XII – IP - 2021-22 (Term1 & Term2)

UNIT 1 :: PYTHON (2021.22 TERM 1) (Questions)

1. Which of the following statement is wrong?
(a) Can't change the index of the Series
(b) We can easily convert the list, tuple and dictionary into a series
(c) A Series represents a single column in memory
(d) We can create empty Series

2. What type of error is returned by the following statement?

```
import pandas as pa
pa.Series([1,2,3,4], index=['a','b','c'])
```

a) Value Error b) Syntax Error
c) Name Error d) Logical Error

3. Which is incorrect statement for the python package Numpy?
a) It is a general purpose array processing package.
b) Numpy arrays are faster and more compact
c) It is multi-dimensional arrays
d) It is proprietary software

4) The data of any CSV file can be shown in which of the following software?
a) MS Word b) Notepad
c) Spreadsheet d) All of the above

5) Which python library is not used for data science?
a) Panda b) Numpy
c)Matplotlib d)Tkinter

6) Which method is used to Delete row(s) from DataFrame?
a) .drop( ) method b) .del( ) method
c) .remove( ) method d) .delete( ) method

7. Consider the following code:

```
import numpy as np
import pandas as pd
L=np.array([10,20])
x=pd.Series( _____ )      # statement 1
print(x)
```

output of the above code is :

```
0   1000
1    8000
dtype:int64
```

What is the correct statement for the above output in the following statement 1?
a) d=L*3 b) data=L**3
c)L*3 d) [10,20]**3

8. Which library is imported to draw charts in Python?
a) csv b) matplotlib c)numpy d) pandas

9. Which of the following would give the same output as DF/DF1 where DF and DF1 are DataFrames.
a) DF.div(DF1) b)DF1.div(DF)
c) Divide(DF,DF1) d) Div(DF,DF1)

10. Which of the following statement is wrong in context of DataFrame?
a) Two dimensional size is Mutable
b) Can perform Arithmetic operations on rows and columns.
c) Homogenous tabular data structure.
d) Create DataFrame from numpy ndarray.

11. Which attribute is not used with DataFrames.
a) size b) type c) empty d) columns

17. When we create a DataFrame from a list of Dictionaries, the columns labels are formed by the
a) Union of the keys of the dictionaries
b) Intersection of the keys of the dictionaries
c) Union of the values of the dictionaries
d) Intersection of the values of the dictionaries

18. To change the width of bars in a bar chart, which of the following arguments with a float value is used?
a) hwidth b) width c) breadth d)barwidth .

19. Identify the correct option to select first four rows and second to fourth columns from a DataFrame 'Data'
a) display(Data.iloc[1:4,2:4])
b) display(Data.iloc[1:5,2:5])
c) print(Data.iloc[0:4,1:4])
d) print(Data.iloc[1:4,2:4])

20. Which of the following command is used to import matplotlib for coding?
a) import matplotlib.pyplot as plt
b) import plt.matplotlib as plt
c) import py.matplotlib as plt
d) import pyplot.matplotlib as plt

21. Consider the following statements with reference to Line charts.

Statement A: Line graphs is a tool for comparison and is created by plotting a series of several points and connecting them with a straight line.

Statement B: You should never use line chart when the chart is in a continuous data set.

a) Statement A is correct. B) Statement B is correct
c) Statement A is correct but statement B is incorrect
d) Statement A is incorrect, but statement B is correct

22. What is not true about Data Visualization?
a) Graphical representation of information and data.
b) Helps users in analyzing a large amount of data in a simpler way.
c) Data Visualization makes complex data more accessible, understandable, and usable.
d) No library needs to be imported to create charts in Python language.

23. Which attribute is used with Series to count the total number of NaN values
a) size b) len c) count d)count total

24. Consider the following Series in Python:

```
data=pd.Series([10,15,20,25,30,35],
                index=['a','b','c','d','e','f'])
```

Which statement will display all odd values
(a) print(data%2= =0) b)print(data(data%2!=0)
c) print(data mod 2!=0) d) print(data[data%3=0])

SECTION – B

26. What will be the output of the following code?

```
import pandas as pd
import numpy
s=pd.Series(data=[31,54,34,89,12,23],dtype=numpy.int)
print(s>50)
```

(a)	(b)	(c)	(d)
0 False 1 True 2 False 3 True 4 False 5 False dtype:bool	1 54 3 89 dtype:int64.	0 31 1 54 2 34 3 89 4 12 5 23 dtype:int64	1 True 3 True dtype:bool

29. Consider a following DataFrame:

```
import pandas as pd
s=pd.Series(data=[31,54,34,89,12,23])
df=pd.DataFrame(s)
```

Which statement will be used to get the output as 2?

a) print(df.index) b) print(df.shape( ))
c) print(df.ndim) d) print(df.values)

30. Sandhya wants to display the last four rows of the dataframe df and she has written the following command: df.tail( )

But the first 5 rows are being displayed. To rectify this problem, which of the following statements should be written.

a) df.head( ) b) df.last(4) c) df.tail(4) d) df.rows(4)

33. Consider the following series

```
ser=pd.Series(['C','O','M','F','O','R','T','A','B','L','E'],
                                index=[1,2,3,4,5,6,7,8,9,10,11])
print(ser[4:  ])
```

(a)	(b)	(c)	(d)
4 F 5 O 6 R 7 T 8 A 9 B 10 L 11 E dtype:object	4 F 5 O 6 R 7 T 8 A dtype:object	4 F 5 O 6 R 7 T 8 A 9 B dtype:object	5 O 6 R 7 T 8 A 9 B 10 L 11 E dtype:object

34. Nowadays for developing Machine learning projects programmers rely on CSV files rather than databases. Why?

a) csv can be used with proprietary softwares only.
b) csv files can be downloaded from open source websites free of cost
c) csv files need not be imported while creating the projects
d) csv is a simple and well formatted mode for data storage

36. DataFrames can be created from?

a) Lists b) Dictionaries
c) Series d) All of the above

38. Consider the following statements

Statement A: .loc( ) is a label based data selecting method to select a specific row(s) or column(s) which we want to select.

Statement B: .loc( ) can not be used with default indices if customized indices are provided.

(a) Statement A is True but Statement B is False
(b) Statement A is False but Statement B is True
(c) Statement A and Statement B both are False
(d) Statement A and Statement B both are True

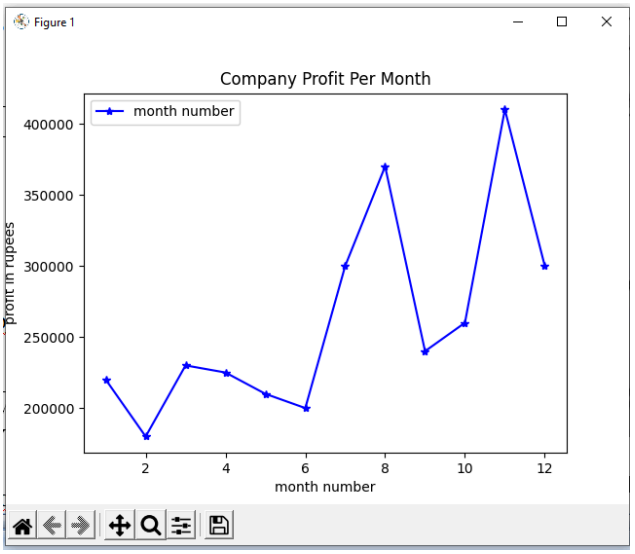
39. Abhay is a student of class 'XII', and he is aware of some concepts of python. He has created the DataFrame, but he is getting errors after executing the code. Help him by identifying the correct statement that will create the DataFrame:

Code:

```
import pandas as pd
stuname=['Muskan','Radhika','Gopar','Pihu']
term1=[70,63,74,90]
term2=[67,70,86,95]
```

(a) df=pd.DataFrame({"Name":stuname,
"marks1":term1,"marks2":term2})
(b) df=pd.dataframe([stuname,term1,term2],
columns=['stuName',"marks1","marks2"])
(c)df=pd.DataFrame({stuname,term1,term2})
(d) df=PD.dataframe({stuname,term1,term2})

40. Ms.Kalpana is working with an IT company, and she wants to create charts from the data provided to her. She generates the following graph:



(**Program:**

```
import matplotlib.pyplot as pl
a=[1,2,3,4,5,6,7,8,9,10,11,12]
b=[220000,180000,230000,225000,210000,200000,
    300000,370000,240000,260000,410000,300000]
pl.plot(a,b,'b',marker='*')
pl.legend(["month number"],loc="upper left")
pl.xlabel("month number")
pl.ylabel("profit in rupees")
pl.title("Company Profit Per Month")
pl.show()                                    )
```

Which statement is used to mark the line as given in the above fig.:

(a) plt.plot(x,y,marker='#',markersize=10,color='red',
linestyle='dashdot')
(b)plt.plot(x,y,marker='star',markersize=10,color='red')
(c) plt.plot(x,y,marker='@',markersize=10,color='red',
linestyle='dashdot')
(d) plt.plot(x,y,marker='*',markersize=10,color='red')

41. Mr.Raman created a DataFrame from a Numpy array:

```
arr=np.array([[2,4,8],[3,9,27],[4,16,64]])
df=pd.DataFrame(arr,index=['one','two','three'],____)
print(df)
```

Help him to add a customized column labels to the above DataFrame

(a) columns='no','sq','cube'
(b)column=['no','sq','cube']
(c) columns=['no','sq','cube']
(d) columns=[['no','sq','cube']]

42. What will be the output of the following program:

```
import pandas as pd
dic={'Name':['Sapna','Anmol','Rishul','Sameep'],
        'Agg':[56,67,75,76],'Age':[16,18,16,19])
df=pd.DataFrame(dic,columns=['Name','Age'])
print(df)
```

(a)

	Name	Agg	Age
101	Sapna	56	16
102	Anmol	67	18
103	Rishul	75	16
104	Sameep	76	19

(b)

	Name	Agg	Age
0	Sapna	56	16
1	Anmol	67	18
2	Rishul	75	16
3	Sameep	76	19

(c)

	Name
0	Sapna
1	Anmol
2	Rishul
3	Sameep

(d)

	Name	Age
0	Sapna	16
1	Anmol	18
2	Rishul	16
3	Sameep	19

43. Consider the following code:

```
import pandas as pd
S1=pd.Series([23,24,35,56],index=['a','b','c','d'])
S2=pd.Series([27,12,14,15],index=['b','y','c','ab'])
df=pd.DataFrame(S1+S2)
print(df)
```

Output for the above code will be:

(a)

	0
a	NaN
ab	NaN
b	51.0
c	49.0
d	NaN
y	NaN

(b)

	0
a	50
b	36
c	49
d	71

(c)

	0
b	50
y	36
c	49
ab	71

(d)

	0
a	NaN
ab	
	NaN
b	NaN
c	NaN
d	NaN
y	NaN

44. Sudhanshu has written the following code to create a DataFrame with Boolean index:

```
import numpy as np
import pandas as pd
df=pd.DataFrame(data=[[5,6,7]],index=[true,false,true])
print(df)
```

While executing the code, she is getting an error, help her to rectify the code:

(a) df=pd.DataFrame([True,False,True],data=[5,6,7])
(b) df=pd.DataFrame(data=[5,6,7],
index=[True,False,True])
(c) df=pd.DataFrame([true,false,true],data=[5,6,7])
(d) df=pd.DataFrame(index=[true,false,true],data=[[5,6,7]])

49. Sushila has created a DataFrame with the help of the following code:

```
import pandas
EMP={'EMPID':['E01','E02','E03','E04','E05'],'EMPNAME':
      ['KISHORI','PRIYA','DAMODAR','REEMA','MANOJ'],
      'EMP_SALARY':[67000,34000,68000,90000,43000]}
df=pandas.DataFrame(EMP,index=['001','002','003','004','005'])
print(df.loc[0:3, :])
```

and she wants to get the following output:

	EMPID	EMPNAME	EMP_SALARY
001	E01	KISHORI	67000
002	E02	PRIYA	34000
003	E03	DAMODAR	68000

Help her to correct the code

(a) print(df.iloc['001':'003', :])
(b) print(df.loc['001':'003', :])
(c) print(EMP[loc[0:3,:]])
(d) print(df.loc['001':'004',:])

SECTION-C

Section C consists of 6 questions (50-55). Attempt any five questions.

Case Study

Ms Ramdeep kaur maintains the records of all students of her class. She wants to perform some operations on the data:

Code:

```
import pandas as pd
t={'Rollno':[101,102,103,104,105,106,107],
   'Name':[Shubrato''Krishna','Pranshu','Gurpreet','Arpit',
   'Sanidhya','Aruobindo'],'Age':[15,14,14,15,16,15,16],
   'Marks':[77.9,70.4,60.9,80.3,86.5,67.7,85.0],'Grade':
   ['11B','11A','11B','11C','11E','11A','11C']}
df=pd.DataFrame(t,index=[10,20,30,40,50,60,70])
print(df)
```

Output of the above code:

	Rollno	Name	Age	Marks	Grade
10	101	Shubrato	15	79.9	11B
20	102	Krishna	14	70.4	11A
30	103	Pranshu	14	60.9	11B
40	104	Gurpreet	15	80.3	11C
50	105	Arpit	16	86.5	11E
60	106	Sanidhya	15	67.7	11A
70	107	Aurobindo	16	85.0	11C

Based on the given information, answer questions No.50-55.

50. Select the correct statement for the below output:

```
Name        Krishna
Age         14
Marks       70.4
Grade       11A
Name:20,    dtype:object
```

(a) print(df.iloc[2]) (b) print(df.loc[2])
(c) print(df.iloc[20]) (d) print(df.loc[20])

51. The teacher wants to know the marks secured by the second last student only. Which statement would help her to get the correct answer?

(a) print(df.loc[60:70,'Marks'])
(b) print(df.loc[60:60,'Marks'])
(c) print(df.iloc[-2:-2],['Marks'])
(d) print(df[-2:-2]['Marks'])

52. Which of the following statement(s) will add a new column 'fee' at second position with values [3200,3400,4500,3100,3200,4000,3700] in DataFrame df?

(a) df.insert(loc=2,column='fee',
value=[3200,3400,4500,3100,3200,4000,3700])
(b) df.add(2,column='fee',
[3200,3400,4500,3100,3200,4000,3700])
(c) df.append(loc=2,'
fee'=[3200,3400,4500,3100,3200,4000,3700])

(d) df.insert(loc=2,'fee',
[3200,3400,4500,3100,3200,4000,3700])

53. Which of the following commands is used to delete the column 'Grade' in the DataFrame df?

(a) df.drop('Grade',axis=1,inplace=True)
(b) df.drop('Grade',axis=0,inplace=True)
(c) df.drop['Grade',axis=1,inplace=True]
(d) df.delete('Grade',axis=1,inplace=True)

54. Which of the following commands would rename the column 'Marks' to 'Halfyearly' in the DataFrame df?

(a) df.rename(['Marks','Halfyearly'],inplace=True)
(b) df.rename({'Marks','Halfyearly'},inplace=True)
(c) df.rename(columns={'Marks':'Halfyearly'},inplace=True)
(d) df.rename(['Marks':'Halfyearly'],inplace=True)

55. Which of the following commands will display the Names and Marks of a students getting more than 80 marks?

(a) print(df.loc['Marks'>80,['Name','Marks']])
(b) print(df.loc[df['Marks']<80,'Name','Marks'])
(c) print(df.loc[df['Marks']<80,['Name','Marks']])
(d) print(df.loc[df['Marks']>80,['Name','Marks']])

UNIT 1 :: PYTHON (2021.22 TERM 1) (Answers)

1.a	2.a	3.d	4.d	5.d
6.a	7.b	8b	9a	10c
11b	17a	18b	19c	20a
21c	22d	23a	24d	26a
29c	30c	33d	34d	36d
38a	39a	40d	41c	42d
43a	44b	49b	50d	51b
52a	53a	54c	55d	

UNIT 2 ::SQL (2021.22 TERM 2) (Questions)

3.Find the output of the following SQL Queries:(2)

(i) SELECT ROUND(7658.345,2)
(ii) SELECT MOD(ROUND(13.9,0),3

(OR)

Give any two differences between the POWER( ) and SUM( ) SQL functions.

5. Find the output of the following SQL queries: (2)

a) SELECT SUBSTR("FIT INDIA MOVEMENT",5);
b) SELECT INSTR("ARTIFICIAL INTELLIGENCE","IA");

6. Srikanth created the following table STUDENT in his database. (2)

Table : Student

RollNo	Name	Class	Marks
1	Ritika	12	40
2	Angad	12	35
3	Kaveri	11	42
4	Lalitha	12	21
5	Daniel	11	44
6	Rabindra	11	39
7	Rabia	11	28

He now wants to count number of students in each class where the number of students is more than 3. He has executed the following query.

SELECT MAX(Marks) FROM STUDENT
WHERE COUNT(*)>3 GROUP BY Class;

But he got an error. Identify the error(s) and rewrite the query. Also underline the correction(s) done.

7. Ms Mohini is working in a school and stores the details of all student in a table SCHOOLDATA. (2)

Table : SCHOOLDATA

Admno	Name	Class	House	Percent	Gender	Dob
20150001	Aditya Das	10	Green	86	Male	2006-02-20
20140212	Harsh Sharma	11	Red	75	Male	2004-10-05
20090234	Swapnil Pant	10	Yellow	84	Female	2005-11-21
20130216	Soumen Rao	9	Red	91	Male	2006-04-10
20190227	Rahil Arora	10	Blue	70	Male	2005-05-14
20120200	Akasha Singh	11	Red	64	Female	2004-12-16

Write SQL statements from the above given table to

(i) to remove leading spaces from the column Name
(ii) Display the names of students who were born on Sunday

OR

Predict the output of the following SQL queries from the given table SCHOOLDATA
(i) SELECT MAX(percent) FROM SCHOOLDATA;
(ii)SELECT LEFT(Gender,1), Name FROM SCHOOLDATA WHERE YEAR(DOB)=2005;

8. Predict the output of the following SQL queries: (3)

(i) SELECT TRIM(" ALL THE BEST ");
(ii) SELECT POWER(5,2);
(iii) SELECT UPPER(MID("start up india",10));

OR

Consider a table "MYPET" with the following data: Table : MYPET

Pet_id	Pet_Name	Breed	LifeSpan	Price	Discount
101	Rocky	Labrador Retriever	12	16000	5
202	Duke	German Shepherd	13	22000	10
303	Oliver	Bulldog	10	18000	7
404	Cooper	Yorkshire Terrier	16	20000	12
505	Oscar	Shih Tzu	NULL	25000	8

Write SQL queries for the following:

(i) Display the Breed of all the pets in uppercase.

(ii) Display the total price of all the pets.
(iii) Display the average life span of all the pets.

9. Write the names of SQL functions to perform the following operations: (3)

(i) Display name of the Month from your date of birth.
(ii) Convert email-id to lowercase.
(iii) Count the number of characters in your name.

10. Consider the following table:PRODUCT (3)

PID	PNAME	PRICE	QUANTITY
P1001	Eraser	10.50	5
P1002	Ball Pen	15.00	2
P1003	Gel Pen	25.10	3
P1004	Ruler	5.00	1

Find the output of the following SQL queries:

(i) SELECT 10+MOD(QUANTITY,3) FROM PRODUCT WHERE PNAME=”Eraser”;
(ii) SELECT ROUND(PRICE,2)*QUANTITY FROM PRODUCT WHERE QUANTITY>2;
(iii) SELECT UCASE(RIGHT(PNAME,2)) FROM PRODUCT;

11. Consider the table : ITEM (4)

SNo	Itemname	Type	Price	Stockdate
1	Chaises	Living	11500.58	2020-02-19
2	Accent Chairs	Living	31000.67	2021-02-15
3	Baker Racks	Kitchen	25000.623	2019-01-01
4	Sofa	Living	7000.3	2020-10-18
5	Nightstand	Bedroom	NULL	2021-07-23

Write SQL series for the following:

(i) Display all the records in descending order of Stockdate.
(ii) Display the type and total number of items of each type.
(iii) Display the least price
(iv) Display the Itemname with their price rounded to decimal place.

12. Consider the following table: (4)

Table : SALESMAN

Scode	Sname	Area	Qtysold	Dateofjoin
S001	Ravi	North	120	2015-10-01
S002	Sandeep	South	105	2012-08-01
S003	Sunil	NULL	68	2018-02-01
S004	Subh	West	280	2010-04-01
S005	Ankit	East	90	2018-10-01
S006	Raman	North	NULL	2019-12-01

Predict the output for the following SQL Queries:

(i) `SELECT MAX(Qtysold), MIN(Qtysold) FROM SALESMAN;`
(ii) `SELECT COUNT (Area) FROM SALESMAN;`
(iii) `SELECT LENGTH (Sname) FROM SALESMAN WHERE MONTH(Dateofjoin)=10;`
(iv) `SELECT Sname FROM SALESMAN WHERE RIGHT(Scode,1)=5;`

OR

Based on the given table SALESMAN write SQL queries to perform the following operations:

(i) Count the total number of salesman.
(ii) Display the maximum qtysold from each area.
(iii) Display the average qtysold from each area where number of salesman is more than 1.
(iv) Display all the records in ascending order of area.

UNIT 2 ::SQL (2021.22 TERM 2) (Answers)

3.(i) A) **ROUND(7658.345,2)**
7658.35

(ii) A) **MOD(ROUND(13.9,0),3**
2

(OR)

POWER( )	SUM( )
Returns single result for each row when applied to a table	Returns single result by grouping all rows of table when applied
It is single row function	It is multiple row function or aggregate function
It takes two arguments	It takes only one argument
Syntax: SELECT POWER(M,N)	**Syntax:** SELECT SUM(column name) FROM table name
Ex: SELECT POWER(3,2);	**Ex:** SELECT SUM(Salary) FROM Emp;

5. a) SUBSTR(“FIT INDIA MOVEMENT”,5)
INDIA MOVEMENT
b) INSTR(“ARTIFICIAL INTELLIGENCE”,”IA”)
8

6. A) SELECT Class, COUNT(*) FROM STUDENT GROUP BY Class having Count(*)>3;

7.
(i)SELECT LTRIM(Name) FROM SCHOOLDATA;
SELECT TRIM(Name) FROM SCHOOLDATA
(ii) SELECT NAME FROM SCHOOLDATA
WHERE DAYNAME(DOB)=’SUNDAY’;

OR

(i) **MAX(percent)**
91

(ii) **LEFT(Gender,1)** **Name**
F Swpanil Pant
M Rahil Arora

8. (i) A) TRIM(“ ALL THE BEST “)
ALL THE BEST
(ii) POWER(5,2)

25

(iii) **UPPER(MID("start up india",10))**
INDIA

OR

Consider a table "MYPET" with the following data: **Table :** MYPET

Pet_id	Pet_Name	Breed	LifeSpan	Price	Discount
101	Rocky	Labrador Retriever	12	16000	5
202	Duke	German Shepherd	13	22000	10
303	Oliver	Bulldog	10	18000	7
404	Cooper	Yorkshire Terrier	16	20000	12
505	Oscar	Shih Tzu	NULL	25000	8

Write SQL queries for the following:

(i) SELECT UPPER(Breed) FROM MYPET;
SELECT UCASE(Breed) FROM MYPET;
(ii) SELECT SUM(Price) FROM MYPET;
(iii) SELECT AVG(LifeSpan) FROM MYPET;

9. (i) MONTHNAME( )
(ii) LOWER( ) or LCASE( )
(iii) LENGTH( )

10.(i) **10+MOD(QUANTITY,3)**
12
(ii) **ROUND(PRICE,2)*QUANTITY**
52.50
75.30
(iii) **UCASE(RIGHT(PNAME,2))**
ER
EN
EN
ER

11. (i) SELECT * FROM ITEM ORDER BY Stockdate DESC;
(ii) SELECT Type, COUNT(*) FROM ITEM GROUP BY Type;
(iii) SELECT MIN(Price) FROM ITEM;
(iv) SELECT Itemname, ROUND(Price,1) FROM ITEM;

12.
(i) **MAX(Qtysold)** **MIN(QTysold)**
280 68
(ii) **COUNT(Area)**
5
(iii) **LENGTH(Sname)**
4
5
(iv) **Sname**
Ankit

OR

(i) SELECT COUNT(*) FROM SALESMAN;
(ii) SELECT Area, MAX(Qtysold) FROM SALESMAN GROUP BY Area;
(iii) SELECT Area,AVG(qtysold) FROM SALESMAN GROUP BY AREA HAVING COUNT(*)>1;
(iv) SELECT * FROM SALESMAN ORDER BY AREA ASC;

UNIT 3 ::NETWORKS (2021.22 TERM 2)

(Questions)

1. Rishil thought "WWW" and "Internet" are synonyms i.e., they meant same and can be used interchangeably. But the teacher said that they are not same. Help him to understand the meaning of both the terms with the help of a suitable example for each. (2)

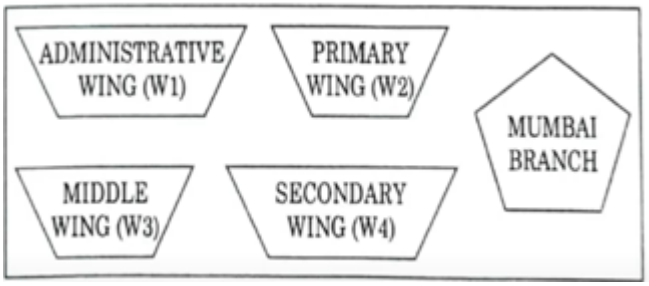
Or

What are cookies? How can we disable cookies?

2. (i) What is the function of Gateway? (1)
ii) Give examples of two Plug-ins (1)

4. Give one advantage and disadvantage each of Bus and Star topology. (2)

13. ABC international school, Delhi has different wings Administrative Wing (W1), Primary Wing(W2), Middle Wing(W3) and Secondary Wing(W4) as shown in the diagram: (4)



The school also has a branch in Mumbai.
The school management wants to connect all the wings as well as all the computers of each wing (W1,W2,W3,W4).

Distance between the wings:
W3 to W1-85m
W1 to W2-40m
W2 to W4-25m
W4 to W3-120m
W3 to W2-150m
W1 to W4-170m

Number of computers in each of the wing:
W1-125
W2-40
W3-42
W4-60

Based on the above specifications, answer the following questions:

(i) Suggest the topology and draw the most suitable cable layout for connecting all the wings of Delhi branch.
(ii) Suggest the kind of network required

(out of LAN, MAN, WAN) for connecting

(a) Administrative Wing(W1) with Middle Wing(W3)

(b) Administrative Wing(W1) with the Mumbai branch.

(iii) Suggest the placement of the following devices with justification:

a. Repeater b. Hub

(iv) Due to pandemic school had to adopt Online class. Suggest the protocol that is used for sending the voice signals over the internet. Also give an example of an application of WWW that helped the teachers to send messages instantly to the students.

UNIT 3 ::NETWORKS (2021.22 TERM 2) (Answers)

1. Ans:

Internet	WWW
Internet is primarily hardware based	World Wide Web(WWW) is primarily software based
Internet is networking infrastructure that connects devices together	WWW is collection of information that can be access through internet
Internet uses TCP/IP for communication	WWW uses HTTP/HTTPS for communication

Or

A) Cookies are small text files sent to your browser from websites you visit. These files track and monitor the sites you visit and the items you click on these pages.

Process to disable cookies:

One can disable cookies by changing the Privacy and Security settings of our browser.

2. (i) A gateway is a device that connects dissimilar networks. A gateway is a device that connects the organisation's network with the outside world of the internet. Gateway serves as the entry and exit point of a network, as all data coming in or going out of a network must first pass through the gateway in order to use routing paths.

ii) Adobe Flash, Java, QuickTime, Shockwave, Silverlight

4. Bus topology Advantages:

- It is very simple to design and install
- Less cabling is required as compared to other topologies.
- Best suited for small network (LAN)
- Very cost effective
- Easily expandable.

Bus topology disadvantage:

- Not suitable for large network
- If cable (backbone) is failed, entire network goes down.
- Though its design is simple, it is difficult to diagnose the fault.
- Data loss is high
- Slow network

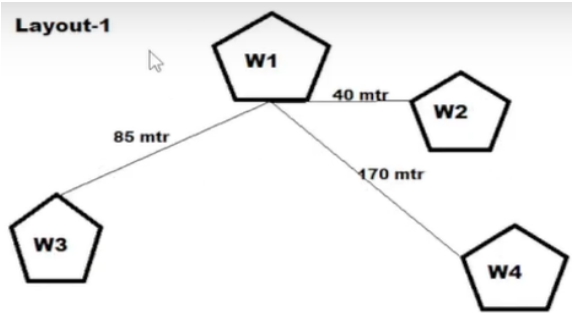
Star topology advantages:

- It is less expensive.
- Easy to install and update
- Easy to add new node

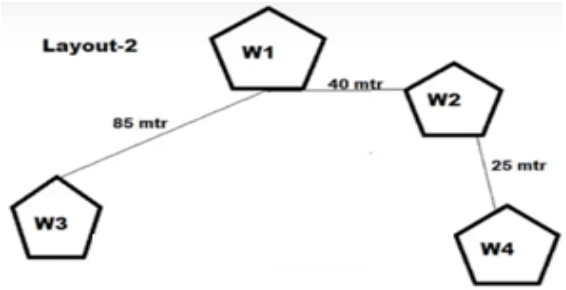
Star topology Disadvantages:

- If central device (hub/switch) falls, entire network goes down.
- Performance of entire network depends upon central device.
- Needs long cable to connect each node to central device.

13. (i)



(From wing in server to all other wings)



(Less cable length)

(ii) (a) LAN

(b) WAN

(iii) a. Repeater : As per cable Layout-1, Repeater can be placed between W1 and W4 wing, also between W1 and W3 wing. As per cable Layout-2, Repeater can be placed between W1 and W3 wing.

b. Switch/Hub: We can place Switch/Hub in all the Wings to connect all computers.

(iv) Protocol : VOIP

Application : Google Meet/Microsoft Teams/ Zoom, etc

UNIT 4 ::SOCIETAL IMPACTS (2021.22 TERM 1)(Q)

12. With the outset of Covid-19 schools started online classes but due to continuous online classes students health issues also started. Health practitioner advised the parents to follow a few

health tips. Which of the following health tip should not be suggested.
(a) The sitting posture should be correct
(b) Breaks should be taken in between the online classes
(c) To protect the eyes the gadgets should be placed above eye level.
(d) Wash the eyes regularly.

13. The following is automatically granted to the creator or owner of any invention.
(a) Patent **(b)** Copyright
(c) Trademark **(d)** License

14. Himanshi sets up her own company to sell her own range of clothes on Instagram. What type of intellectual property can she use to show that the clothes are made by his company.
(a) Patent **(b)** Copyright
(c) Design **(d)** Trademark

15. GPL stands for
(a) Guided Public License
(b) General Public License
(c) Global Public License
(d) General Public Letter

16. E-waste is becoming one of the fastest growing environmental hazards in the world today. If it is not properly treated or disposed of it can cause serious health hazards, therefore The _____ has issued a formal set of guidelines for proper handling and disposal of e-waste.
(a) Central Pollution Control Board (CPCB)
(b) Department of Information Technology (DIT)
(c) Electrical and Electronic Equipment (EEE)
(d) Information Communication Technology (ICT)

25. Priya is a student of class 10 and she is a very frequent user of internet applications. One day she got an unpleasant message on her instant messenger. What do you think she should do?
(a) Start chatting with an unknown person.
(b) talk to her parents/teacher or other trusted adult and let them know that she is feeling uncomfortable.
(c) Ignore the conversation
(d) She should delete the chat so that no one comes to know.

27. The primary law in India dealing with cyber crime and electronic commerce is:
(a) India's Technology (IT) Act, 2008
(b) India's Digital Information Technology (DIT) Act, 2000
(c) India's Information Technology (IT) Act, 2000
(d) The Technology Act, 2008

28. Consider the following statement with reference to Trademark and Hacking.
Statement 1: Trademark is a document that provides legally binding guidelines for the use and distribution of software.
Statement 2: Hacking is the act of unauthorized access to a computer network or any digital system.
(a) Statement 1 is True but Statement 2 is False
(b) Statement 1 is False but Statement 2 is True
(c) Both the statements are True
(d) Both the statements are False

31. There is only 1 day left for Ravisha to submit her Science project. Therefore she performed the following activities to complete her task. Which of the following activities can be considered as plagiarism?
(a) Downloaded the images that were marked as CC and pasted in her project file.
(b) Copied the content from some website and pasted in her file.
(c) Copied the content from the website and gave references about the same in the project.
(d) Downloaded and installed the open source software for typing the synopsis.

32. A contract between the creator and the user to allow the user use his/her work with some price is
(a) Agreement **(b)** Copyright
(c) License **(d)** Patent

35. Companies get their Trademark registered to protect?
(a) logos, names and brands
(b) word, phrase, or symbol
(c)slogans, stylized fonts, and colors.
(d) Company furniture, worker, brands

37. Rohit forgot his laptop in his car and when he came back he found his laptop was missing. This act is **(a)** Cyber Crime **(b)** Phishing
(c) Theft **(d)** Plagiarism

45. The rights of the owner of information to decide how much information is to be shared/ exchanged/ distributed, are collectively known as _____
(a) Intelligent Portable Rights
(b) Intellectual Property Rights
(c) Interactive Property Rights
(d) Instance Portability Rights

46. Abhilasha forgot to sign out from her gmail id and Aditi used Abhilasha's gmail id to send mail. This act of Aditi is considered as
(a) Plagiarism **(b)** Identity Theft
(c) Phishing **(d)** Piracy

47. The trail that is automatically created when a person uses the internet on any digital devices like laptops, smart phones, tablets etc is called
(a) Cyberbullying **(b)**Phishing
(c) Digital Footprint **(d)** Digital Activity

48. _____ operating system comes under FOSS

(a) Windows **(b)** Ubuntu
(c) Mac **(d)** Oracle

UNIT 4 ::SOCIETAL IMPACTS (2021.22 TERM 1)(A)

12. C **13.** (b) Copyright **14.** (d) Trademark
15. (b) General Public License
16. (a) **25.** (b)
27. (c) India's Information Technology (IT) Act, 2000
28. (b) Statement 1 is False but Statement 2 is True
31. (b) Copied the content from some website and pasted in her file.
32. (c)License
35. (a) logos, names and brands
37. (c) Theft
45. (b) Intellectual Property Rights
46. (b) Identity Theft
47. (c) Digital Footprint
48. (b) Ubuntu