COMMON PRE-BOARD EXAMINATION

INFORMATICS PRACTICES-Code No. 065

Marking Scheme

Class-XII-(2025-26)

SET: 3

Q. No.	Section-A (21 x 1 = 21 Marks)	Marks
1.	(C) SELECT COUNT(DISTINCT City) FROM Customers;	1
2.	(D) df[df['Score'] > 90	1
3.	(C) Plagiarism	1
4.	(D) WHERE	1
5.	(D) df.iloc[0, 1]	1
6.	(C) To return the number of characters in a given string.	1
7.	(B) Passive digital footprint	1
8.	(C) The result contains NaN for non-overlapping indices.	1
9.	(C) The number of columns in a table.	1
10.	(B) Static Web Page	1
11.	(C) To modulate and demodulate signals for transmission over telephone lines. (	1
12.	(B) To extract a substring from a given string.	1
13	(D) columns	1

14.	(C) df[['Name', 'Marks']]	1
15	False	1
16	(C) 2	1
17	(C) Copyright Infringement	1
18	(B) pd.DataFrame(data)	1
19	(C) Hub	1
	Direction : For questions 20 and 21, two statements are given: one labeled Assertion (A) and the other labeled Reason (R). Choose the correct option. (A) Both A and R are True, and R is the correct explanation of A. (B) Both A and R are True, but R is not the correct explanation of A. (C) A is True, but R is False. (D) A is False, but R is True.	
20	(C) A is True, but R is False	1
21	(B) Both A and R are True, but R is not the correct explanation of A.	1
Q No.	**Section-B (7X2 = 14 Marks)**	Marks
22.	i. SELECT (INSTR('WATERBOTTLE','BOT')); **ii.** SELECT DAYNAME("2020-09-12");	2
23.	FOSS stands for Free and open source software (FOSS) , software available freely for anyone and their source code is also open for anyone to access, modify, correct and improve. Some of the popular FOSS tools are office packages, like Libre Office, browser like Mozilla	2

24.	`studname  age  points`
	`0     Riya   25      85`
	`2    Varun   22      92`
	
	OR
	`a    NaN`
	`v   -1.0`
	`w    2.0`
	`x    NaN`
	`y    2.0`
	`z    8.0`
	`dtype: float64`
		2

<table>
<tr><td>25.</td><td>(A) If a value corresponding to a column is not present, it is considered to be a missing value. A missing value is denoted by NaN..(1 mark)

fillna(),dropna() (1 mark)

OR
(B) loc attribute is used to access group of rows and columns by corresponding row/column label(s).
Eg. A.loc[‘stude1’:stud4’,’m1:m4]
iloc attribute iloc attribute is used to access group of rows and columns by corresponding row/column index.eg.
A.iloc[3,1]</td><td>2</td></tr>
<tr><td>26.</td><td>List any two health hazards caused due to the overuse of technology.

interacting in an improper posture can be bad for us — both physically, and mentally.
Spending too much time on Internet can be addictive and can have a negative impact on our physical and psychological well being.
Eye strain is a symptom commonly complained by users of digital devices.
Overuse of keyboards (be it physical keyboard or touchscreen-based virtual keyboard) not aligned ergonomically, can give rise to a painful condition of wrists and fingers, and may require medical help in the long run (Any two of these)</td><td>2</td></tr>
<tr><td>27.</td><td>Abhay wants to Complete the given Python code: to read data from the CSV file ‘data.csv’ from D drive into a DataFrame df and display the first 5 rows.
import _pandas as pd
df = pd.read_csv(_D:\\data.csv____)
print(df.head(_5_))
(1/2 mark each)</td><td>2</td></tr>
<tr><td>28.</td><td>Rajesh, a freelance website developer, has been tasked with designing several web pages for a bookshop. Help Rajesh decide whether to create static or dynamic web pages by clearly outlining at least two points of difference between static and dynamic web pages.
<table>
<tr><th>Static Web page</th><th>Dynamic Web page</th></tr>
<tr><td>A static web page is a web page which displays fixed content, and it gets delivered to user’s browser exactly as created.</td><td>A dynamic web page is a web page which displays dynamic content every time it is loaded.</td></tr>
<tr><td>When a server receives a request for a static web page, then the server sends the response to the client without doingany additional process.</td><td>When a server receives a request for a dynamic web page, then the server sends the response tothe client after processing server side scripts.</td></tr>
<tr><td>Does not require any access of databases to display content.</td><td>Requires the access of Databases which enables the dynamic page content to be generated from information stored in the database.</td></tr>
<tr><td>Static web pages are written in languages such as: HTML,CSS, etc.</td><td>Dynamic web pages are written in languages such as: CGI, AJAX, ASP, ASP.NET, etc.</td></tr>
<tr><td>Coding is less complex and takes less time for loading.</td><td>Coding is complicated and takes more time for loading.</td></tr>
</table></td><td>2</td></tr>
</table>

Web page with static content	Few common examples of dynamic web pages are those web pages displaying the date, time, and weather report or having e-commerce applications.	

Priyanka, a beginner in IT field has just started learning web technologies. Help her in understanding the difference between website and web pages with the help of a suitable general example of each.

Web page	Web site
Single document on the Internet	A collection of related web pages linked together under same domain
Development requires minimum amount of time	Development takes relatively a long time
Web page has content about a single entity	Web site has content about several entities
e URL of the web page depends on website	URL of website does not depends upon webpage
URL has an extension Eg. indian.org/syllabus.html	No extension is used in URL of a website Eg. indian.org
It is the content that is to be displayed on a website	Website acts like a container that holds web pages within it.

Q No	**Section-C (4X3 = 12 Marks)**	Marks
29.	import pandas as pd country = {'India': 'New Delhi', 'Russia':'Moscow', 'Japan': 'Tokyo','Switzerland':'Bern'} S = pd.Series(country) print(S) (1 mark for import and print, 2 marks for Series creation) OR import pandas as pd D={'Name': ['Manpreet', 'Kavya', 'Manu', 'Ria'] ,'Physics': [70, 60, 76, 89],'Chemistry' : [30, 70, 50, 65]} DF=pd.DataFrame(D) print(DF) (1 mark for import and print, 2 marks for Dataframe creation)	3
30.	Write SQL commands to a) CREATE TABLE PRODUCT(PCODE VARCHAR(4) PRIMARY KEY, PNAME VARCHAR(20),UPRICE DECIMAL(8,2),D_OF_EXP DATE); (2 MARKS) b) INSERT INTO PRODUCT VALUES(' P01','Shampoo',85.50,'2025-10-12'); (1 MARK)	2+1

31. i. cyber bullying and cyber stalking. 3

ii. He must immediately bring it into the notice of her parents and school authorities. And she must report this cyber crime to local police with the help of her parents.

iii. Yes. The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is the primary law in India dealing with cybercrime and electronic commerce.

(1 mark for each answer)

32. 3

i) SELECT BOOK_NAME,AUTHOR_NAME FROM BOOK WHERE PRICE BETWEEN 350 AND 600;

ii) SELECT COUNT(DISTINCT TYPE) FROM BOOK;

iii) UPDATE BOOK SET PRICE=PRICE+50 WHERE TYPE='FICTION';

(1 mark each)

OR

Consider the two tables DOCTORS and PATIENTS:

TABLE:DOCTORS			
DOCID	**DOCNAME**	**DEPT**	**OPD_DAYS**
101	M PANDAY	ENT	US
102	G P GUPTA	PAED	MWF
201	C K SHARMA	ORTHO	MWF

TABLE:PATIENTS		
PATNO	**PATNAME**	**DOCID**
1	NEERAJ	101
2	MOHIT	201
3	RAGINI	101
4	MANOJ	102
5	NANDINI	201

Write the SQL queries for the following:

I) SELECT PATNO,PATNAME,DOCNAME FROM PATIENTS,DOCTORS WHERE PATIIENTS.DOCID=DOCTORS.DOCID;

II) ALTER TABLE PATIENTS ADD DATE_OF_ADM DATE;

III) SELECT * FROM DOCTORS ORDER BY DOCTo sort the records of DOCTORS table in descending order.

(1 mark each)

Q No	Section-D (2X4 = 8 Marks)	Marks

33. 4

```
import matplotlib.pyplot as plt  #Statement-1
Teams = ['Team A', 'Team B', 'Team C', 'Team D', 'Team E']
Scores = [50, 43, 75, 80, 40]
plt.bar(Teams,Scores,label='IT QUIZ')  #Statement-2
plt.xlabel('Quiz Teams')
plt.ylabel('Scores')
plt.title('Final Score Points') #Statement-3
plt.savefig('quiz_result.png')  #Statement-4
```

plt.legend()
plt.show()
(1 mark each)

34. 4

i) SELECT CARNAME,ROUND(COST,1) FROM CARMARKET;

ii) SELECT LOWER(CARNAME),LOWER(COMPANY) FROM CARMARKET WHEE DOM LIKE '2020%';

iii) SELECT CARNAME,COLOUR,INSTR(COLOUR,'E') FROM CARMARKET;

iv) SELECT COUNT(*) ,COMPANY FROM CARMARKET GROUP BY COMPANY;

OR

Consider the table CLUB.

Table : CLUB

COACH_ID	COACH_NAME	AGE	SPORTS	Date_of_joining	PAY
1	Rajesh	30	Karate	199-08-25	1000
2	Anuj	35	Swimming	2000-01-05	750
3	Shuchi	25	Basketball	2005-01-04	1200
4	Reetika	28	Badminton	2002-08-25	1400
5	Virendra	32	Cricket	1996-05-17	1500

What will be the output of the following SQL queries?

i) SUBSTR(COACH_NAME),2,4), AGE

huch 25

eeti 28

iren 32

ii) DAY(Date_of_joining) LEFT(COACH_NAME,3)

25 Ree

iii) PAY*0.25+1000

1250

1750

iv) MIN(AGE),SUM(PAY)

25 5850

Q No	Section-E (3X5 = 15 Marks)	Marks

35. Write suitable SQL query for the following: 5

I. SELECT AVG(TEST_RESULTS) FROM EXAMS;

II. SELECT RIGHT(REGISTRATION_NUMBER,3) FROM VEHICLE;

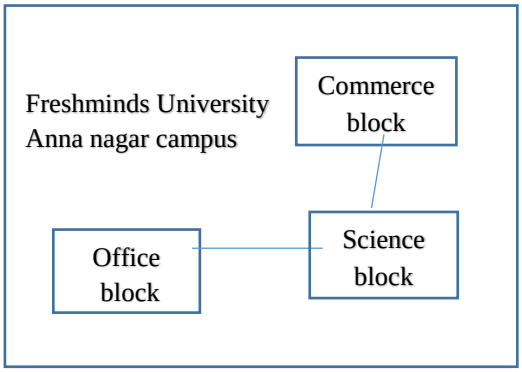
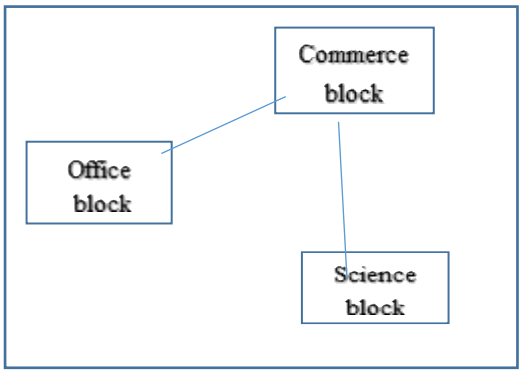
III. SELECT TRIM(USER) FROM USERS;

IV. SELECT MAX(SALARY) FROM EMPLOYEES;

V. SELECT COUNT(*) FROM SUPPLIERS;

OR

Write suitable SQL query for the following:

	I. SELECT ROUND(PI,2);. II. SELECT MOD(125,8); III. SELECT LENGTH("NEW DELHI'); IV. SELECT LEFT("HAKUNA MATATA',5); SELECT TRIM(EMAIL) FROM STUDENTS	
36.	i) Star topology – layout 1 Total distance = 90+15=105m   Bus topology – layout 2 Total Cable length =50+15= 65m Bus topology is best suited as it has less total cable length. i) Suggest the authorities, the cable layout amongst various blocks inside Anna nagar university campus for connecting the blocks. ii) The most suitable place to house the server for this university is SCIENCE block as it has most number of computers. iii) (b) Switch iv),WAN v) suggest the placement of the following devices with justification a) Repeater - To be placed between Science and Commerce block in layout 1 (star)as distance is >70. Repeater not needed in layout 2. b) b) Modem – To be placed in Science block as it has the server.	5

37.	Consider the following DataFrame dfn. Write the output of the Python statements (a) (b) (c) dfn.index=['O','P','S','T'] (d) dfn[' D']=[450,760,120,1000] (e) del dfn['B']	5

	A	B	C
Order	450	180	350
Purchase	330	550	610
Sell	250	410	380
Target	1050	980	1250

	A	B
Order	450	180
Purchase	330	550
Sell	250	410
Target	1050	980

```
A       330
B       550
C       610
```