KENDRIYA VIDYALAYA SANGATHAN

CHANDIGARH REGION

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Introduction to Python Libraries Data Structure in Pandas: Series, attributes, functions, indexing and slicing

1. Fill in the blanks :

```
# Series Creation from List with custom indexing
import pandas as pd
l1=[11,12,13,14]
series1=pd.Series(l1,_________=["1st","2nd","3rd","4th"])
print(series1)
```

   a. row
   b. index
   c. row_index
   d. Any above option

2. While trying to create series from dictionary, keys of dictionary become index.

   a. True
   b. False
   c. Depends on Python Version
   d. Depends on Machine Configuration

3. Predict data elements of series1 :

```
# Series Creation from Scalar Value with custom indexing
import pandas as pd
series1=pd.Series(5,index=["A","B","C","D"])
print(series1)
```

   a. 5,1,1,1
   b. 5,0,0,0
   c. 5,1,5,1
   d. 5,5,5,5

4. Which index, data elements will be printed by below code as output :

```
# Selection
import pandas as pd
l1=[11,12,13,14]
s1=pd.Series(l1)
print(s1.loc[2:])
```

   a. Data : 12,13,14 along with series-index 1,2,3
   b. Data : 13,14 along with series-index 'C','D'
   c. Data : 13,14 along with series-index 2,3
   d. Data : 12,13,14 along with series-index 'B','C','D'

5.	To have output of below python code as shown in figure, identify which attribute can be used to fill in the blank. `import pandas as pd` `l1=[11,12,13,14]` `s1=pd.Series(l1, index=['I','II','III','IV'])` `print(s1._____['II':])` II 12 III 13 IV 14
	a. loc
	b. iloc
	c. loc or iloc
	d. Neither loc nor loc
6.	What will be the output of following code- import pandas as pd s1=pd.Series([1, 2, 2, 7, 'Sachin', 77.5]) print(s1.head())
	a. Last data elements of series along with its indices i.e. -1.
	b. First data element of series along with its indices i.e. 0.
	c. Entire series
	d. First five data elements of series along with its indices i.e. 0,1,2,3,4 respectively
7.	Series is 1-D labelled array having two parts i.e. Index, Data. We can create series from:
	a. Python Sequence , Dictionary
	b. All 4 (ie Python Sequence , Dictionary , Scalar value , Numpy Array)
	c. Scalar value , Numpy Array
	d. None of stated option.
8.	To access elements as 12,13,14 respectively , what python command can be used `# Selection in custom indices using iloc` `import pandas as pd` `l1=[11,12,13,14,15]` `s1=pd.Series(l1, index=['a','b','c','d','e'])`
	a. s1.iloc[1:3] or s1.loc['b': 'd']
	b. s1.loc[1:3]
	c. s1.iloc['b': 'd']
	d. Neither s1.iloc[1:3] nor s1.loc['b': 'd']
9.	To create an empty Series object , we can use:
	a. pd.Series(empty)
	b. pd.Series(numpy.NaN)
	c. pd.Series()
	d. Any of above mentioned options

10.	To get the number of dimensions of Series object, _____ attribute is used.
	a. size
	b. shape
	c. itemsize
	d. ndim
11.	To skip not numeric or null values in series, we can use _____ attribute.
	a. skip
	b. skipna
	c. skipNaN
	d. Not possible
12.	To get last element of series s1, we may use s1._____ function.
	a. tail(1)
	b. tail()
	c. last[1]
	d. last[-1]
13.	Identify false statement regarding series data structure of pandas library :
	a. Series is homogenous data structure.
	b. Series is a two dimensional data structure.
	c. Size of series is mutable.
	d. Both (b) & (c)
14.	Rohan wants to create a series from a list, having index as 'A' , 'B','C' respectively. However, below code is generating error. Identify which lines are responsible for generating error. Line 1: import pandas as p1 Line 2: l1=[1, 2 , 3] Line 3: l2= list('ABC') Line 4: S1= p1. series(l1 , rows=l2)
	a. Line 4
	b. Line 3
	c. Line 2
	d. Line 1
15.	Identify out of below options, which could correct above code in order to help Rohit.
	a. In Line-4, Use p1.Series instead of p1.series.
	b. In Line-4, Use 'index' attribute instead of rows attribute.
	c. Both (a) & (b)
	d. In Line-1, use import pandas only.
16.	Aman , Riya and Neha are involved in a group discussion. All 3 students are representing below statements : Aman : Series is a one dimensional data structure. Riya : Series can have only default index ie 0,1,2. Thus, these index can't be customised. Neha : Size of series is immutable . Thus, it can't be changed once declare. Identify which student(s) is/are representing wrong fact(s).

	a. Aman
	b. Both Aman and Riya
	c. Neha
	d. Riya
17.	Choose correct option : D1={ 'A':'CS', 'B':'IP'} D2={ 'B':'IP', 'A':'CS'} Statement 1: Output of print (D1==D2) is True. Statement 2: Dictionary is a collection of key-value pairs. It is not a sequence.
	a. Only Statement 1 is true.
	b. Only Statement 2 is true.
	c. Both Statement 1 and 2 are true, but Statement 2 is not correct reasoning of Statement 1.
	d. Both Statement 1 and 2 are true, but Statement 2 is correct reasoning of Statement 1.
18.	Choose correct option : import pandas as p1 import numpy as np a1=np.arange(2,11,2) s1=p1.Series(a1,index=list('ABCDE')) print(s1.ndim) Statement 1: Above code will give output as 1. Statement 2: Series is a one dimensional data structure.
	a. Only Statement 1 is true.
	b. Only Statement 2 is true.
	c. Both Statement 1 and 2 are true, but Statement 2 is not correct reasoning of Statement 1.
	d. Both Statement 1 and 2 are true, but Statement 2 is correct reasoning of Statement 1.
19.	Choose correct option : import pandas as p1 l1=[11,12,13,14] s1=p1.Series(l1 , index=list('abc')) Statement 1: No. of indexes should be equal to number of data elements in series. Statement 2: Above code will execute fine.
	a. Only Statement 1 is true.
	b. Only Statement 2 is true.
	c. Both Statement 1 and 2 are true, but Statement 2 is not correct reasoning of Statement 1.
	d. Both Statement 1 and 2 are true, but Statement 2 is correct reasoning of Statement 1.
20.	Choose correct option : Reena created a series s1 having data elements as 12, 13, 14, 15 with index as I1, I2, I3,I4 respectively. She is using code either s1.loc ['I2':'I3'] or s1.iloc[1:3] Statement 1: Both code will give identical output. Statement 2: Both codes can be used to access data elements as 13,14,15 respectively.
	a. Only Statement 1 is true.
	b. Only Statement 2 is true.
	c. Both Statement 1 and 2 are true, but Statement 2 is not correct reasoning of Statement 1.
	d. Both Statement 1 and 2 are true, but Statement 2 is correct reasoning of Statement 1.

21. Choose correct option :

Assume there is a series s1 having data elements as 11, 12, and 13 respectively. Programmer 'Alok' wrote print(s1+2) in his python program.

Statement 1: A series will data elements as 13, 14, 15 will get printed.

Statement 2: Series supports vectorized operation.

a. Only Statement 1 is true.

b. Only Statement 2 is true.

c. Both Statement 1 and 2 are true, but Statement 2 is not correct reasoning of Statement 1.

d. Both Statement 1 and 2 are true, but Statement 2 is correct reasoning of Statement 1.

22 Predict output of s1>20 if series s1 is given below:

Index	Elements
I	15
II	20
III	25
IV	30

a.

Index	Elements
I	False
II	False
III	True
IV	True

b.

Index	Elements
III	25
IV	30

c.

Index	Elements
II	20
III	25
IV	30

d. None of the above

23. Assume series s1 is given below. Predict output of s1[s1%5==0 or s1>=20]

Index	Elements
I	16
II	20
III	21

a.

Index	Elements
I	False
II	True
III	False

b.

Index	Elements
II	20

	<table><tr><th>Index</th><th>Elements</th></tr><tr><td>II</td><td>True</td></tr><tr><td>III</td><td>True</td></tr></table> c.
	<table><tr><th>Index</th><th>Elements</th></tr><tr><td>II</td><td>20</td></tr><tr><td>III</td><td>21</td></tr></table> d.
24.	Predict output : import pandas as p1 s1=p1.Series([11,12,13,14]) print(s1.index)
	a. Syntax Error
	b. [0,1,2,3]
	c. ['I','II','III','IV']
	d. ['A','B','C','D']
25.	What will be correct syntax for pandas series?
	a. pandas_Series(data, index, dtype)
	b. panda.series(data, index, dtype)
	c. pandas.Series(data, index, dtype)
	d. panda_Series(data, index, dtype)
26.	Which of the following are modules/libraries in Python?
	a. NumPy
	b. Pandas
	c. Matplotlib
	d. All of the above
27.	Which of the following library in Python is used for plotting graphs and visualization.
	a. Pandas
	b. Numpy
	c. Matplotlib
	d. None of the above
28.	Which of the following command is used to install pandas?\
	a. pip install pandas
	b. install pandas
	c. pip pandas
	d. None of the above
29.	Identify incorrect syntax for importing pandas library :
	a. import pandas as p1 s1=p1.Series([11 , 12 , 13])
	b. import pandas s1=p1.Series([11 , 12 , 13])
	c. from pandas import Series s1=Series([11 , 12 , 13])
	d. import pandas s1=pandas.Series([11 , 12 , 13])

30.	Which of the following code will generate the following output? Jan 31 Feb 28 Mar 31 dtype: int64
	a. import pandas S1 = pd.Series(data = [31,28,31], index=["Jan","Feb","Mar"]) print(S1)
	b. import pandas as pd S1 = p1.series([31,28,31], index=["Jan","Feb","Mar"]) print(S1)
	c. import pandas as pd S1 = pd.Series([31,28,31], columns=["Jan","Feb","Mar"]) print(S1)
	d. import pandas as pd S1 = pd.Series([31,28,31], index=["Jan","Feb","Mar"]) print(S1)
31	To create an empty Series Object , You can use: a. pandas.Series(empty) b. pandas.Series(np.Nan) c. pandas.Series() d. all of these
32	To get the number of dimensions of a Series object, _____ attribute is displayed. 1. Index 2. Size 3. Itemsize 4. Ndim
33	To specify datatype int16 for a Series object, you can write: a. pandas.Series(data=array,dtype=int16) b. pandas.Series(data=array,dtype=numpy.int16) c. pandas.Series(data=array.dtype=pandas.int16) d. All of the above
34	To get the size of the datatype of the items in Series object, you can use _____ attribute. a. Index b. Size c. Itemsize d. Ndim
35	To get the number of elements in a Series object, _____ attribute may be used. a. Index b. Size c. Itemsize d. Ndim

36	To get the number of bytes of the Series data, _____ attribute is displayed. a. hasnans b. nbytes c. ndim d. dtype
37	To display third element of a Series object S, you will write_____. a. S[:3] b. S[:2] c. S[3] d. S[:2]
38	To display first three elements of a Series object S, you may write_____. a. S[:3] b. S[3] c. S3rd] d. All of these
39	To display last five rows of a Series object S, You may write_____. a. head() b. head(5) c. tail() d. tail(5)
40	Missing data in pandas object is represented through: a. Null b. None c. Missing d. Nan
41	Given a pandas series called Sequences, the command which will display the first 4 rows is _____ a. print(Sequences.head(4)) b. print(Sequences.Head(4)) c. print(Sequences.heads(4)) d. print(Sequences.Heads(4))
42	To check if the Series object contains NaN values, _____ attribute is displayed. a. hasnans b. nbytes c. ndim d. dtype
43	A _____ is a pandas data structure that represents a 1-D array like object. a. Array b. Numpy c. Series d. Dataframe

44	You can use numpy._____ for missing data. a. NaN b. Missing c. None d. NULL
45	To specify datatype for a Series object, _____ argument is used. a. Datatype b. Type c. dtype d. Dtype
46	The _____ function on Series object returns total elements in it including NaNs. a. Total() b. len() c. length() d. total()
47	The _____ function on Series object returns only the count of non-NaN values in it. a. count() b. total() c. length() d. len()
48	Series is _____mutable. a. value size
49	Series is not _____ mutable. a. Size b. value
50	Given are two objects, a list object namely lst1 and a series object namely ser1, both are having similar values i.e. 2,4,6,8. Find out the output produced by following statements: print(lst1*2) print(ser1*2) a. [2,4,6,8,2,4,6,8] 1. 4 2. 8 3. 12 4. 16 b. [4,8,12,16] 1 2 2 4 3 6 4 8 5 2 6 4 7 6 8 8

ANSWERS KEY

1-b	2-a	3-d	4-c	5-a	6-d	7-b	8-b	9-c	10-d
11-b	12-a	13-d	14-a	15-c	16-d	17-b	18-d	19-a	20-a
21-d	22-a	23-c	24-b	25-c	26-d	27-c	28-a	29-b	30-d
31-c	32-d	33-b	34-c	35-b	36-b	37-b	38-a	39-c,d	40-d
41-a	42-a	43-c	44-a	45-c	46-b	47-a	48-a	49-a	50-a

Data Structure in Pandas: Dataframes
attributes, functions, indexing and slicing, Text/CSV file etc.

Q.NO.	Question
1.	Which of the following commands is used to install pandas? (i) pip install python –pandas (ii) pip install pandas (iii) python install python (iv) python install pandas
2.	Which of the following statements is false? (i) Dataframe is size mutable (ii) Dataframe is value mutable (iii) Dataframe is immutable (iv) Dataframe is capable of holding multiple type of data
3.	In Pandas _____ is used to store data in multiple columns. (i) Series (ii) DataFrame (iii) Both of the above (iv) None of the above
4.	The following code create a dataframe named 'D1' with _____ columns. import pandas as pd D1 = pd.DataFrame([1,2,3]) (i) 1 (ii) 2 (iii) 3 (iv) 4
5.	Which of the following is used to give user defined column index in DataFrame? (i) index (ii) column (iii) columns (iv) colindex
6	The head() function of dataframe will display how may rows from top if no parameter is passed. (i) 1 (ii) 3 (iii) 5 (iv) None of these
7.	Which of the following function is not a Boolean reduction function (i) Empty (ii) Any() (iii) All() (iv) Fillna()
8.	When we create DataFrame from List of Dictionaries, then dictionary keys will become _____ (i) Column labels (ii) Row labels (iii) Both of the above (iv) None of the above

9	When we create DataFrame from List of Dictionaries, then number of columns in DataFrame is equal to the _____ (i) maximum number of keys in first dictionary of the list (ii) maximum number of different keys in all dictionaries of the list (iii) maximum number of dictionaries in the list (iv) None of the above
10	In given code dataframe 'D1' has _____ rows and _____ columns import pandas as pd LoD = [{'a':10, 'b':20}, {'a':5, 'b':10, 'c':20},{'a':7, 'd':10, 'e':20}] D1 = pd.DataFrame(LoD) (i) 3, 3 (ii) 3, 4 (iii)3, 5 (iv)None of the above
11	In DataFrame, by default new column added as the _____ column (i) First (Left Side) (ii) Second (iii)Last (Right Side) **(iv)** Any where in dataframe
12	We can add a new row to a DataFrame using the _____ method (i) rloc[ ] (ii) loc[ ] (iii)iloc[ ] (iv)None of the above
13	In the following statement, if column 'Rollno' already exists in the DataFrame 'D1' then the assignment statement will _____ D1['Rollno'] = [1,2,3] #There are only three rows in DataFrame D1 (i) Return error (ii) Replace the already existing values. (iii)Add new column (iv)None of the above
14	DF1.loc[ ] method is used to _____ # DF1 is a DataFrame (i) Add new row in a DataFrame 'DF1' (ii) To change the data values of a row to a particular value (iii)Both of the above (iv)None of the above
15	To delete a row, the parameter axis of function drop( ) is assigned the value _____ (i) 0 (ii) 1 (iii)2 (iv)3

16	Which of the following function is used to load the data from the CSV file to DataFrame? (i) read.csv( ) (ii) readcsv( ) (iii)read_csv( ) (iv)Read_csv( )
17	Display first row of dataframe 'DF' (i) print(DF.head(1)) (ii) print(DF[0 : 1]) (iii)print(DF.iloc[0 : 1]) (iv)All of the above
18	Which method is used to access vertical subset of a dataframe? (i) iterrows() (ii) iteritems() (iii) itercolumns() (iv) itercols()
19	The function to perform pivoting with dataframes having unique values is _____. (i) pivot(unique = True) (ii) pivot() (iii)pivot_table(unique = True) (iv)pivot_table()
20	The function to perform pivoting with dataframes having duplicate values is _____. (i) pivot(unique = True) (ii) pivot() (iii) pivot_table(unique = True) (iv) pivot_table()
21	To skip NaN values in a calculation, you can specify _____ attribute. (i) NaN (ii) NA (iii)Skipna (iv)all of these
22	In dataframe 3 quantiles are known as (i) quartles() (ii) median() (iii) terciles() (iv) permiles()
23	Name the function used in conjunction with groupby ? (i) aggregate() (ii) pivot() (iii) pivot_table() (iv) transform()
24	Which of the following returns number of non-NaN values of dataframe ? (i) count (ii) size (iii) index (iv) values
25	Write statement to transpose dataframe DF. (i) DF.t (ii) DF.transpose (iii)DF.T (iv)DF.T( )

Answer Key			
QNO.	Answer	QNO.	Answer
1.	(ii)	16	(iii)
2.	(iii)	17	(iv)
3.	(ii)	18	(ii)
4.	(i)	19	(ii)
5.	(iii)	20	(iv)
6.	(iii)	21	(iii)
7.	(iv)	22	(iii)
8.	(i)	23	(iv)
9.	(ii)	24	(i)
10.	(iii)	25	(iii)
11.	(iii)		
12.	(ii)		
13.	(ii)		
14.	(iii)		
15.	(i)		

Data Structure in Pandas: Dataframes attributes, functions, indexing and slicing, Text/CSV file etc.

Q. No	Multiple Choice Questions
1.	What is the full form of CSV?
	a. Comma Separated Values b. Common Separated Values c. Column Separated Values d. None of the above
2.	In DataFrame, axis 0 is for
	a. Rows b. Columns c. Rows and Columns Both d. None of these
3.	Which of the following input can be accepted by DataFrame?
	a. Structured ndarray b. Series c. DataFrame d. All of the mentioned
4.	What is dataframe?
	a. 2 D array with heterogeneous data b. 1 D array with homogeneous data c. 2 D array with homogeneous data d. 1 D array with heterogeneous data
5.	Full form of Numpy is.
	a. Numerical Practice b. Numerical Python c. Number Payment d. Non-Program
6.	Which of the following is not an attribute of a DataFrame Object ?
	a. index b. Index c. size d. value
7.	Panda Series are
	a. 2 D array with heterogeneous data b. 1 D array with homogeneous data c. 2 D array with homogeneous data d. 1 D array with heterogeneous data
8.	NaN stands for:
	a. Not a Number b. None and None c. Null and Null d. None a Number
9.	What is the correct syntax for importing (including) pandas in a script:
	a. # include pandas as pd b. Import Pandas as PD c. import pandas as pd d. none of the above
10.	In a Data-Frame, Axis= 0 represents the elements along the_____
	a. Row b. Column c. Row and Column Both d. None of the above
	Consider the following dataframe ***dtf*** and answer the following questions : `            Population  Avg Income  Per Captia income` `Delhi            1001       45000          44.955045` `Mumbai           2005       56000          27.930175` `Chennai         30236       57000           1.885170` `Kolkata           4662       46000           9.867010` ````

11. What will be the possible output of the statement : **dtf.loc[‘Delhi’ ,:]**

a.
```
Population           1001.000000
Avg Income          45000.000000
Per Captia income      44.955045
Name: Delhi, dtype: float64
```
b. An error
c.
```
1001
```
d.
```
Population     1001.0
Avg Income    45000.0
Name: Delhi, dtype: float64
```

12. What will be the possible output of the statement : **dtf.shape**

a. (4,3)
b. (3,4)
c. 4,3
d. (4,4)

13. What will be the possible output of the statement :
dtf.loc['Delhi':Mumbai, 'Population':'Avg Income']

a.
```
Population           1001.000000
Avg Income          45000.000000
Per Captia income      44.955045
Name: Delhi, dtype: float64
```
b. An error
c.
```
1001
```
d.
```
Population     1001.0
Avg Income    45000.0
Name: Delhi, dtype: float64
```

14. What will be the possible output of the statement : **dtf.size**

a. 15
b. 12
c. 9
d. 16

15. What will be the possible output of the statement :
dtf.loc[‘Delhi’:’Mumbai’,’Population’:’Avg Income’]

a.
```
           Population  Avg Income
Delhi            1001       45000
Mumbai           2005       56000
```
b.
```
Population           1001.000000
Avg Income          45000.000000
Per Captia income      44.955045
Name: Delhi, dtype: float64
```
c.
```
Population     1001.0
Avg Income    45000.0
Name: Delhi, dtype: float64
```
d.
```
1001
```

16. Given a Pandas series called df, the command which will display the last 4 rows is _____.

a. print(df.tail(4))
b. print(df.Tail(4))
c. print(df.tails(4)
d. print(df.Tails(4))

17. Given a Pandas series called df, the command which will display the first 4 rows is _____.

a. print(df.head(4))
b. print(df.Head(4))
c. print(df.heads(4)
d. print(df.Heads(4))

18. Given two Series created using below given statements :

```
import pandas as pd
ds1 = pd.Series([2, 4, 6, 8, 10])
ds2 = pd.Series([1, 3, 5, 7, 9])
```

choose the correct statement to find the product of ds1 and ds2.

a. print(ds1 x ds2)
b. print(product(ds1,ds2))
c. print(ds1 ** ds2)
d. print(ds1 * ds2)

19. Which method is used to read the csv file content into data frame?

a. read_csv()
b. readcsv()
c. reading_csv()
d. Read_CSV()

Consider the following DataFrame **edf** and answer any four questions from

EMPID	DESIGNATION	SALARY
E01	PRT	30000
E02	PGT	60000
E03	TGT	45000
E04	PRT	35000
E05	PRINCIPAL	80000

20. Write down the command that will give the following output :-

	EMPID	DESIGNATION	SALARY
0	E01	PRT	30000
1	E02	PGT	60000
2	E03	TGT	45000

a. edf.Head(row=3)
b. edf.head(3)
c. edf.head(2)
d. edf.Head(3)

21. Write down the command that will give the following output :-

	EMPID	SALARY
0	E01	30000
1	E02	60000
2	E03	45000
3	E04	35000
4	E05	80000

a. edf.loc(:,:)
b. edf.loc[:,[0,2]]
c. edf.iloc[:,[0:3]]
d. edf.iloc[:,[0,2]]

22. Write down the command that will give the following output :-

	EMPID	DESIGNATION	SALARY
0	E01	PRT	30000
1	E02	PGT	60000
3	E04	PRT	35000
4	E05	PRINCIPAL	80000

a. edf.drop()
b. edf.drop(2)
c. edf.head(4)
d. edf.drop(1)

23. What output will be produced by the following command :-

edf.rename(columns={'EMPID':'EID','CATEGORY':'CATEGORY'})

a.

	EID	DESIGNATION	SALARY
0	E01	PRT	30000
1	E02	PGT	60000
2	E03	TGT	45000
3	E04	PRT	35000
4	E05	PRINCIPAL	80000

b.

	EID	CATEGORY
0	E01	30000
1	E02	60000
2	E03	45000
3	E04	35000
4	E05	80000

c.

	EID	CATEGORY	SALARY
0	E01	PRT	30000
1	E02	PGT	60000
2	E03	TGT	45000
3	E04	PRT	35000
4	E05	PRINCIPAL	80000

d. None of the above

Consider the following Series object, S_marks: (for Questions 24-25)

Ajay	87
Vijay	90
Ramesh	66
Rama	53

24. Write the command which will display the name of the student having marks>80

a. print(S_marks[S_marks>80])
b. print(S_marks[S_marks>=80])
c. print(S_marks[S_marks Grater Then 80])
d. print(S_marks[S_marks MoreThan 80])

25. Write the command to name the series as "**Students**".

a. S_marks.nameChange('Students')
b. S_marks.name= 'Students'
c. S_marks.ChangeName= 'Students'
d. None of the above

26. Df.head() function is used to print

a. First 10 rows of data
b. First 3 rows of data
c. First 5 rows of data
d. First n rows of data

27. A dataframe cannot be created using another dataframe.

a. True
b. False

28. Consider two objects L and S. L is a list whereas S is a Series. Both have values 20, 40,90, 110. What will be the output of the following two statements considering that the above objects have been created already

i) print (L*2) ii) print(S*2)

a. Both will yield same result
b. i) will give the output as: [20,40,90,110,20,40,90,110]
ii) will give the output as:

0 40
1 80
2 180
3 220

	c. Error message will be produced in i) and in ii) output will be [20,40,90,110,20,40,90,110] d. Error Message will be produced in ii) and output of i) will be 0 40 1 80 2 180 3 220
	Suppose a data frame contains information about student having columns rollno, name, class and section. Write the code for the following:(29-33)
29.	Add one more column as fee:
	a. Df1['fee']=([100,200,300]) b. Df1.add['fee']= ([100,200,300]) c. Df1.AddNewCol['fee']= [100,200,300]) d. Df1.addnewcol['fee']= ([100,200,300])
30.	Write syntax to transpose data frame.
	a. Df1=Df1.Tranpose() b. Df2=Df1.Transpose() c. Df1=Df1.T d. Df1.T=Df1
31.	Write python code to delete column fee of data frame.
	a. delete Df1['fee'] b. drop Df1Col['Fee'] c. del Df1[Col.'fee'] d. del Df1['fee']
32.	Write the code to append df2 with df1
	a. Df2=Df2.append(Df1) b. Df2=Df2+Df1 c. Df2=Df2.appendwith.Df1 d. Df2=Df1.append(Df1)
33.	Display data of 1st to 3rd rows
	a. Df1.iloc[1:4] b. data.iloc[1:4] c. dataofDf1.iloc[1:4] d. None of the above
34.	What will be the output of the following code? *import pandas as pd* *s = pd.Series(6,index=range(0,5))* *print(s)*
	a. An Error message b. 0 9 1 9 2 9 3 9 4 9 dtype: int64 c. 1 6 2 6 3 6 4 6 5 6 dtype: int64 d. 0 6 1 6 2 6 3 6 4 6 dtype: int64

35.	Rohan wants to print the row labels of the dataframe. He should use the ___ attribute of a dataframe.
	a. T b. axes c. empty d. index
36.	In Dataframe Data structure Stack is example of :
	a. LIFO b. FIFO c. SJF d. RRS
37.	In Dataframe Data structure Queue is example of :
	a. LIFO b. FIFO c. SJF d. RRS
38.	In Pandas the function used to delete a column in a DataFrame is:
	a. Remove b. Del c. Drop d. cancel
39.	Name any two data structure available in Python Pandas.
	a. String, Integer b. Series, Dataframe c. Alphabets, numbers d. LIFO, FIFO
40.	Predict the output of the following code segment from the available options: *import pandas as pd* *f1=pd.DataFrame([5,6,7])* *f2=pd.DataFrame([5,6,7],index=['five','six','seven'])* *print("Frame 1")* *print(f1)* *print("Frame 2")* *print(f2).*
	a. An Error message b. Frame 1 0 0 5 1 6 2 7 c. Frame 2 0 five 5 six 6 seven 7 d. Frame 1 0 0 5 1 6 2 7 Frame 2 0 five 5 six 6 seven 7

Consider the following and answer the questions 41-45

Rohit, a student of class 12th, is learning CSV File Module in Python. During Examination, he has been assigned an incomplete python code (shown below) to create a CSV File 'Student.csv' (content shown below). Help him in completing the code which creates the desired CSV File:

CSV File

```
1,AKSHAY,XII,A
2,ABHISHEK,XII, A
3,ARVIND,XII,A
4,RAVI,XII,A
5,ASHISH,XII,A
```

Incomplete Code

```
import_____                                    #Statement-1
fh = open(_____, _____, newline='')            #Statement-2
stuwriter = csv._____                          #Statement-3
data = []
header = ['ROLL_NO', 'NAME', 'CLASS', 'SECTION']
data.append(header)
for i in range(5):
roll_no = int(input("Enter Roll Number : "))
name = input("Enter Name : ")
Class = input("Enter Class : ")
section = input("Enter Section : ")
rec = [_____]                                  #Statement-4
data.append(rec)
stuwriter. _____ (data) #Statement-5
fh.close()
```

41. Identify the suitable code for blank space in line marked as Statement-1.

a. csv file
b. CSV
c. csv
d. Csv

42. Identify the missing code for blank space in line marked as Statement-2?

a. "School.csv","w"
b. "Student.csv","w"
c. "Student.csv","r"
d. "School.csv","r

43. Choose the function name (with argument) that should be used in the blank space of line marked as Statement-3

a. reader(fh)
b. reader(MyFile)
c. writer(fh)
d. writer(MyFile)

44. Identify the suitable code for blank space in line marked as Statement-4.

a. 'ROLL_NO', 'NAME', 'CLASS', 'SECTION'
b. ROLL_NO, NAME, CLASS, SECTION
c. 'roll_no','name','Class','section'
d. roll_no,name,Class,section

45. Choose the function name that should be used in the blank space of line marked as Statement-5 to create the desired CSV File?

a. dump()
b. load()
c. writerows()
d. writerow()
e.

Consider the following and answer the questions 46-50

Sanyukta is the event incharge in a school. One of her students gave her a suggestion to use Python Pandas and Matplotlib for analysing and visualising the data, respectively. She has created a Data frame "SportsDay" to keep track of the number of First, Second and Third prizes won by different houses in various events.

	House	First	Second	Third
0	Chenab	5	7	6
1	Ganges	10	5	4
2	Jamuna	8	13	15
3	Jhelum	12	9	12
4	Ravi	5	11	10
5	Satluj	10	5	3

Write Python commands to do the following:

46. Display the house names where the number of Second Prizes are in the range of 12 to 20.

a. df['Name'][(df['Second']>=12) and (df['Second']<=20)]
b. df[Name][(df['Second']>=12) & (df['Second']<=20)]
c. df['Name'][(df['Second']>=12) & (df['Second']<=20)]
d. df[(df['Second']>=12) & (df['Second']<=20)]

47. Display all the records in the reverse order.

a. print(df[::1])
b. print(df.iloc[::-1])
c. print(df[-1:]+df[:-1])
d. print(df.reverse())

48. Display the bottom 3 records

a. df.last(3)
b. df.bottom(3)
c. df.next(3)
d. df.tail(3)

49. Choose the correct output for the given statements

```
x=df.columns[:1]
print(x)
```

a. 0 b. Name c. First d. Error

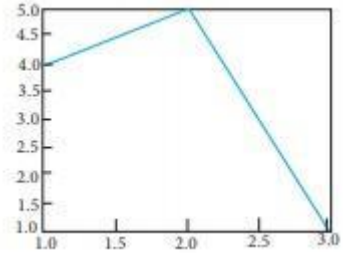
50. Which command will give the output 24:

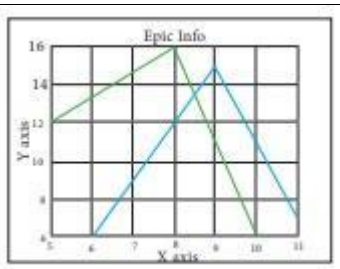
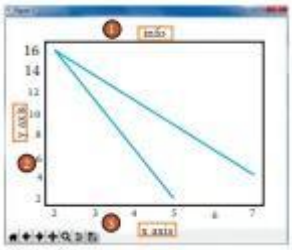
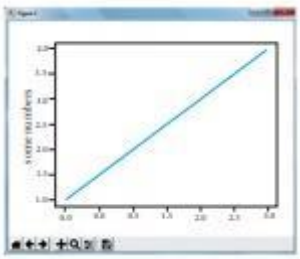
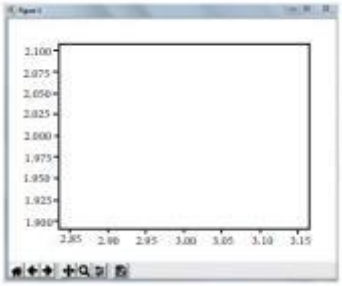
a. print(df.size)
b. print(df.shape)
c. print(df.index)
d. print(df.axes)

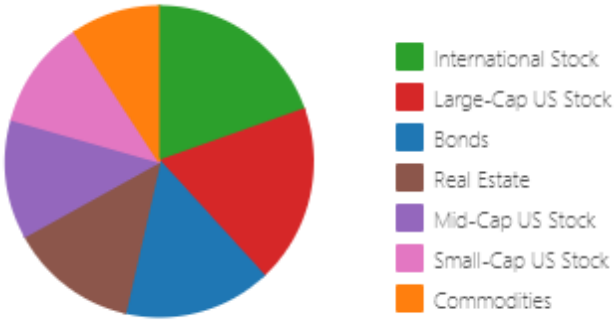
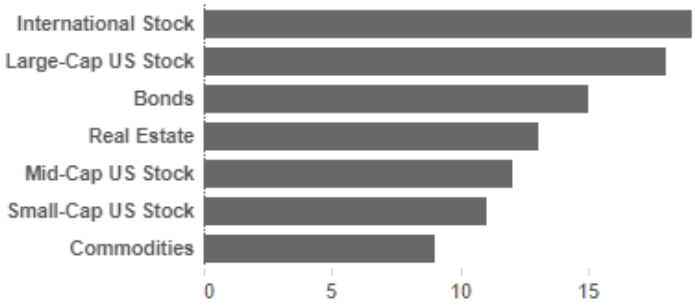
ANSWER KEY

1. a	2. b
3. d	4. a
5. b	6. b
7. b	8. a
9. c.	10. a.
11. a.	12. a.
13. b.	14. b.
15. a.	16. a.
17. a	18. d.
19. a.	20. b.
21. d.	22. b.
23. c.	24. a.
25. b.	26. c.
27. b.	28. b.
29. a.	30. c.
31. d.	32. a.
33. a.	34. d.
35. d.	36. a.
37. b.	38. b.
39. b.	40. d.
41. c.	42. b.
43. c.	44. d.
45. c.	46. c.
47. b.	48. d.
49. b.	50. a.

DATA VISUALIZATION

Q.NO	Question
1	What is data visualization? a) It is the numerical representation of information and data b) It is the graphical representation of information and data c) It is the character representation of information and data d) None of the above
2	Which is a python package used for 2D graphics? a) matplotlib.pyplot b) matplotlib.pip c) matplotlib.numpy d) matplotlib.plt
3	Observe the output figure. Identify the coding for obtaining this output.  a) import matplotlib.pyplot as plt plt.plot([1,2],[4,5]) plt.show() b) import matplotlib.pyplot as plt plt.plot([2,3],[5,1]) plt.show() c) import matplotlib.pyplot as plt plt.plot([1,2,3],[4,5,1]) plt.show() d) import matplotlib.pyplot as plt plt.plot([1,3],[4,1]) plt.show()
4	Identify the right type of chart using the following hints. Hint 1: This chart is often used to visualize a trend in data over intervals of time. Hint 2: The line in this type of chart is often drawn chronologically. a) Line chart b) Bar chart c) Pie chart d) Scatter plot
5	Read the code: import matplotlib.pyplot as plt plt.plot(3,2) plt.show() Identify the output for the above coding.

	a)  b)  c)  d) 
6	A bar chart is also known as column chart. a) True b) False
7	Which of the following is/are correct statement for plot method? a) plt.plot(x,y,color,others) b) pl.plot(x,y) c) pl.plot(x,y,color) d) All the above
8	To give a title to x-axis, which of the following method is used? a) pl.xtitle(“title”) b) pl.xlabel(“title”) c) pl.xheader(“title”) d) pl.xlabel.show(“title”)
9	To change the width of bars in bar chart, which of the following argument with a float value is used? a) thick b) thickness c) width d) barwidth
10	Using Python Matplotlib _____ can be used to count how many values fall into each interval a) line plot b) bar graph c) histogram d) pie chart
11	What is the purpose of legend? a) A legend is an area describing the elements of the graph. b) A legend is top area with information about graph c) A legend is additional information of x and y labels d) A legend is a mini box with bars data
12	Which function can be used to export generated graph in matplotlib to png a) savefigure b) savefig c) save d) export

13	which one of these is not a valid line style in matplotlib a) '-' b) '--' c) '-.' d) '<'
14	Which graph makes it easier to determine which investment has greater market share? a)  b)  c) Both d) None of the above
15	Default value of the number of bins to be created in a histogram is a) 5 b) 10 c) 15 d) 20
16	How can we make bar chart horizontal? a) plt.bar() b) plt.hbar() c) plt.barh() d) plt.rightbar()
17	Which of the following data can be shown by histogram? a) The quantity like weight, height, time b) The categories c) The uncountable data d) All of the above
18	How many parameters a hist() function can have? a) 2 b) 3 c) 4 d) 5

19	In what order should you run the following commands in order to generate and display a plot? 1. plt.legend() 2. x = np.linspace(1, 10, 20) 3. plt.show() 4. plt.xlabel('X-Label') 5. plt.plot(x, label='Example Plot') a) 4-2-1-5-3 b) 2-5-4-1-3 c) 5-4-1-3-2 d) 2-1-4-3-5
20	A histogram is used: a) for continuous data b) for grouped data c) for time series data d) to compare two sets of data
21	Identify the suitable code to be used in the blank space in line marked as Statement1. a) matplotlib as plt b) numpy as np c) pandas as pd d) matplotlib.pyplot as plt
22	What is the name of the function to plot the required bar graph in the line marked as Statement 2 a) hist() b) pie() c) bar() d) scatter()
23	Fill in the blank in statement 3 to set Chart Title as “Olympics Medal Tally“and font size as 18. a) plt.xtitle("Olympics Medal Tally ",fontsize=18) b) plt.title("Olympics Medal Tally ",fontsize=18) c) plt.ytitle("Olympics Medal Tally ",fontsize=18) d) plt.show("Olympics Medal Tally ",fontsize=18)
24	Identify the suitable code for line marked as Statement 4 to display the legends as shown in the plot a) plt.showlegend() b) plt.legend() c) plt.display() d) plt.show()
25	Fill in the blank marked in Statement 5 to display the plot. a) plt.plot() b) plt.showplot() c) plt.display() d) plt.show()

Answer Key

QNO	ANS	QNO	ANS	QNO	ANS
1	b	11	a	21	d
2	a	12	b	22	c
3	c	13	d	23	b
4	a	14	b	24	b
5	d	15	b	25	d
6	a	16	c	26	
7	d	17	a	27	
8	b	18	d	28	
9	c	19	b	29	
10	c	20	a	30	

Q.No.	Question
Q-1	Which of the following is not a valid chart type a) histogram b) statistical c) pie d) box
Q-2	Which function lets you set the title of the plot a) title() b) plottitle c) graphtitle d) all of these
Q-3	Which function is used to show legend ? a) display ( ) b) show( ) c) legend( ) d) legends( )
Q-4	Pyplot's function is used to create histogram.
Q-5	The datapoints plotted on a graph are called _____
Q-6	Fill in the blanks : The command used to give a heading to a graph is _____ a. plt.show() b. plt.plot() c. plt.xlabel() d. plt.title()
Q-7	Using Python Matplotlib _____ can be used to count how many values fall into each interval a. line plot b. bar graph c. Histogram d. None of the above
Q-8	To set X and Y label we use pyplot functions _____and _____ respectively a. setx(), sety() b. labelx(), labely() c. xlabel(),ylabel() d. xticks(),yticks()
Q-9	Pyplot's _____ function is used to specify ticks for x-axis
Q-10	To specify the style of line as dashed , which argument of plot() needs to be set ? a) line b) width c) Style d) linestyle
Q-11	Which of the following function will create a horizontal bar chart ? a) plot( ) b) bar ( ) c) plotbar( ) d) barh ( )
Q-12	Which of the following function will create a vertical bar chart ? a) plot( ) b) bar ( ) c) plotbar( ) d) barh( )

Q-13	To save a plot, _____function is used.
Q-14	The _____argument of legend( ) provide the location of legend
Q-15	Which function is used to create a histogram ? a)histo ( ) b) histogram ( ) c) hist( ) d)histtype( )
Q-16	Pyplot's _____ function is used to create scatter chart
Q-17	The _____argument of bar( ) specify bar width
Q-18	Pandas has a built-in plot() function as part of the DataFrame class.(True/False)
Q-19	The general format of plotting a DataFrame is df.plot(kind = ' ') where df is the name of the DataFrame and kind can be line, bar, hist, scatter, box depending upon the type of plot to be displayed.(True/False)
Q-20	Consider the average heights and weights of persons aged 8 to 16 stored in the following two lists: height = [121.9,124.5,129.5,134.6,139.7,147.3, 152.4, 157.5,162.6] weight= [19.7,21.3,23.5,25.9,28.5,32.1,35.7,39.6, 43.2] plot a line chart where: I x axis label should be "Weight in kg" II y axis label should be "Height in cm" III colour of the line should be green IV use * as marker V Line style should be dashed
Q-21	Frequency polygon is created from histogram. A.True B.False

Answer Key

Q.NO	ANS	Q.NO	ANS	Q.NO	ANS
Q-1	c	Q-8	c	Q-15	c
Q-2	a	Q-9	xticks()	Q-16	scatter
Q-3	c	Q-10	d	Q-17	width
Q-4	hist ( )	Q-11	d	Q-18	True
Q-5	markers	Q-12	b	Q-19	True
Q-6	d	Q-13	savefig()	Q-20	import matplotlib.pyplot as plt I) plt.xlabel('Weight in kg') II) plt.ylabel('Height in cm') III)plt.plot(weight,height,,color='green) IV)plt.plot(weight,height,marker='*') V)plt.plot(weight,height,ls=”dashed”)
Q-7	e	Q-14	loc	Q-21	True

Social Impacts (Digital Footprint to Copyright)

Q.No	Question
1.	Plagiarism can be defined as
	a) representing another person's work--their words and/or ideas--as your own b) not acknowledging the sources your ideas build upon c) paraphrasing another's ideas with explicit attribution to the author. d) A & B
2.	When is it necessary to cite a source ?
	a) When your ideas build on someone else's. b) When you are paraphrasing someone else's ideas. c) When you use someone else's words. d) If you are unsure whether you should cite the source. e) All of the above.
3.	Which one of the following is not considered as plagiarism?
	a) Make use of work of another and misrepresent it as your own b) Drawing content from the work of another without acknowledging the source. c) Paraphrasing too closely to the original text. d) Drawing content from another work and adapting it with due acknowledgement.
4.	A text taken from a source is placed in a report without providing reference is called as
	a) Popularism b) Phishing c) Plagiarism d)Cyber bullying
5.	Which of the following are also examples of plagiarism?
	a) Copying. b) Resubmitting previously submitted work. c) Submitting an individual assignment created by a group. d) All of the above.
6.	Ravi has to prepare a project report on “Chemicals”. He decides to take information from the internet. He downloads those webpages containing information on ‘Chemicals’. Which of the following steps taken by Ravi is/are an example of plagiarism?
	a)He read a paragraph and rewrite it in his own words and used in his project. b) He downloaded different images and after making a collage paste in his report. c) He downloaded a power point presentation from website and named it as his own. d) All of the above.
7.	Intellectual Property Rights(I.P.R) covers:
	a)Copyrights b)Trademarks c)Patents d)All of the above
8.	Intellectual Property Rights protect the use of information and ideas that are of:
	a) Moral Value b) Commercial Value c) Social Value d) Ethical Value
9.	The area of Intellectual Property includes
	a)Trademarks b)Industrial designs c)Inventions(patents) d)All of the above.

10.	Data protection is required to recover from
	a) Disk/System failures b) Software corruption through virus c) Human errors d) All of the mentioned
11.	The challenges for data protection are
	a) Taking care of the old data b) Backing up the dynamic data c) Restoring old data d) All of the mentioned
12.	A legal right created by the law of a country that grants the creator of an original work exclusive rights for its use and distribution is called
	a) Copyright b) Invention c) Backup d) Worm
13.	Protecting computers and the information it contain against unwanted access, malicious code, destruction is called
	a) computer monitoring b) electric policy c)audit control d)computer security
14.	Which of the following is a type of a/an OSS(open source software)?
	a) Adobe Photoshop b) Microsoft Office c) Linux d) Microsoft Windows
15.	Digital footprints are
	a) The time you spent on the computer b) The digital trail left by everything you do online c) It is the opposite of your digital footprint. d) None of the above.
16.	How could you improve your digital footprint?
	a) By checking your social media privacy setting to make sure that you are sharing with people you know and trust. b) Share your personal information with a good friend and family member. c) it's best not to post anything if want to stay safe, d) its not necessary to think before you post.
17.	Netiquette is
	a) An Internet language b)Proper manners and behavior online c)Only applicable to email d)Only important in business
18.	Knowing Netiquette will help you to
	a) Get along better with your friends b) Avoid offensive online behavior c)Navigate the Internet d)Do better on exams

19.	Netiquette is the short form of:
	a) Network education terminology b) Internet inequities c)Internet etiquette d)Necessary teaching etiquette
20.	Which of the following is not an intellectual property?
	a) A poem written by a poet b) An original painting made by a painter c) Trademark of a Company d) A remixed song
21.	Knowledge and understanding of netiquette is useful because
	a) It will help you create a positive impression on those you meet in cyberspace b) It explains some of the technical limitations of online communications c) It explains the conventions already being used by millions of cybernauts. d) All of the above.
22.	The users must agree to the ____ terms and agreements when they use an open source software.
	a) System b) License c) Community d) Programmer
23.	The free software movement is headed by
	a) Free Software foundation b) Debian free software guidelines. c) Brekely software distribution d) Open source initiative
24.	Is computer software licensed under exclusive legal right of the copyright holder.
	a) Open Source Software b) Proprietary Software c) Public Domain Software d) Free Software
25.	Choose the correct code for the following statements being correct or incorrect. Statement I: Intellectual Property is a category of property that includes intangible creations of the human intellect. Statement II: IPR does not include trade secrets and moral rights.
	a) Both the Statements I and II are correct. b) Both the Statements I and II are incorrect. c) Statement I is correct ,but II is incorrect. d) Statement II is correct ,but I is correct.
26.	The Golden Rule of Netiquette is:
	a) Remember the human. b) Never flame a friend. c) Follow all the other rules of Netiquette. d) A smiley in every message.

27.	You should never give out which of the following on the Internet? a)Your name. b)Your age. c)Your address. d)All of the above
28	_____refers to the data you that you left on the internet through your search engines or any online activity
	(a) Cookies (b) Digital footprint (c) Online data (d) None of these
29	Digital Footprints can not be deleted once created.
	(a) False b)True
30	The digital Footprint is created automatically when you work on the internet and providing data in any form
	(a) True b) False
31	The data taken from a digital footprint can be used for:
	(a) Hacking (b) For feedback only (c) Showing relevant ads (d) All of these
32	Which of the following types of digital footprints created by the user intentionally with their active consent:
	(a) Active digital Footprint (b) Passive digital footprint (c) Interactive digital footprint (d)Massive digital footprint
33	Digital Footprints also referred as:
	(a) Digital Tattoos (b) Cookies (c) Digital feedback (d)None of these
34	The user abide by some rules, manners and etiquettes are known as _____.
	(a) Net Etiquettes (b) Manners (c) Etiquettes (d) None of these
35	We should not share anything directly without the consent of the creator which is called_____.
	(a) Copyright violation (b) Respect for privacy (c) Respect for diversity (d) Ignoring cyber bullying
36	You cannot share anything on the internet related to others without their consent is called_____
	(a) Copyright violation (b) Respect for privacy c) Respect for diversity (d) Ignoring cyber bullying

37	Legal term to describe the rights of a creator of original creative or artistic work is called_____
	(a)Copyright (b)Copyleft (c) GPL (d) None of these
38	Which of the following would be creative work protected by copyright:
	(a) A list of all Indian President names (b) A portrait of your family (c) A song you Wrote (d) The name of your pet dog
39	The rights of the owner of the information to decide to decide how much information is to be shared is known as_____
	(a) Intelligent property rights (b) Intellectual property rights (c) Interactive property rights (d) Instance property rights
40	_____is least restrictive license.
	(a) MIT (b) Apache (c) GPL (d) LGPL
41	Full name of GPL is_____
	(a) GNU General Public license (b) General Public License (c) General Packet License (d) All of above
42	The generally recognized term for the government protection afforded to intellectual property is called_____
	(a) Computer security law (b) Aggregate function (c) Copyright law (d) Data security standards
43	The_____is the digital trail of your activity on the internet
	(a)online work (b)Cookies (c) Digital Footprint (d) All of above
44	_____is a license that gives right opposite to the copyright.
	(a) GPL (b) LGPL (c) MIT (d) Copyleft
45	The _____are the permissions given to use a product or someone's creation of copyright holder.
	(a) License (b) Right (c) Agreement (d)All of above

46	Digital footprints can be saved in any of following locations:
	(a) Download folder (b) User Account (c) Browser settings and web server (d) Google Drive
47	Typing in all capitals in electronic communication means:
	(a)This message is very important (b) You are shouting (c) It's okay to forward this message to others (d) Nothing special
48	Person who gains illegal access to computer is known as:
	(a) Hacker (b) Worm (c) Pirate (d) Theif
49	Which of the following is harmful for computers:
	(a) Virus (b) Antivirus (c) Freeware (d) shareware
50	Right to use software on the internet is called:
	(a) software copyright' (b) site license (c) software piracy (d) Software activation

ANSWER KEY

Q.No	Answers	Q.No	Answers	Q.No	Answers
1.	d)	21.	d)	41.	a)
2.	e)	22.	b)	42.	c)
3.	d)	23.	a)	43.	c)
4.	c)	24.	b)	44.	d)
5.	d)	25.	c)	45.	a)
6.	d)	26.	a)	46.	c)
7.	d)	27.	d)	47.	a)
8.	b)	28,	b)	48	a)
9.	d)	29.	b)	49	a)
10.	d)	30.	a)	50	a)
11.	b)	31.	d)		
12.	a)	32.	a)		
13.	d)	33.	a)		
14.	c)	34.	a)		
15.	b)	35.	a)		
16.	a)	36.	b)		
17.	b)	37.	a)		
18.	b)	38.	c)		
19.	c)	39.	a)		
20.	d)	40.	a)		

Cybercrime and Cyber Laws, hacking, phishing, cyber bullying, India IT Act & E-waste

Q.No	Question
1.	Which of the following is not a type of a Cybercrime ? (i) Data theft (ii) Forgery (iii) Damage to data (iv) Installing Antivirus for Protection
2.	What is the name of the IT Law that India is having in the Indian Legislature ? (i) India's Technology (IT) Act 2000 (ii) India's Digital information Technology (DIT) Act ,2000 (iii) India's Information Technology (IT) Act ,2000 (iv) The Technology Act ,2008
3.	What is an example of e- waste ? (i) A ripened banana (ii) An old computer (iii) Old clothes (iv) Empty soda cans
4.	An organization purchases new computers every year and dumps the old ones into the local dumping yard. Write the name of the most appropriate category of waste that the organization is creating every year , out of the following options: (i) Solid waste (ii) Commercial waste (iii) E waste (iv) Business waste
5.	A software company purchases new computers every year and dumps the old ones into the local dumping yard . Write the name of the most appropriate category of waste that the organization is creating every year out of the following options : (i) Business waste (ii) Commercial waste (iii) Solid waste (iv) E-waste
6.	Which electronic device can be used for cyber bullying ? (i) Television (ii) Cell Phones (iii) Typewriter (iv) CD Player
7.	What is an example of cyber bullying? (i) Telling someone their shirt is ugly (ii) Hitting someone (iii) Mean text messages (iv) Ignoring someone that is talking to you.
8.	When can cyber bullying not happen? (i) When you are at school (ii) When you talk with your friends (iii) When you are at home (iv) When you talk to someone face to face
9.	What do you do if you or someone you know is being cyber bullied? (i) Get into a fight with that person (ii) Keep it to yourself (iii) Let someone know (iv) Delete the text messages

10	What is the most common means of cyber bullying? (i) Hand written notes (ii) Video games (iii) Cell phone (iv) Computer
11	_____ is an internet scam done by cyber-criminals where the user is convinced digitally to provide confidential information. (i) Phishing attack (ii) DoS attack (iii) Website attack (iv) MiTM attack
12	In _____ some cyber-criminals redirect the legitimate users to different phishing sites and web pages via emails, IMs, ads and spyware. (i) URL Redirection (ii) DoS (iii) Phishing (iv) MiTM attack
13	Phishers often develop _____ websites for tricking users & filling their personal data. (i) Legitimate (ii) Illegitimate (iii) Genuine (iv) Official
14	Which of the following type of data, phishers cannot steal from its target victims? (i) Which of the following type of data, phishers cannot steal from its target victims? (ii) phone number (iii) passwords (iv) apps installed in the mobile
15	Email Phishing came into origin in the year _____. (i) 1990 (ii) 2000 (iii) 2005 (iv) 2015
16	Victims of phishing are mostly _____. (i) Tech enthusiast (ii) Professional computer engineers (iii) Lack of computer knowledge (iv) Lack of management skill
17	Which of the following element/s is/are cause of e-waste? (i) Lead (ii) Cadmium (iii) Beryllium, or Brominates flame retardants (iv) All of the above
18	How are electronic items dangerous? (i) They degrade over time, releasing cancer-causing chemicals into the air. (ii) Lead and mercury in components can cause metabolic changes in users. (iii) They leach toxic metals in landfills and into ground water. (iv) They create electromagnetic fields that interfere with animal reproduction.
19	Which toxic compound is not found in e-waste? (i) Mercury (ii) Cadmium (iii) Neon (iv) Lead

20	What does e- waste stand for? (i) Environment waste (ii) Electronic waste (iii) Equipment waste (iv) None of the above
21	E-waste contains hazardous substances that are harmful to the environment and human health if not properly treated or disposed of, therefore they must be handled with care. What are the health hazards which can be caused by E-Waste? (i) Lung Cancer (ii) DNA damage (iii) Brain (iv) All of the above
22	Which country produces the most e-waste per year? (i) India (ii) China (iii) USA (iv) France
23	Which of the following is the correct related to E-waste? (i) E-waste is a popular, informal name for electronic products nearing the end of their "useful life. (ii) Computers, televisions, VCRs, stereos, copiers, and fax machines are common electronic products. (iii) Both A and B (iv) None of the above
24	When IT Act 2000 came into effect? (i) October 17, 2000 (ii) October 17, 2001 (iii) November 11, 2000 (iv) November 11, 2001
25	Which is the Act which provides legal framework for e-Governance in India? (i) IT (amendment) Act 2008 (ii) Indian Penal Code (iii) IT Act 2000 (iv) None of the above
26	Major amendments to IT Act 2000 was introduced in the form of IT (amendment) Act 2008, which came into effect on (i) 01 June 2008 (ii) 27 October 2009 (iii) 27 October 2008 (iv) 03 July 2009
27	The Information Technology Act 2000 is an Act of Indian Parliament notified on i. 27th October 2000 ii. 15th December 2000 iii. 17th November 2000 iv. 17th October 2000
28	Rachika found a piece of paper under her desk. She picked it up and opened it. It contained some text which was struck off thrice. But she easily figured out the struck off text and the text was email id and password of Gaurav, her classmate. What is ethically correct for Rachika to do? (i) Inform Gaurav so that he may change his password (ii) Give the password of Gaurav's email id to all other classmates. (iii)Use Gaurav's password to access his account.

29	After using his email id, Anubhav forgot to sign off from his email account. Later, his servant saw his computer open and started using it. His servant's activity is an example of which of the following cybercrime? i. Hacking ii. Identity theft iii. Cyber bullying iv. Plagiarism
30	After a fight with your friend, you did the following activities. Which of these activities is not an example of cyber bullying? (i) You sent an email to your friend with a message saying that "I am sorry". (ii) You sent a threatening message to your friend saying "Do not try to call or talk to me. (iii) You created an embarrassing picture of your friend and uploaded on your account on a social networking site.
31	You are planning to go for a vacation. You surfed the internet to get answers for the following queries: (i) Weather conditions (ii) Availability of air tickets and fares (iii) Places to visit (iv) Best hotel deals (v) All of these Which of your above mentioned actions might have created a digital footprint?
32	Rita is reciving threatening emails from some unknown sender repeatedly. What should she do? (i) Inform parents, teacher and go to Police station with parents. (ii) Ignore them (iii) Keep silent and not tell anybody about it (iv) Follow the instructions of the sender
33	True name and Account Takeover are categories of ? i. Identity theft ii. Plagiarism iii. Phishing
34	IT Act 2000, section 72 deals with? (i) Privacy and confidentiality (ii) Failure to maintain records (iii) Misrepresentation (iv) Publishing child porn and predating children onlin.
35	You got an SMS from your bank querying about a recent transaction. What will you do: (i) Give the asked information with any verification (ii) Will call bank help line number to recheck validity of the SMS received.
36	You got a call on your landline number asking your aadhar card number , bank account number etc. What will you do? (i) Give the asked information with any verification (ii) Will not give information, note the number and inform police about the number
37	Which of the following is/are examples of Biometrics: a. Fingerprints b. Facial recognition c. IRIS d. DNA e. All of the above
38	What is meant by the terma 'cyber-crime'? (i) Any crime that uses computers to jeopardise or attempt to jeopardise national security (ii) The use of computer networks to commit financial or identity theft (iii) The theft of digital information (iv) Any crime that involves computers and networks
39	Credit card fraud may include: i. Stealing of credit card ii. Unauthorized and illegal use of credit card iii. Both of above iv. None of the above.
40	Digital Signature Certificate is _____ requirement under various applications i. Statutory ii. Legislative iii. Govenmental iv. Voluntary

ANSWER KEY

Q.No	Answer	Q.No	Answer
1	iv	21	iv
2	iii	22	ii
3	ii	23	iii
4	iii	24	i
5	iv	25	iii
6	ii	26	ii
7	iii	27	iv
8	iv	28	i
9	iii	29	ii
10	iii	30	i
11	I	31	v
12	iii	32	i
13	ii	33	i
14	Iv	34	i
15	ii	35	ii
16	iii	36	ii
17	Iv	37	v
18	iii	38	iv
19	iii	39	iii
20	ii	40	i