

NAAHAR PUBLIC SCHOOL (CBSE) SENIOR SECONDARY, VILLUPURAM
ACADEMIC YEAR (2022-2023)

FULL REVISION – II

CLASS: XII

SUB: INFORMATICS PRACTICES (065)

SUB TEACHER: Mrs.DHIVYA.N

MARKS: 70

DUR: 3 Hrs

DATE: 30.11.2022

General Instructions:

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

	PART A	
1.	Given a Pandas series called S, the command which will display the last 4 rows is _____. a. print(S.tail(4)) b. print(s.Tail()) c. print(s.tails(4)) d. print(s.tail(4))	1
2.	Which of the following is not a type of cyber crime? i. Data theft ii. Installing antivirus for protection iii. Forgery iv. Cyber bullying	1
3.	What is an example of e-waste? i. A ripened mango ii. Unused old shoes iii. Unused old computers iv. Empty cola cans	1

4.	Which of the following crime(s) is/are covered under cybercrime? i. Stealing brand new hard disk from a shop. ii. Getting into unknown person's social networking account and start messaging on his behalf. iii. Copying some important data from a computer without taking permission from the owner of the data. iv. Working on someone's computer with his/her permission. (a) only (ii) (b) (ii) and (iv) (c) (ii) and (iii) (d) (iii) and (iv)	1
5.	The command used to show legends is _____. a. display() b. show() c. legend() d. legends()	1

6.	‘O’ in FOSS stands for: - Outsource - Open - Original - Outstanding	1
7.	The_____attribute of a dataframe object returns the row labels of a dataframe. - index - columns - rows - column	1
8.	A Dataframe object is a collection of_____type of data - Homogenous - Heterogenous - Hybrid - None of the above	1
9.	The practice of taking confidential information from you through an original looking site and URL is known as - hacking - fishing - phishing - Eavesdropping	1

10.	To display last five rows of a series object ‘S’, you may write: - S.Head() - S.Tail(5) - S.Head(5) - S.tail()	1
11.	Which of the following statement will import pandas library? - Import pandas as pd - import Pandas as py - import pandas as pd - import panda as pd	1
12.	Which of the following can be used to specify the data while creating a DataFrame? - Series - List of Dictionaries - Structured ndarray - All of these	1
13.	____protocol allows us to have voice call (telephone service) over the Internet	1
14.	Which of the following is a type of cybercrime? - Stealing of money from a purse - Hitting or beating someone - Making damage to furniture in classroom - Stealing of user name and password and misusing others Email	1

15.	Legal term to describe the rights of a creator of original creative or artistic work is: i. Copyright ii. Copyleft iii. GPL iv. FOSS	1
16.	is the trail of data we leave behind when we visit any website (or use any online application or portal) to fill-in data or perform any transaction. i. Offline phishing ii. Offline footprint iii. Digital footprint iv. Digital phishing	1
Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as i. Both A and R are true and R is the correct explanation for A ii. Both A and R are true and R is not the correct explanation for A iii. A is True but R is False		

17.	Assertion (A) : import matplotlib.pyplot as plt is used to import pyplot . Reason (R) :It is python library so it is imported for using its function.	1
18.	Assertion (A):- Series store data row wise. Reasoning (R): - A Series is a one-dimensional labelled data structure.	1
	PART B	
19.	What will be the output of the following code: <pre>>>>import pandas as pd >>>A=pd.Series(data=[12,20,5,50]) >>>print(A>10)</pre>	2
20.	Carefully observe the following code: <pre>import pandas as pd Sales1={'S1':5000,'S2':8000,'S3':12000,'S4': 18000} Sales2={'A' :13000,'B':14000,'C':12000} totSales={1:Sales1,2:Sales2} df=pd.DataFrame(totSales) print(df)</pre> Answer the following: i. List the index of the DataFrame df ii. List the column names of DataFrame df.	2

21.	Write a program in Python Pandas to create a series which stores marks of 5 subjects of a student in class 10B of your school. Assume that student is studying class X and have 75,78,82,82,86 marks	2
22.	Write a program to create a series object using a dictionary that stores the number of students in each house of class 12D of your school. Note: Assume four house names are Beas, Chenab, Ravi and Satluj having 18, 2, 20, 18 students respectively and pandas library has been imported as pd.	2
23.	List any four benefits of e-waste management. OR Mention any four net etiquettes.	2

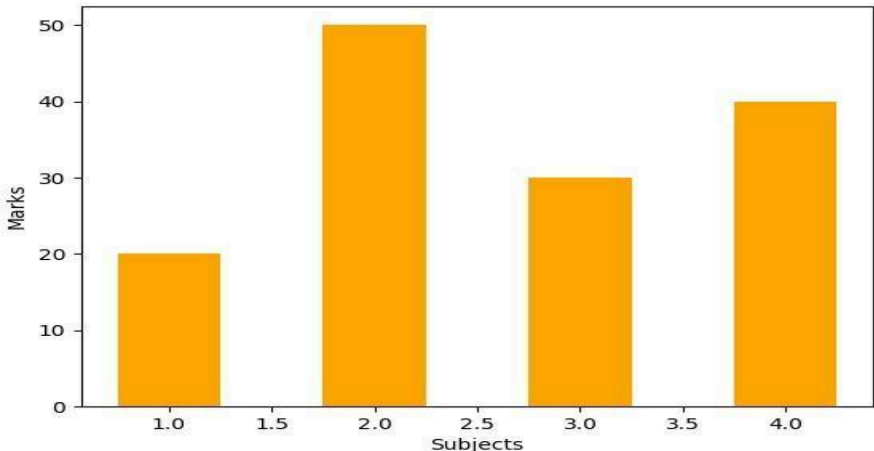
24.	What will be the output of the following code: <pre>>>>import pandas as pd >>>A=pd.Series(data=[35,45,55,40]) >>>print(A>45)</pre>	2
25.	Carefully observe the following code: <pre>import pandas as pd Year1={'Q1':5000,'Q2':8000,'Q3':12000,'Q4': 18000} Year2={'A':13000,'B':14000,'C':12000} totSales={1:Year1,2:Year2} df=pd.DataFrame(totSales) print(df)</pre> Answer the following: i. List the index of the DataFrame df ii. List the column names of DataFrame df.	2

	SECTION C	
26.	Write a Python code to create a DataFrame with appropriate column headings from the list given below: [[101,'Ram',2500],[102,'Ann',5000],[103,'Sam' ,8000],[104,'Manu',4000]]	3
27.	Write a Python code to create a DataFrame with appropriate column headings from the list given below: [[101,'Gurman',98],[102,'Rajveer',95],[103,'Samar' ,96], [104,'Yuvraj',88]]	3

28.	Consider the given DataFrame ‘ Stock ’: <table><thead><tr><th></th><th>Name</th><th>Price</th></tr></thead><tbody><tr><td>0</td><td>Nancy Drew</td><td>150</td></tr><tr><td>1</td><td>Hardy boys</td><td>180</td></tr><tr><td>2</td><td>Diary of a wimpy kid</td><td>225</td></tr><tr><td>3</td><td>Harry Potter</td><td>500</td></tr></tbody></table> Write suitable Python statements for the following: i. Add a column called Special_Price with the following data:[135,150,200,440]. ii. Add a new book named ‘The Secret’ having price 800. iii. Remove the column Special Price.		Name	Price	0	Nancy Drew	150	1	Hardy boys	180	2	Diary of a wimpy kid	225	3	Harry Potter	500	3
	Name	Price															
0	Nancy Drew	150															
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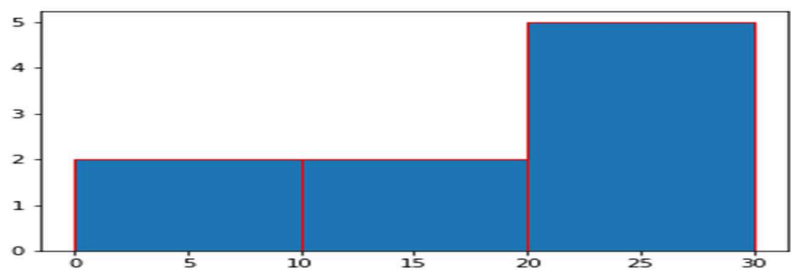
29.	Nadar has recently shifted to a new city and school. She does not know many people in her new city and school. But all of a sudden, someone is posting negative, demeaning comments on her social networking profile etc. She is also getting repeated mails from unknown people. Every time she goes online, she finds someone chasing her online. i. What is this happening to Nadar? ii. What immediate action should she take to handle it? iii. Is there any law in India to handle such issues? Discuss briefly.	3
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	OR What do you understand by plagiarism? Why is it a punishable offence? Mention any two ways to avoid plagiarism.	
30.	What is IT Act 2000? What is its importance? OR What do you understand by plagiarism? Why is it a punishable offence? Mention any two ways to avoid plagiarism.	3

	SECTION D											
31.	Consider the following graph .Write the code to plot it.  <table><tr><th>Subjects</th><th>Marks</th></tr><tr><td>1.0</td><td>20</td></tr><tr><td>2.0</td><td>50</td></tr><tr><td>3.0</td><td>30</td></tr><tr><td>4.0</td><td>40</td></tr></table> Also give suitable python statement to save this chart. OR Write a python program to plot a line chart based on the given data to depict the changing medal tally between four Houses in school. <pre>House=['Varun', 'Prithvi', 'Agni', 'Trishul'] medal=[50,70,90,110]</pre>	Subjects	Marks	1.0	20	2.0	50	3.0	30	4.0	40	5
Subjects	Marks											
1.0	20											
2.0	50											
3.0	30											
4.0	40											

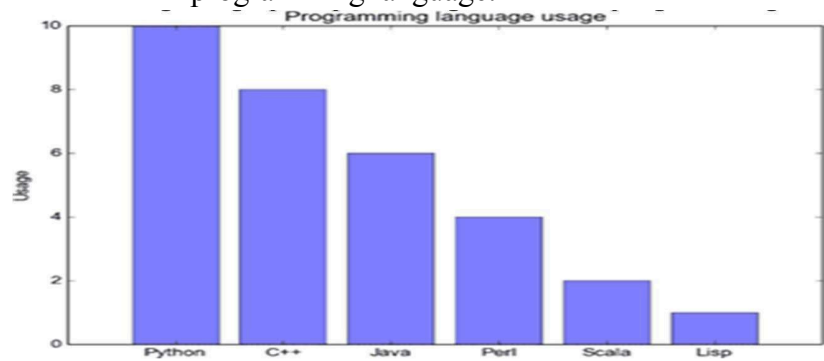
2. Consider the following graph. Write the code to plot it.

5

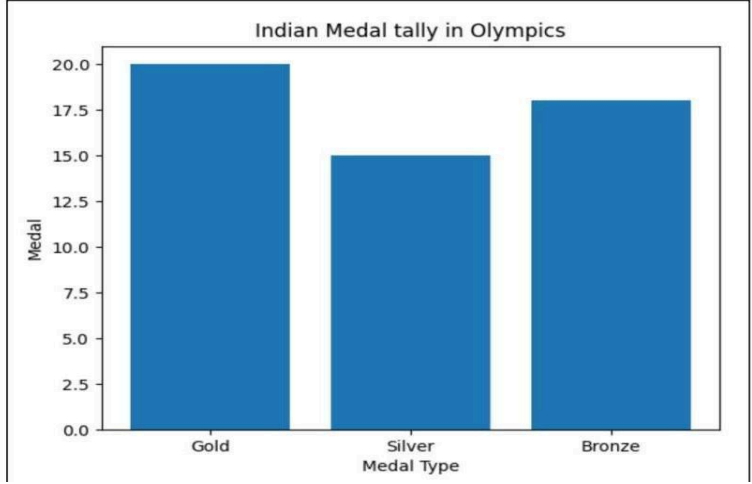


OR

Draw the following bar graph representing the uses of programming language.



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33.	Write Python code to plot a bar chart for India's medal tally as shown below:  Also give suitable python statement to save this chart. OR Write a python program to plot a line chart based on the given data to depict the changing weekly average temperature in Delhi for four weeks. Week=[1,2,3,4] Avg_week_temp=[40,42,38,44]	5
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SECTION E		
34.	A dataframe fdf stores data about passengers, Flights and Years as given below. 1) Write python code to create the dataframe. Perform the following operations on the DataFrame : 2) Add both the male and female passengers and assign to column "Total_passengers" 3) Display the maximum passengers in male passengers and maximum passengers in female passengers of the Data Frame. OR (Option for part iii only) Predict the output of the following python statement: fdf.loc[:, 'year': 'MalePassengers']	1+1+2

	OR (Option for part iii only)				
35.	Mr. Som, a data analyst has designed the DataFrame df that contains data about Computer Olympiad with ‘CO1’, ‘CO2’, ‘CO3’, ‘CO4’, ‘CO5’ as indexes shown below. Answer the following questions:				1+1+2
	School	Tot_students	Topper	First_Runnerup	
CO1	PPS	40	32	8	
CO2	JPS	30	18	12	
CO3	GPS	20	18	2	
CO4	MPS	18	10	8	
CO5	BPS	28	20	8	

A. Predict the output of the following python statement:

- i. `df.shape`
- ii. `df[2:4]`
- iii. Write Python statement to display the data of Topper column of indexes CO2 to CO4.

OR (Option for part iii only)

Write Python statement to compute and display the difference of data of Tot_students column and First_Runnerup column of the above given DataFrame.

**CBSE SAMPLE QUESTION PAPER
MARKING SCHEME
CLASS XII - INFORMATICS PRACTICES (065)**

TIME: 3 HOURS

M.M.70

1.	print(S.tail(4)) 1 mark for the correct usage of tail()	1
2.	ii. Installing antivirus for protection 1 mark for correct answer	1
3.	iii. Unused old computers 1 mark for correct answer	1
4.	(c) (ii) and (iii)	1
5.	c. legend()	1
6.	ii. Open 1 mark for correct answer	1
7.	c)index	1
8.	b. Heterogenous	1
9.	c)Phishing	1
10.	iv. S.tail() 1 mark for correct answer	1
11.	iii. import pandas as pd 1 mark for correct answer	1
12.	iv. All of these	1

	1 mark for correct answer	
13.	VoIP	1
14.	iv. Stealing of user name and password and misusing others Email 1 mark for correct answer	1
15.	i. Copyright 1 mark for correct answer	1
16.	iii. Digital footprint 1 mark for correct answer	1
17.	i.Both A and R are true and R is the correct explanation for A	1
18.	iv. A is false but R is True	1

19.	0 True 1 True 2 False 3 True ½ mark for each correct output	2
20.	i. The index labels of df will include S1,S2,S3,S4,A,B,C ii. The column names of df will be: 1,2 1 mark for each correct answer	2
21.	In [6]: subject = pandas.Series([75,78,82,86], index= ['Hindi','English','Maths','Science']) In [7]: subject Out[7]: Hindi 75 English 78 Maths 82 Science 86 dtype: int64	2
22.	St={'Beas':18, 'Chenab':20, 'Ravi':20, 'Satluj':18} S1=pd.Series(St) 1 mark for each correct python statement	2
23.	The e-waste management- i. Saves the environment and natural resources ii. Allows for recovery of precious metals iii. Protects public health and water quality iv. Saves landfill space ½ mark for each benefit Or i. No copyright violation ii. Share the expertise with others on the internet iii. Avoid cyber bullying iv. Respect other's privacy and diversity ½ mark for each net etiquette	2
24.	0 False 1 False 2 True 3 False ½ mark for each correct output	2

25.	i. The index labels of df will include Q1,Q2,Q3,Q4,A,B,C ii. The column names of df will be: 1,2 1 mark for each correct answer	2
26.	import pandas as pd data=[[101,'Ram',2500],[102,'Ann',5000],[103,'Sam', 8000], [104,'Manu',4000]] df=pd.DataFrame(data,columns=['empno','Name', 'Salary']) 1 mark for each correct python statement	3
27.	import pandas as pd data=[[101,'Gurman',98],[102,'Rajveer',95],[103,'Samar' ,96], [104,'Yuvraj',88]] df=pd.DataFrame(data,columns=['Rno','Name', 'Marks']) 1 mark for each correct python statement	3
28.	i. Stock['Special_Price']=[135,150,200,400] ii. Stock.loc['4']=['The Secret',800] iii. Stock=Stock.drop('Special_Price',axis=1) 1 mark for each correct statement	3
29.	i. Nadar has become a victim of cyber bullying and cyber stalking. ii. She must immediately bring it into the notice of her parents and school authorities. And she must report this cyber crime to local police with the help of her parents. iii. Yes. The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is the primary law in India dealing with cybercrime and electronic commerce. 1 mark for each correct answer OR Ans. Plagiarism is the act of using or stealing someone else’s intellectual work,ideas etc. and passing it as your own work. In other words, plagiarism is a failure in giving credit to its source. Plagiarism is a fraud and violation of Intellectual Property Rights. Since IPR holds a legal entity status, violating its owners right is a legally punishable offence. Any two ways to avoid plagiarism: ● Be original ● Cite/acknowledge the source 1 mark for correct definition 1 mark for correct justification ½ mark each for any two ways to avoid plagiarism	3

30.	Legal recognition of e transaction Parliament passed law in year 2000 called IT Act Legally valid in india 1 mark for each correct answer OR Plagiarism is the act of using or stealing someone else's intellectual work, ideas etc. and passing it as your own work. In other words, plagiarism is a failure in giving credit to its source. Plagiarism is a fraud and violation of Intellectual Property Rights. Since IPR holds a legal entity status, violating its owners right is a legally punishable offence. Any two ways to avoid plagiarism: • Be original • Cite/acknowledge the source 1 mark for correct definition 1 mark for correct justification ½ mark each for any two ways to avoid plagiarism	3
31.	<pre>import matplotlib.pyplot as plt x = [1, 2, 3, 4] h = [20, 50, 30, 40] plt.xlabel('Subjects') plt.ylabel('Marks') plt.bar(x, h, width=0.5) plt.show() plt.savefig("bar.png") or import matplotlib.pyplot as plt house=['Varun', 'Prithvi', 'Agni', 'Trishul'] medal=[50,70,90,110] plt.plot(house,medal) plt.show()</pre>	5

32	<pre>import numpy as np import matplotlib.pyplot as plt marks=[8,9,18,16,29,28,27,26,30] plt.hist(marks,bins=[0,10,20,30],edgecolor="red") plt.savefig("hist.png") plt.show() 1 mark for the import statement 1 mark for appropriate usage of hist() 1 mark for show() OR import matplotlib.pyplot as plt; import numpy as np objects = ('Python', 'C++', 'Java', 'Perl', 'Scala', 'Lisp') y_pos = np.arange(len(objects)) performance = [10,8,6,4,2,1] plt.bar(y_pos, performance, align='center') plt.xticks(y_pos, objects) plt.ylabel('Usage') plt.title('Programming language usage') plt.show()</pre> 1 mark for the import statement 1 mark for appropriate usage of bar() 1 mark for show().	

33.	<pre>import matplotlib.pyplot as plt Category=['Gold','Silver','Bronze'] Medal=[20,15,18] plt.bar(Category,Medal) plt.ylabel('Medal') plt.xlabel('Medal Type') plt.title('Indian Medal tally in Olympics') plt.show()</pre> ½ mark for each correct statement Python statement to save the chart: <code>plt.savefig("aa.jpg")</code> 1 mark for the correct statement OR <pre>import matplotlib.pyplot as plt Week=[1,2,3,4] Avg_week_temp=[40,42,38,44] plt.plot(Week,Avg_week_temp) plt.show()</pre> 1 mark for each correct statement	5																				
34.	A. Output: <table><tr><td>i.</td><td>(5,4)</td><td></td><td></td><td></td></tr><tr><td>ii.</td><td>School</td><td><u>tot_students</u></td><td>Topper</td><td><u>First</u></td></tr><tr><td>CO3</td><td>GPS</td><td>20</td><td>18</td><td>2</td></tr><tr><td>CO4</td><td>MPS</td><td>18</td><td>10</td><td>8</td></tr></table> 1 mark for each correct output B. Python statement: <pre><u>print(df.loc['CO2': 'CO4', 'Topper'])</u></pre> OR <pre><u>print(df.Tot_students-df.First_Runnerup)</u></pre> 2 marks for correct Python statement	i.	(5,4)				ii.	School	<u>tot_students</u>	Topper	<u>First</u>	CO3	GPS	20	18	2	CO4	MPS	18	10	8	1+1+2
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35.	A. Output: <table><tr><td>i.</td><td>(5,4)</td><td></td><td></td><td></td></tr><tr><td>ii.</td><td>School</td><td>tot_students</td><td>Topper</td><td>First_Runner_up</td></tr><tr><td>CO3</td><td>GPS</td><td>20</td><td>18</td><td>2</td></tr><tr><td>CO4</td><td>MPS</td><td>18</td><td>10</td><td>8</td></tr></table> 1 mark for each correct output B. Python statement: <pre>print(df.loc['CO2': 'CO4', 'Topper'])</pre> OR <pre>print(df.Tot_students-df.First_Runnerup)</pre> 2 marks for correct Python statement	i.	(5,4)				ii.	School	tot_students	Topper	First_Runner_up	CO3	GPS	20	18	2	CO4	MPS	18	10	8	1+1+2
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