</p>	3
31	<p>I.</p> <p>CREATE TABLE STUDENTS (StudentID NUMERIC PRIMARY KEY, FirstName VARCHAR(20),</p>	3

	<p>LastName VARCHAR(10), DateOfBirth DATE, Percentage FLOAT(10,2)); (2 mark for correct creation of Table)</p> <p>II.</p> <p>INSERT INTO STUDENTS (StudentID, FirstName, LastName, DateOfBirth, Percentage) VALUES (1, 'Supriya', 'Singh', '2010-08-18', 75.5); (1 Mark for correct insert Query)</p>	
32	<p>(A)</p> <p>I. SELECT DEPARTMENT, AVG(SALARY) FROM PAYROLL GROUP BY DEPARTMENT; II. SELECT DESIGNATION FROM PAYROLL ORDER BY SALARY DESC; III. SELECT EMP_NAME, DEPARTMENT FROM EMPLOYEE E, PAYROLL P WHERE E.EMP_ID=P.EMP_ID; (1 mark for each correct query)</p> <p style="text-align: center;">OR</p> <p>(B)</p> <p>I. SELECT SPORT,SUM(Medals) FROM MEDALS GROUP BY SPORT; II. SELECT UPPER(Name) FROM ATHLETE WHERE COUNTRY = 'INDIA'; III. SELECT NAME, SPORT FROM ATHLETE A, MEDALS M WHERE A.AthleteID= M.AthleteID; (1 mark for each correct query)</p>	3
Q No.	Section-D (2 x 4 = 8 Marks)	Marks
33	<p>I. matplotlib.pyplot II. books_read III. ylabel IV. Number of Books Read by Students (1 mark for each correct answer)</p>	4

34	(A)	<p>I. SELECT LOWER(TITLE) FROM BOOK; II. SELECT MAX(PRICE) FROM BOOK; III. SELECT LENGTH(TITLE) FROM BOOK; IV. SELECT BCODE, PRICE FROM BOOK ORDER BY PRICE DESC; (1 mark for each correct answer)</p> <p style="text-align: center;">OR</p> <p>(B) I.</p> <table border="1" data-bbox="643 495 1050 719"> <tr><td>LENGTH(MED_NAME)</td></tr> <tr><td>11</td></tr> <tr><td>11</td></tr> <tr><td>7</td></tr> </table> <p>II.</p> <table border="1" data-bbox="719 831 975 943"> <tr><td>MED_NAME</td></tr> <tr><td>IBUPROFEN</td></tr> </table> <p>III.</p> <table border="1" data-bbox="691 1055 1002 1279"> <tr><td>MED_NAME</td></tr> <tr><td>PARACETAMOL</td></tr> <tr><td>COUGH SYRUP</td></tr> <tr><td>INSULIN</td></tr> </table> <p>IV.</p> <table border="1" data-bbox="691 1391 1002 1503"> <tr><td>max(DEL_DATE)</td></tr> <tr><td>2023-06-15</td></tr> </table> <p>(1 mark for each correct answer)</p>	LENGTH(MED_NAME)	11	11	7	MED_NAME	IBUPROFEN	MED_NAME	PARACETAMOL	COUGH SYRUP	INSULIN	max(DEL_DATE)	2023-06-15	4
LENGTH(MED_NAME)															
11															
11															
7															
MED_NAME															
IBUPROFEN															
MED_NAME															
PARACETAMOL															
COUGH SYRUP															
INSULIN															
max(DEL_DATE)															
2023-06-15															
Q No.	Section-E (3 x 5 = 15 Marks)		Marks												
35	<p>I. The server should be installed in the HR department as it has the most number of computers.</p> <p>II. Star topology</p>		5												



- III. Switch/Hub
- IV. WAN (Wide Area Network) will be created as the offices are located in different cities.
- V. A dynamic website is recommended as it can display the dynamic performance data (which differs from employee to employee) of each employee.

(1 mark for each correct answer)

36

- I. `print(df.head(2))`
- II. `print(df['Title'])`
- III. `df = df.drop('Rating', axis=1)`
- IV. `print(df.loc[2:4,'Title'])`
- V. `df.rename(columns={'Title':'Name'}, inplace=True)`

(1 mark for each correct answer)

5

37

- (A)
- I. `SELECT AVG(test_results) FROM Exams;`
 - II. `SELECT RIGHT(registration_number, 3) FROM Vehicles;`
 - III. `SELECT TRIM(username) FROM Users;`
 - IV. `SELECT MAX(salary) FROM Employees;`
 - V. `SELECT COUNT(*) FROM Suppliers;`

(1 mark for each correct query)

OR

- (B)
- I. `SELECT ROUND(3.14159, 2);`
 - II. `SELECT MOD(125, 8);`
 - III. `SELECT LENGTH('NewDelhi');`
 - IV. `SELECT LEFT('Informatics Practices', 5);`
 - V. `SELECT TRIM(email) FROM Students;`

(1 mark for each correct query)

5