KENDRIYA VIDYALAYA NANDED
MONTHLY TEST – JULY 2023
CLASS XII
SUBJECT: INFORMATICS PRACTICES(065)

Max Marks : 40 **Time** : 1 ½ hr

1	Which of the following can be used to specify the data while creating a Series? **i.** Scalar value ii. Dictionaries iii. ndarray iv. All of these	**1**
2	Which amongst the following is not an example of a Computer network? **i.** LAN ii. PAN iii. TAN iv. WAN	**1**
3	**Assertion (A):-**DataFrame has both a row and column index. **Reasoning (R): -** A DataFrame is a two-dimensional labelled data structure (i) Statement A is correct. (ii) Statement B is correct. (iii) Statement A is correct, but Statement B is incorrect. (iv) Statement A is correct and Statement B is correct.	**1**
4	The first page that you normally view at a website is its : (i) Home page (ii) Master page (iii) First page (iv) Banner page	**1**
5	Read the statements given below. Identify the right options to draw a histogram. **Statement A.** To make a Histogram with Matplotlib, we can use the pl.hist() function. **Statement B.** The bin parameter is compulsory to create histogram. (i) Statement A is correct. (ii) Statement B is correct. (iii) Statement A is correct, but Statement B is incorrect. (iv) Statement A is incorrect, but Statement B is correct.	**1**
6	Write the name of the device that help to re-generate the signal in a network and transmit it to the particular IP address	**1**
7	Explain the difference between a web browser and web server with suitable examples? Write the name of any two web browser **OR** What is webhosting ? how webhosting help webserver to manage websites	**2**
8	Rati is doing a course in networking. She is unable to understand the concept of URL. Help her by explaining it with the help of suitable example.	**2**

9	Complete the given Python code to get the required output as: **Rajasthan**
	`import _____ as pd`
	`di = {'Corbett': 'Uttarakhand', 'Sariska':`
	`'Rajasthan', 'Kanha': 'Madhya Pradesh',`
	`'Gir':'Gujarat'}`
	`NP = _____. Series( _____ )`
	`print(NP[ _____ ])`
		2

10	Consider the given DataFrame **'Teacher':** **Name Salary** **0 Ajay 75000** **1 Amrita 78000** **2 Sohail 55225** **3 Sujata 48500** Write suitable Python statements for the following: i. Add a column called 'Designation' with the following data: ['PGT' , 'TGT' , 'TGT', 'PRT']. ii. Add a new teacher named 'Rohit' having salary 80000 and designation as PGT. **iii.** Write a command to change the name of column 'Salary' as 'Remuneration'	**3**

11 (3)

Consider the given DataFrame 'Genre':

	Type	Code
0	Fiction	F
1	Non Fiction	NF
2	Drama	D
3	Poetry	P

Write suitable Python statements for the following:

i. Add a column called Num_Copies with the following data: [300,290,450,760].

ii. Add a new genre of type 'Folk Tale' having code as "FT" and 600 number of copies.

iii. Rename the column 'Code' to 'Book_Code'.

12 (3)

Ekam, a Data Analyst with a multinational brand has designed the DataFrame df that contains the four quarter's sales data of different stores as shown below:

	Store	Qtr1	Qtr2	Qtr3	Qtr4
0	Store1	300	240	450	230
1	Store2	350	340	403	210
2	Store3	250	180	145	160

Answer the following questions:

i. Predict the output of the following python statement:
   a. print(df.size)
   b. print(df[1:3])

ii. Delete the last row from the DataFrame.

iii. Write Python statement to add a new column Total_Sales which is the addition of all the 4 quarter sales.

13 (4)

ABC Pvt. Ltd. Is setting up the network in the Bengaluru. There are four departments named as Market, Finance, Legal and Sales.

Distance between various Departments building is as follows :

From	To	Distance
Market	Finance	80 mt
Market	Legal	180 mt
Market	Sales	100 mt
Legal	Sales	150 mt
Legal	Finance	100 mt
Finance	Sales	50 mt

Number of computers in the buildings :

Building	No. of Computers
Market	20
Legal	10
Finance	08
Sales	42

(i) Suggest a cable layout of connections between the departments building and specify the topology. (1)

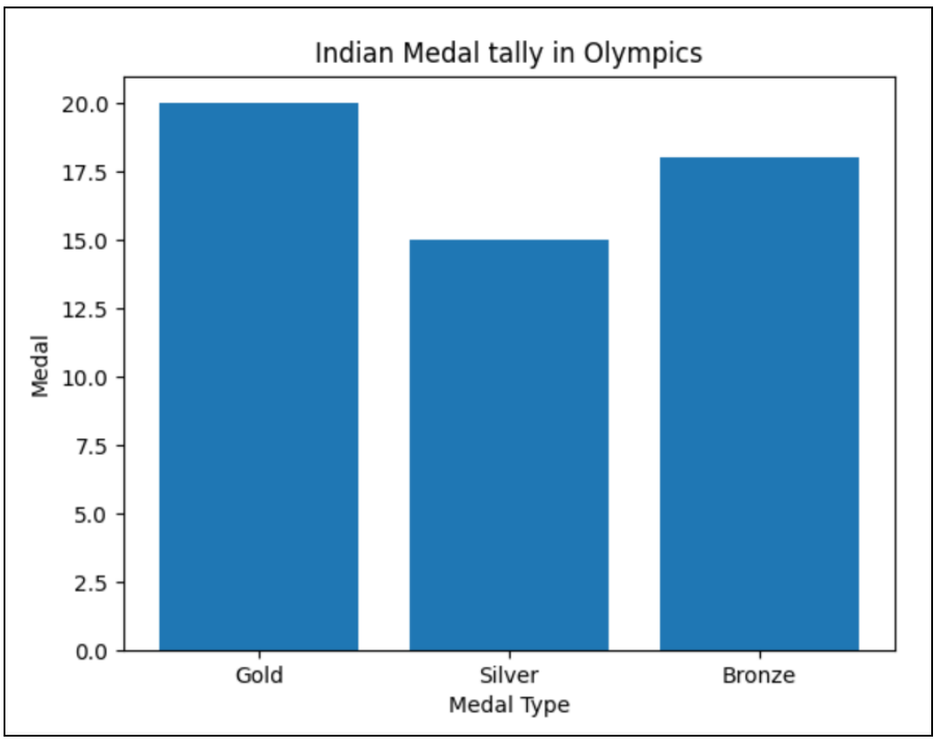
(ii) Suggest the most suitable building to place server by giving suitable reason. (½)

(iii) Suggest the placement of (i) modem (ii) hub/switch in the network. (1)

(iv) The organization is planning to link its sales counter situated in various part of the same city, which type of network out of LAN, WAN, MAN will be formed? Justify your answer. (1)

(v)Which cable you will prefer for high speed : Twisted pair, Coaxial cable, Optical fibre (½)

14 Write Python code to plot a bar chart for India's medal tally as shown below: **5**



Also give suitable python statement to save this chart.

15 Write a python program to plot a line chart based on the given data to depict the changing weekly average temperature in Maharashtra for four weeks. Also give suitable python statement to save this chart. **5**

Week=[1,2,3,4]
Avg_week_temp=[27,25,38,32]

OR

Write code to plot a line graph showing the relation between channel name and its TRP rating (4 channels). Include the titles and formatting of your choice. The font size of the x and y labels should be 15 and font color should be green also save the Chart

16 Write a python program to generate a bar chart for the following information about the marks received by students. **5**

Country	Income
USA	1000
Canada	800
UK	1200
China	700
Japan	900

- The bar Chart should have different Colours for each Country
- There Should be proper labels for X and Y axis
- The Title of the chart should be 'World Income'
- Also give suitable python statement to save this chart.

OR

The class of 10 students in Vidyalaya are given below:
Class=[5,6,5,8,9,6,7,4,6,8]

Write suitable Python code to generate a histogram based on the given data, along with an appropriate chart title "**student Class in Vidyalaya**" and both axis labels (x="**Student class**" y="**group of student**". Also give suitable python statement to save this chart.