

SET

B

INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022
INFORMATICS PRACTICES (065)

CLASS: XII

Max.Marks: 70

MARKING SCHEME			
SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
	1	What do you mean by Series in Python? A series in Python is a kind of one-dimensional array of any data type that we specified in the pandas module.	1
	2	Write a program in Python to create series of odd numbers from 1 to 10 (Name of the Series is ODD). import numpy as num import pandas as pd odd=pd.Series(range(1,11,2)) print(odd)	2(1/2+1 ½)
	3	Write the output of the following: import pandas as pd S1 = pd.Series(range(1,6,2), index = [10, 12, 8]) print(S1) 10 1 12 3 8 5	2
	4	Name any two attributes of Series in Python. Series.shape It returns a tuple of shape of the data. Series.dtype It returns the data type of the data. Series.size It returns the size of the data. Series.empty It returns True if Series object is empty, otherwise returns false.	1(1/2+1/2)
	5	Find the output of the following: import pandas as pd S1 = pd.Series(range(2,11,2), index=[x for x in "INDIA"])	2

		<pre> print(S1) I 2 N 4 D 6 I 8 A 10 </pre>	
	6	<p>What is wrong in this following code? Specify the Reason with the ERROR name.</p> <pre> import numpy as num import pandas as pd arr=num.array([10,70,21]) S2 = pd.Series(arr, index = (67,54)) print(S2) </pre> <p>ValueError: Length of passed values is 3, index implies 2.</p>	2
	7	<p>Find the output of the following:</p> <pre> >>> import numpy as np >>>b=np.array([21,2,4,8,9,12,11]) >>> b >>> b[-1:-4:-2] </pre> <p>[11,9]</p>	2
	8	<p>Fill in the blanks in the given code :</p> <pre> import pandas as pd S1=pd..Series([5, 12, 23, 4, 5]) print(S1) </pre>	1
	9	<p>Write a code to modify the value 5000 to 7000 in the following Series “S1”</p> <p>A 25000 B 12000 C 8000 D 5000</p>	1
	10	<p>Name the methods used for multiplication and division of two Series in Python. <code>mul()</code> <code>sub()</code></p>	1
	11	<p>A _____is data that is left behind when users have been online. Digital Foot Print</p>	1
	12	<p>Define Data Protection Data protection - refers to the practices, safeguards, and binding rules put in place to protect our personal information and ensure that it remain in control. In short, we should be able to decide whether or not we want to share some information, who has access to it, for how long, for what reason, and be able to modify some of this information, and more.</p>	1

13	<p>Define “Plagiarism”</p> <p>Plagiarism is “the act of presenting the words, ideas, images, sounds, or the creative expression of others as it is your creation or your own.” The word plagiarism is derived from the Latin word plagiare, which means to kidnap or abduct.</p>	1
14	<p>What do you understand by the term “FOSS”?</p> <p>Free and Open Source software(FOSS)</p> <p>FOSS is a kind of software that all allows users to not only freely run the program for any purpose, but also provides users access to its source code. Moreover, it also allows us to modify as we wish, as well as freely distribute copies of the original version or their altered version.</p>	1
15	<p>Write the full form of “ARPANET”.</p> <p>Advanced Research Projects Agency Network</p>	1
16	<p>Write any two applications of internet.</p> <p>Some Internet Application</p> <ul style="list-style-type: none"> <input type="checkbox"/> WWW/Web <input type="checkbox"/> Email <input type="checkbox"/> Chat <input type="checkbox"/> VoIP 	1(1/2+1/2)
17	<p>Define URL with an example. Uniform form resource locator</p> <p>Ex: https://www.google.com/ism.html</p>	1
18	<p>Write any two basic functions of Email.</p> <p>he many different features of email include:</p> <ul style="list-style-type: none"> • automatic reply to messages. • auto-forward and redirection of messages. • facility to send copies of a message to many people. • automatic filing and retrieval of messages. • addresses can be stored in an address book and retrieved instantly. 	1(1/2+1/2)
19	<p>Write the difference between “Free Software” and “Proprietary Software”.</p> <p>Free Software – Free Software are those which are freely accessible, freely accessible, freely used, changed,improved, copied and distributed. It provides all types of freedom. The term ‘Free’ means‘Freedom’ at very little or No cost. The Source Code is also available with Free Software.</p> <hr/> <p>Proprietary Software: These Software are neither open nor freely available. They must have some cost and Source codeis also not given since it is property of the developer organization. No change, copy and distribution are allowed.</p>	1

20	<p>Write any four major functions of a web browser.</p> <p>Major functions of a typical Web browser –</p> <ul style="list-style-type: none"> ❖ Send and receive internet resources ❖ Access web pages ,render and display them ❖ Select and save our favorite pages ❖ Print documents (SIS) ❖ Keep records of our activity ❖ Store information in the cloud ❖ Install applications 	2
21	<p>Write all the steps for resetting Mozilla Fire fox to Default Settings.</p> <p>Resetting Mozilla firefox to Default Settings</p> <ul style="list-style-type: none"> ➤ Click the menu icon, then click on “Help”. Click on Firefox's main menu button, represented by three horizontal lines. ... ➤ Click “Troubleshooting Information”. ... ➤ Click on “Refresh Firefox” ... ➤ Confirm. ... ➤ Click “Finish”. 	2
22	<p>Write any two advantages and disadvantages of VOIP.</p> <p>Advantages:</p> <ul style="list-style-type: none"> • Less Cost • Accessibility • Flexibility • Voice Quality • Extra/Less Expensive Features <p>Disadvantages:</p> <ul style="list-style-type: none"> • Reliable Internet Connection Required • Power Outages/Emergencies • Latency 	2(1+1)
23	<p>Define Domain name with an example.</p> <p>A domain name is the address of a website. It's the name you type into a web browser to access that specific website.</p> <p>www.google.com or any valid domain name</p>	2(1+1)
24	<p>Define Web Page.</p> <p>Collection of related information</p>	1
25	<p>What do you understand by the term “Add-on”?</p> <p>Add-ons are tools which integrate into our browser. They're similar to regular apps or programs, but only run when the browser runs. Add-ons can allow the viewing of certain types of Web content, such as Microsoft's Silverlight necessary for Netflix movies.</p>	1

26	<p>Define plug-in.</p> <p>A plugin is a piece of software that acts as an add-on to a web browser and gives the browser additional functionality. Plugins can allow a web browser to display additional content it was not originally designed to display. An example of a plugin is the free Macromedia Flash Player, a plugin that allows the web browser to display animations using the Flash format.</p>	1
27	<p>Define cookie.</p> <p>Cookies are text files with small pieces of data — like a username and password — that are used to identify your computer as you use a computer network</p>	1
28	<p>Fire Fox is an example of (b) Web Browser</p>	1
29	<p>Define www.</p> <p>The World Wide Web -- also known as the web, WWW or W3 -- refers to all the public websites or pages that users can access on their local computers and other devices through the internet. These pages and documents are interconnected by means of hyperlinks that users click on for information</p>	1
30	<p>Write any one difference between numpy array and pandas series</p> <p>Following are some of the differences between Pandas and Numpy:</p> <ol style="list-style-type: none"> 1. A Numpy array requires homogeneous data, while a Pandas DataFrame can have different data types (float, int, string, datetime, etc.). 2. Pandas have a simpler interface for operations like file loading, plotting, selection, joining, GROUP BY, which come very handy in data-processing applications. 3. Pandas DataFrames (with column names) make it very easy to keep track of data. 4. Pandas is used when data is in Tabular Format, whereas Numpy is used for numeric array based data manipulation. <p>ite any one difference between Numpy array and Pandas Series.</p>	1
31	<p>_____ is a Pandas data structure that represent one dimensional array containing a sequence of values of any data type.</p> <p>series</p>	1

32	<p>Consider the following Series object “S1” and write the output of the following statement :</p> <pre> 0 21 1 41 2 62 3 81 4 23 5 15 6 68 7 89 import pandas as pd L1=[21,41,62,81,23,15,68,89]) S1 = pd.Series(L1) </pre>	
	<pre> print("1. ",S1[5]**3) 225 </pre>	1
	<pre> print("2. ",S1.shape) 8, </pre>	1
	<pre> print("3. ",S1.empty) false </pre>	1
33	<p>Find the output of the following:</p> <pre> import pandas as pd df1=pd.DataFrame([[10,20],[40,50]],columns=["A","B"]) df2=pd.DataFrame([[10,20],[40,50]],columns=["B","A"]) df3=df1.append(df2) print(df3) A B 0 10 20 1 40 50 0 20 10 1 50 40 </pre>	2

34	Define mean() and mode() in Python Pandas. • Mean - The average value Mode - The most common value	2(1+1)										
35	Write a Python code to generate the data frame(MARKS) and display the result as whose mark is less than 50. <table><tr><td></td><td>Marks</td></tr><tr><td>Scott</td><td>45</td></tr><tr><td>Raja</td><td>34</td></tr><tr><td>Rhea</td><td>67</td></tr><tr><td>Paul</td><td>55</td></tr></table>		Marks	Scott	45	Raja	34	Rhea	67	Paul	55	2
	Marks											
Scott	45											
Raja	34											
Rhea	67											
Paul	55											
36	Write a python code to create the following DataFrame (DF5) and add a new to it. AMOUNT ACTS 7078 CSC 4045 SERVICE 9900 New Row is : “HRD” Amount 3608 import pandas as pd df=pd.DataFrame([7078,4045,9900],columns=["AMOUNT"],index=["ACT S", "HRD", "SERVICE"]) print(df) df.loc["HRD"]=3608 print(df)	2										
37	Data Frame is a (c) Two dimensional Array	1										
38	Find the output of the following: import pandas as pd	2										

		<pre> df1=pd.DataFrame([[1,2,3,6],[6,7,9,12]]) print(df1) print(df1.add(20)) print(df1.sub(15)) 0 1 2 3 0 1 2 3 6 1 6 7 9 12 0 1 2 3 0 21 22 23 26 1 26 27 29 32 0 1 2 3 0 6 7 8 11 1 11 12 14 17 </pre>	
	39	In a Data Frame , axis=0 is for_____. rows	1
	40	<p>Given a Series that stores the area of some states in km² , write code to find out the largest and smallest two areas from the given states. The given Series has been created like this:</p> <pre> S1=pd.Series((3214,5678,1234,6789,4567,2345,1432,5431)) import pandas as pd ser=pd.Series([3214,5678,1234,6789,4567,2345,1432,5431]) print(ser) print(ser.sort_values().head(2)) print(ser.sort_values().tail(2)) </pre>	2
	41	iloc is used for indexing or selecting based on _____. Rows and columns	1
	42	Find the output of the following:	1

		import pandas as pd k=pd.Series([2,4,8,9,1,12,14]) print(k.quantile(0.50)) 8	
	43	_____ in statistics are values that divide data into quarters. Quantile	1
	44	Which function is used to find the average value from the set of numbers?	1
	45	Find the output import pandas as pd List=[4,3,5,6] Df1=pd.DataFrame(List*2) print(Df1) 0 0 4 1 3 2 5 3 6 4 4 5 3 6 5 7 6	1
	46	Define reset_index()_drop() in Data Frame. Deleting index reset_index().drop() method is used to delete the indexes in a data frame.	1
	47	_____ is used to keep all the similar data together in Pandas DataFrame.	1

48	<p>Write the code to sort the given dataframe (say df and consisting of Students Details like GRNO,ROLLNO,NAME,CLASS,MARKS)in Descending order of GRNO.</p> <p>1. <code>sort_values()</code>: To sort the data of a given column in ascending or descending order. 2. <code>sort_index()</code>: To sort the data based on index value.</p> <p>Writing code with any one of the above method.</p>	1
49	<p>Mr.Saran is learning PYTHON Data Frame.He is having some doubts with the DATA Frame attributes. Help him to get the proper definition and an output based on the following attributes:</p> <pre>import pandas as pd marks=pd.DataFrame({"Name":["Rahul","mani","Raj", "Scott","Rhea","Paul"], "Marks":[45,56,78,90,98,96]},index=["A1","B1","C1","D1", "E1","F1"]) print(marks)</pre>	
	<p>a)marks.T</p> <pre> A1 B1 C1 D1 E1 F1 Name Rahul mani Raj Scott Rhea Paul Marks 45 56 78 90 98 96</pre>	1
	<p>b)marks.dtypes</p> <pre>Name object Marks int64 dtype: object</pre>	1
	<p>c)marks.shape</p> <pre>(6, 2)</pre>	1

		d)marks.values [['Rahul' 45] ['mani' 56] ['Raj' 78] ['Scott' 90] ['Rhea' 98] ['Paul' 96]]	1
		e)marks.tail(1) Name Marks F1 Paul 96	1

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