COMMON PRE-BOARD EXAMINATION

INFORMATICS PRACTICES-Code No. 065

Class-XII-(2025-26)

Marking Scheme

Time allowed: 3 Hrs. **Maximum Marks: 70**

Q. No.	Section-A (21 x 1 = 21 Marks)	Marks
1.	True	1
2.	(B) 25.7	1
3	(C) Phishing	1
4.	(B) pd.read_csv()	1
5	(C) Router	1
6	(A) df.head(2)	1
7	(A) Trademark	1
8	(D) IS GR	1
9	(C) 3	1
10	(B) VoIP	1
11	(B) MAX()	1
12	(C) 2, 2	1
13	(B) Information Technology Act, 2000	1
14.	(A) GROUP BY	1
15	(A) df.iloc[2:5]	1
16.	(D) Bus	1
17.	(B) P-2, Q-4, R-1, S-3	1
18.	(A) pd.Series(dict)	1
19.	(D) STRINGARRAY	1
20.	(C) A is True, but R is False	1
21.	(B) Both A and R are True, but R does not explain A.	1
	SECTION B (7 × 2 = 14 Marks)	
22.	**(A)** What is a Pandas Series? Mention one key feature of it. A Pandas Series is a one-dimensional labeled array in Python that can hold data of any type — such as integers, floats, strings, or even Python objects. It is similar to a column in an Excel sheet or a single column of a DataFrame. Each element in a Series has a label (called an index), which allows for easy and intuitive data access and manipulation using the index instead of just numeric positions.	2

<table>
<tr><td></td><td>OR

(B) What is data visualization? Which is the library used?

Data visualization in Python is the process of representing data graphically using charts, graphs, and plots to help understand trends, patterns, and insights in the data. It makes complex data easier to interpret and analyze.

The most commonly used library for data visualization in Python is Matplotlib.</td><td></td></tr>
<tr><td>23.</td><td>Two health concerns associated with excessive usage of technology are:
Eye Strain (Digital Eye Syndrome): Prolonged screen time can cause dryness, blurred vision, and headaches.
Poor Posture and Back Pain: Sitting for long hours using computers or mobile devices can lead to neck, shoulder, and back problems.

(Or any other relevant points)</td><td>2</td></tr>
<tr><td>24</td><td>P1 400
P2 400
P3 400
P4 400
dtype: int64

P2 200
P3 200
dtype: int64</td><td>2</td></tr>
<tr><td>25.</td><td>What is difference between static and dynamic webpages?

<table><tr><th>Static web page</th><th>Dynamic web page</th></tr><tr><td>A web page with content that is predefined and static.</td><td>A web page with content that changes dynamically.</td></tr><tr><td>Has limited interactivity.</td><td>It is highly interactive.</td></tr><tr><td>Requires minimum Server processing.</td><td>Requires server-side processing.</td></tr><tr><td>Lower development and hosting cost.</td><td>Higher development and hosting cost.</td></tr></table>
OR

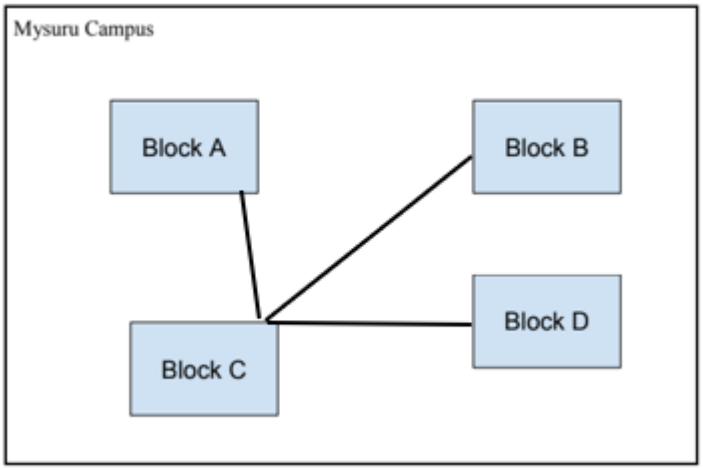
Explain web hosting.

Web hosting is a service that allows us to put a website or a web page onto the Internet, and make it a part of the World Wide Web. Once a website is created using a hardware server, we need to connect it to the Internet so that users across the globe can access.</td><td>2</td></tr>
<tr><td>26.</td><td>
I. SELECT RIGHT("Artificial Intelligence",5);
II. SELECT DAYNAME(‘2025-12-15’);</td><td>2</td></tr>
<tr><td>27.</td><td>Define digital footprints. Differentiate between active and passive digital footprints.
Digital footprints are traces of a person's online activity.
Active Digital Footprint: Intentional posts or uploads.</td><td>2</td></tr>
</table>

	Passive Digital Footprint: Unintentional data collected (e.g., location tracking).	
28.	(A) Write the output of the following code: Name Age 0 Ravi 21 1 Neha 20 6 **OR** (B) Write the output of the following code: Fruit Price 0 Apple 120 1 Mango 60 3 Guava 90	2
	SECTION C (4 × 3 = 12 Marks)	
29.	I. Definition Intellectual Property (IP): Intellectual Property refers to creations of the mind such as inventions, designs, literary and artistic works, symbols, names, and images used in commerce. Intellectual Property Rights (IPR): IPR are the legal rights granted to the creator or owner of intellectual property, allowing them to control and benefit from the use of their creations. II. IPR Category for Logo Shreya's logo is protected under Trademark. A trademark is a symbol, design, word, or phrase that identifies and distinguishes the goods or services of one company from others. III. Importance of IPR in Protecting Brand Identity IPR helps prevent competitors from copying the brand's logo or name, ensuring that the company's unique identity and reputation are legally protected.	3

30.	(A) import pandas as pd d={101:'Aman',102:'Riya',103:'Kabir',104:'Sara'} student=pd.Series(d) print(student) **OR** (B) import pandas as pd d={'Course':['Python Basics','Data Analytics','Cyber Security'], 'Duration':[6,10,8], 'Fees':[250,300,150]} course=pd.DataFrame(d,index=['R1','R2','R3']) print(course)	3
31.	(A) Write SQL statements for the following: I. CREATE TABLE CUSTOMER (CUSTID INTEGER PRIMARY KEY, NAME VARCHAR(20) , JOINDATE DATE NOT NULL, BALANCE DECIMAL(8,2)); II. INSERT INTO CUSTOMER VALUES(1, 'Ananya', '2022-05-10', 2500.50); III. UPDATE CUSTOMER SET BALANCE=5000.75 WHERE CustID = 1. **OR** (B) Consider the table *COURSES*: **CourseID CourseName Fees** 201 Python 15000 202 Java 14000 203 SQL 12000 I. courseID can be the primary key. courseID is having unique values and no null values. II. ALETR TABLE COURSES ADD DURATION INTEGER; III. DELETE FROM COURSES WHERE FEES >=15000;	3
32	Write SQL queries for: I. SELECT NAME FROM EMP WHERE DEPT = 'IT'; II. SELECT NAME, SALARY FROM EMP, PAYROLL WHERE SALARY>50000 AND EMP.EMPID=PAYROLL.EMPID; III. SELECT DEPT FROM EMP GROUP BY DEPT HAVING COUNT(*) =2;	3

	SECTION D (2 × 4 = 8 Marks)	
33.	Fill in the missing code: I. import matplotlib.pyplot as plt II. plt.bar(courses , students) III. plt.title("Course Enrollment") IV. plt.savefig("enrollment.png")	4
34.	(A) Consider the table *BOOKS*: Write SQL queries: I. SELECT UPPER(TITLE), LOWER(AUTHOR) FROM BOOKS; II. SELECT TITLE, PRICE FROM BOOKS WHERE MONTHNAME(PUBLISHED_DATE)='JANUARY' AND AUTHOR LIKE '%R%'; III. SELECT AVG(PRICE) FROM BOOKS; IV. SELECT COUNT(*) FROM BOOKS WHERE PUBLISHED_DATE< '2020-10-21'; **OR** (B) Table *SUPPLIERS*: **SupID** | **Name** | **City** | **Phone** 11 | Amit | Delhi | 9812345 12 | Kiran | Mumbai | 9988776 13 | Ramesh | NULL | 9876501 Write the output of: I. Name | Length(city) Amit | 5 Kiran | 6 Ramesh | NULL II. UPPER(Name) AMIT KIRAN III. Count(*) 3	4

	IV. City | Count(*) NULL | 1 Delhi | 1 Mumbai | 1	
	SECTION E (3 × 5 = 15 Marks)	
35	Answer the following: I. Block C. According to 80 – 20 rule, server should be placed where there maximum no. of computers to reduce the traffic. II. star topology  III. switch. IV. WAN. V. repeater	5
36.	Write Python statements to: I. print(stud_df[loc[stud_df[‘Marks’]>85]) II. Stud_df[‘Grade’] = ['A','A+','B','A'] III Stud_df.rename({‘Name’: ‘StudentName’},axis=1,inplace=True) IV. stud_df.loc[4]=[5,’Sajin’, 90,’A+’] V. Stud_df.drop(‘Marks’, axis=1,inplace=True)	5
37.	(A) Write SQL queries: I. SELECT RIGHT(CUSTCODE,4) FROM CUSTOMER; II. SELECT COUNT(DISTINCT CITY) FROM CUSTOMER; III. SELECT MONTH(JOINDATE) FROM EMPLOYEE; IV. SELECT LENGTH(RTRIM(ADDRESS)) FROM CUSTOMER; V. SELECT NOW();	5

	OR (B) Write SQL queries : I. SELECT LENGTH('ArtificialNeuralNetworks'); II. SELECT INSTR(‘qualification’, ‘a’); III. SELECT POW(5,3); IV. SELECT MID(‘information’,3,4); V. SELECT SUM(SALARY) FROM EMPLOYEE;	