



**COMMON PRE-BOARD EXAMINATION: 2022-23**  
**Class-XII**  
**Subject: INFORMATICS PRACTICES (065)**  
**MARKING SCHEME**



**General Instructions:**

1. This question paper contains 7 printed pages with five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.
8. All programming questions are to be answered using Python Language only.

**PART A**

- |    |  |   |
|----|--|---|
| 1. | Ans:<br>d) LAN   | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 2. | Ans:<br>c) The manufacturer  | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 3. | Ans:<br>b) LENGTH()  | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 4. | Ans:<br>b) 225   | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 5. | Ans:<br>c) 2   | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 6. | Ans:<br>d) website, webpage  | 1 |
|    | <i>1 mark for correct answer</i>   |   |
| 7. | Ans:<br>(c) SELECT Store_ID, SUM(Sales_Amount) FROM Sales GROUP BY Store_ID; | 1 |
|    | <i>1 mark for correct answer</i>   |   |

8. Ans: 1  
a) Histogram  
*1 mark for correct answer*
9. Ans: 1  
b) INSTR()  
*1 mark for correct answer*
10. Ans: 1  
a) print(week.tail(3))  
*1 mark for correct answer*
11. Ans:  
c) DF.iloc[6:10, 3:6]  
*1 mark for correct answer*
12. Ans: 1  
c) 16  
*1 mark for correct answer*
13. Ans: 1  
c) Information Technology (IT) Act, 2000  
*1 mark for correct answer*
14. Ans: 1  
c) 800  
*1 mark for correct answer*
15. Ans: 1  
a) Cracker  
*1 mark for correct answer*
16. Ans: 1  
b) FOSS  
*1 mark for correct answer*
17. Answer is: (i) 1  
*1 mark for correct answer*
18. Answer is: (iii) 1  
*1 mark for correct answer*

## PART B

19. Ans:

2

A web server is used to store and deliver the contents of a website to clients such as a browser that request it. A web server can be software or hardware.

Some popular web servers are: Apache web server, Netscape enterprise web server, Microsoft internet information server, etc.

A group of related web pages that follow the same theme and are connected together with hyperlinks is called a website. In other terms, "A website is a collection of digital documents, primarily HTML files, that are linked together and that exist on the web under the same domain".

e.g. <http://www.cbse.nic.in> is a website

**1 mark for correct explanation of each term**

**OR**

Static web page	Dynamic web page
A static webpage is one whose content always remains static, i.e., does not change for person to person.	A dynamic web page is one in which the content of the web page can be different for different users.
Static web pages are generally written in HTML, JavaScript and/or CSS and have the extension .htm or .html.	Dynamic web pages can be created using JavaScript, PHP, ASP. NET, Python, Java, Ruby, etc. Such a page generally has .php, .asp, or .jsp as extension.

**1 mark each correct difference**

20. Ans:

2

The problem with the given SQL query is that WHERE clause cannot be used with aggregate function, instead having clause is to be used with group by.

To correct the error, HAVING clause should be used instead of WHERE.

Corrected Query:

```
SELECT DEPT, COUNT(*) FROM EMPLOYEE GROUP BY DEPT COUNT(*) > 5;
```

**1 Mark for error identification**

**1 Mark for writing correct query**

21. Ans:

2

- a. `select substr("Corporate world", 6,4);` or can used `mid()`
- b. `select substr("Corporate world",11,5);` or  
`select substr("Corporate world",11);` or  
`select right("Corporate world",5);`

**OR**

- a. `select instr("Corporate world", "or");`
- b. `select right("Corporate world",4);`

**1 mark for each correct answer of part (a), (b)**

22. Ans:

2

```
import pandas as pd
```

```
dict1={'9':45,'10':50,'11':43,'12':35}
```

```
s1=pd.Series(dict1)
```

**1/2 mark for import statement**

**1/2 mark for correct dictionary**

**1/2 mark for usage of Series ()**

**1/2 mark for creating object subject**

23. Ans: 2
- The trail of data we leave behind ,reflecting the activities performed by us online, which is our *digital footprint*. The digital data trail we leave online unintentionally is called passive digital footprints. This includes the data generated when we visit a website, use a mobile App, browse Internet, etc.

*1 mark for correct answer ,1 mark for an example.*

**OR**

Intellectual Property refers to the inventions, literary and artistic expressions, designs and symbols, names and logos. The ownership of such concepts lies with the creator, or the holder of the intellectual property.

Intellectual Property is legally protected through copyrights, patents, trademarks, etc.

*1 mark for correct definition ,1 mark for mentioning ways to protect it.*

24. Ans: 2
- a True  
b True  
c True  
d False

*½ mark for each correct output*

25. Ans: 2
- i. Index labels of of the dataframe will include 'Eng', 'hindi', 'Math', 'Sci'.  
ii. The column names of df will be: A,B

*1 mark for each correct answer*

### SECTION C

26. Ans: 3
- i. ROUND(PERCENT)  
90  
78
- ii. MIN(DOA)  
2021-10-10
- iii. MOD (DAY(DOA),CLASS))  
4  
8

*1 mark for each correct output*

27. Ans: 3
- ```
import pandas as pd
data=[[E001,'Govind',PHY],[E002,'Raju',CS],[E003,'Kiran' ,CHEM],[E004,'Dinesh',ENG]]
df=pd.DataFrame(data,columns=['Eno','EName', 'Dept'])
print(df)
```

*1 mark for each correct python statement*

3

28. Ans:

- i. Forest['TArea']= [5432,7896,4400]
- ii. Forest=Forest. .drop('VDF',axis=1)
- iii. Forest=Forest.Rename(index={0: 'State1', 1: 'State2', 2:'State3'})  
**OR**  
Forest=Forest.Rename({0: 'State1', 1: 'State2', 2: 'State3'}, axis=0)

*1 mark for each correct statement*

29.

3

Ans:

- a) Yes,if we observe carefully the URL given in the mail has one extra 'o' and 'i'. The original school URL is schoolwifi.edu,while the URL mentioned in the mail is [schhoolwifii.edu/updatepassword](http://schhoolwifii.edu/updatepassword)
- b) It is a phishing site which will steal the students data.
- c) Yes. It is an example of phishing where using a similar looking URL and site,people are lured into/fooled.

*(1 mark for each correct answer )* **OR**

- Use a Certified E-waste Recycler: Find an e-waste recycler who are committed to safely and responsibly recycling electronics.
- Visit Civic Institutions: Check with your local government, schools and universities for additional responsible recycling options.
- Buy environmentally friendly electronics
- Sell off your Outdated Technology
- Give Back to your Electronic Companies or Leave at Drop-off Points
- Reuse and refurbish electronics.

*(1 mark for each correct measure to reduce e-waste.)*

30. Ans:

3

- i. SELECT SUM(SALARY) FROM EMPLOYEE GROUP BY GENDER;
- ii. SELECT COUNT(DISTINCT CITY) EMPLOYEE;
- iii. SELECT DESIGN,MAX(SALARY) FROM EMPLOYEE GROUP BY DESIGN;

*1 mark for each correct query*

**OR**

The difference between Group by and Order by:

- 1) Group by clause is used to group the rows that have the same value. Whereas Order by statement sort the result-set either in ascending or in descending order.
- 2) GROUP BY clause is applicable when we want to use aggregate functions to more than one set of rows. The ORDER BY clause is applicable when we want to get the data obtained by a query in the sorting order.

To find the stream wise count of students we can write

SELECT STREAM ,COUNT(\*) FROM STUDENT GROUP BY CLASS;

Whereas to arrange the names in alphabetical order, we use ORDER BY clause.

e.g:-

SELECT SNAME FROM STUDENT ORDER BY SNAME;

*1 mark for the difference between Group by and Order by clause*

*1 mark for correct example of Group by, 1 mark for correct example of Order by*

## SECTION D

31. Ans:
- i. SELECT MID('KENDRIYA VIDYALAYA',10,5); (can use SUBSTR/SUBSTRING)
  - ii. SELECT INSTR('SURYAVANSH','VANSH');
  - iii. SELECT MOD(17,3);
  - iv. SELECT MONTHNAME('01-APRIL-2022');
  - v. SELECT TRIM(EMPID) FROM EMP;

***1 mark for each correct query***

**OR**

**1.**

ROUND(N,D) - Rounds off number N to D number of decimal places.

**Example:**

SELECT ROUND( 234.56,1)

**Output:**

234.6

**2. LCASE():** It converts the string into upper case.

**Example:**

SELECT LCASE('HELLO123');

**Output:**

hello123

**3. NOW():** It returns the system date and time in yyyy-mm-dd hh:mm:ss format.

**Example:**

SELECT NOW();

**Output:**

```

+-----+
| now() |
+-----+
| 2022-12-07 10:22:22 |
+-----+
```

**4. MID():** It extracts the specified number of characters from given string.

**Example:**

SELECT MID(' Welcome world',4,,4);

**Output:**

Come

**5. LEFT():** It extracts the specified number of characters from left side of the given string.

**Example:**

SELECT LEFT(' Life os beautiful',4);

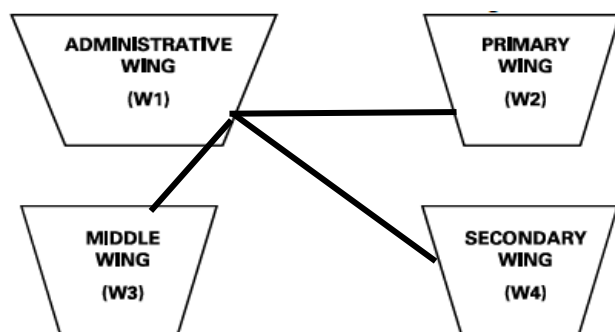
**Output:**

Life

**½ mark for each correct explanation**

**½ mark for each correct example**

32. Ans:
- a) STAR TOPOLOGY



- b) Server should be placed in Administrative wing (W1) as it has maximum number of computers.
- c) LAN, since the distance is well within 1KM.
- d) Devices
  - i. Repeater are not required for the above layout since the distance is well within 100m
  - ii. Hub/Switch is required in all wings to interconnect the computers, since the number of computers in each block is greater than 1
- e) Dynamic website, since the data/result would be different for each student.

***1 Mark for each correct answer***

33. Ans:

5

```
import matplotlib.pyplot as plt
book=['math','IP','Accountancy']
nob=[60,45,75]
plt.bar(book,nob)
plt.ylabel('Number of Books')
plt.xlabel('Books')
plt.title('Books in Library')
plt.show()
1/2 mark for each correct statement
Python statement to save the chart:
plt.savefig("book.jpg")
1 mark for the correct statement
```

**OR**

```
import matplotlib.pyplot as plt
Innings = [1,2,3,4,5]
Runs = [102,88,98,146,52]
plt.plot(Innings,Runs)
plt.ylabel('Runs Scored')
plt.xlabel('Innings')
plt.title('Runs Scored by Batsman in last 5 innings. ')
plt.show()
1/2 mark for each correct statement
Python statement to save the chart:
plt.savefig("runs.jpg")
1 mark for the correct statement
```

## SECTION E

34. Ans:

1+1+2

i. SELECT INVOICENO,MONTHNAME(SALEDATE) FROM SALE;

ii. SELECT MAX(SALEPRICE) FROM SALE;

*1 mark for each correct query*

iii. SELECT YEAR(SALEDATE),COUNT(\*) FROM SALE GROUP BY YEAR(SALEDATE);

**OR**

SELECT PAYMENTMODE,COUNT(\*) FROM SALE GROUP BY PAYMENTMODE;

*2 marks for correct query*

35. Ans:

a) Output:

i. (3,3)

ii.

|       | Accountancy | Economics | IP |
|-------|-------------|-----------|----|
| Karan | 87          | 89        | 87 |
| Tarun | 95          | 88        | 97 |

1+1+2

*1 mark for each correct output*

b) Python statement:

print(df.loc['Karan:', 'IP']) or print(df2.iloc[1:,2])

**OR**

df[ TOT\_MARKS]=df['Accountancy']+df['Economics']+df['IP']

*2 marks for correct Python statement*