



BAL BHARATI PUBLIC SCHOOL
PRE-BOARD EXAMINATION (2023-24)
Subject -Informatics Practices(065)
Class - XII
Marking scheme(Set - A)

Section A

1. (c) 3, 5
Explanation: 3, 5
2. (a) matplotlib.pyplot
Explanation: matplotlib.pyplot
3. (b) Internet
Explanation: Internet
4. (d) Single-row functions
Explanation: Single-row functions
5. (b) E-waste
Explanation: E-waste
6. (c) Hub
Explanation: Hub
7. (a) Switch
Explanation: Switch
8. (b) Having
Explanation: Having
9. (d) ARPANET
Explanation: ARPANET
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10. (a) GPL
Explanation: GPL
11. (c) INSTR()
Explanation: INSTR()
12. (a) All of these
Explanation: All of these
13. (b) Copyleft
Explanation: Copyleft
14. (b) Hacking
Explanation: Hacking
15. (d) for continuous data
Explanation: for continuous data
16. (d) Select class, max(marks) from student group by class;
Explanation: Select class, max(marks) from student group by class;
17. (a) Both A and R are true and R is the correct explanation of A.

Explanation: Both A and R are true and R is the correct explanation of A.

18. (c) A is true but R is false.

Explanation: A is true but R is false.

Section B

19. Mozilla Firefox, Google Chrome

OR

Web server is a computer with an Internet connection on which a website is hosted.

20. Result: '2020-04-06'

DATE(): Extracts the date part of a date or datetime expression.

21. i. `mysql > SELECT CONCAT (Name, Class) FROM STUDENT;`

ii. `mysql > SELECT UCASE (Name), RollNO FROM STUDENT WHERE Percentage>70;`

22. `POWER(x,y)` - will return value x power to y

`SUM()` - Aggregate function, and returns sum of values of one column

23. A trojan horse is a program that appears harmless but actually performs malicious functions.

OR

i. Spread of computers

ii. Increasing use to broadband

iii. Increasing financial motivation for computer crime

24. 2 Raj

5 Ankur

6 Harsh

dtype: object

2 Raj

4 NaN

5 Ankur

dtype: object

25. Empty DataFrame

Columns: [] Index: []

Section C

26. Mathematical functions accept only numeric values and return the value of same type. These functions are used to perform mathematical operations on the database data.

Some mathematical functions are given below

`POW()/POWER()`

`ROUND()`

`TRUNCATE()`

27. `import matplotlib.pyplot as plt`

`classes = ['VII', 'VIII', 'IX', 'X']`

`students = [40, 45, 35, 44]`

`plt.barh(classes, students)\`

`plt.show()`

28. i. SELECT * FROM STORE ORDER BY NAME;
 ii. SELECT CITY, COUNT(*) FROM STORE GROUP BY STORE HAVING COUNT(*)>2;
 iii

Count(StoreId)	NoOfEmp
1	10
1	11
1	5
1	7

29. Following are the major factors about the reasons behind plagiarism.

- i. Being lazy
- ii. Lack of enforcement
- iii. Fear of failure
- iv. Not having enough knowledge
- v. Lack of management skills

OR

The intellectual property rights must be protected because of protecting them

- i. encourages individuals and business to create new software and new software applications, as well as improving existing applications.
- ii. ensures new ideas and technologies are widely distributed.
- iii. promotes investment in the national economy.

30. i. 125
 ii. 2.7
 iii. CUTTA

OR

- i. select mid('MYCBSESCHOOL',6,4);
- ii. ii. select INSTR('WELCOME TO DELHI',DELHI);
- iii. iii. select round(25.613,2);

Section D

31. i. SELECT Name FROM EXAM WHERE Division = "1st" ORDER BY Name;
 ii. SELECT COUNT (*) FROM EXAM WHERE Subject = "Accounts" OR Subject = "Informatics";
 iii. SELECT MAX (Average) "Highest Average" FROM EXAM;
 iv. SELECT Name, Subject, Stipend *12 "Stipend" FROM Exam;
 v. SNo

OR

- i. select mid('INDIA SHINING',7,7);
- ii. select INSTR('WELCOME WORLD','COME');
- iii. select round(23.78,1);
- iv. select mod(100,9);

```
v. select trim('userid') from users;
```

```
32. import pandas as pd
```

```
data = {'RNo':[21, 45, 23, 17],
```

```
'Name': ['Abhi', 'Anjali', 'Tushar', 'Mahi'],
```

```
'Marks':[69.5, 84.5, 70.0, 78.0]}
```

```
df = pd.DataFrame(data,index=['SecA', 'SecB', 'SecC', 'SecD'])
```

```
print(df)
```

```
i. df.loc['SecE', :]=[08, 'Kushal', 80.0] print(df)
```

```
ii. df.Marks['SecC']=68.5
```

```
print(df)
```

```
33. A Matplotlib plot can be divided into following parts:
```

i. **Figure:** The figure keeps track of all the axes, group of special artists (titles, figure legends etc). A figure can have any number of axes but to be useful should have at least one.

ii. **Axes:** It is the region of the image with the data space. A figure can contain many axes but a given axes object can only be in one figure. The axes contain two axis objects which take care of data limits. Each axis has a title, an x- label and y-label. # Label It is used to add labels or names to respective X and Y-axes.

iii. **Title:** It is used to display the title of the graph.

iv. **Grid:** It is a collection of objects and functions which is concerned with 3-dimensional data.

v. **Subplot:** A subplot() function can be called to plot multiple plots in the same figure.

```
34. import numpy as np
```

```
import pandas as pd
```

```
df1=pd.DataFrame({'Mark1':[30,40,15,40],'Mark2':[20,45,30,70]})
```

```
df2 = pd.DataFrame({'Mark1':[10,20,20,50],'Mark2':[15,25,30,30]})
```

- i. `print (df1) print (df2)`
- ii. `print (df1.add (df2))`
- iii. `print (df1.subtract(df2))`
- iv. `df1.rename (columns = {'Mark1': 'Marks1'}, inplace = True)`

35.

(i) Suitable topology is bus topology.

(ii) The most suitable block for hosting server is BLOCK-D because this block has maximum number of computers.

(iii) Switch is a device used to segment network into different sub-networks so switch will exist in all the blocks. Since distance between BLOCK-D and BLOCK-C is large so repeater will be install between BLOCK-D and BLOCK-C

(iv) The most economical way to connect it with a reasonable high speed would be the use radio wave transmission, as they are easy to install, can travel long distance and penetrate buildings easily, so they are used for communication, both indoors and outdoors. Radio waves also have the advantage of being Omni-directional. They can travel in all the directions from the source, so that the transmitter and receiver do not have to be carefully aligned physically.