

KENDRIYA VIDYALAYA SANGATHAN
INFORMATICS PRACTICES (065)
FIRST PREBOARD EXAMINATION 2020-21
CLASS: XII

Time Allowed: 2 Hrs

Max.Mark: 70

Marking Scheme

Part - A		
Section - I		
Attempt any 15 questions from questions 1 to 21		
1	[35 40]	1
2	import numpy as np Arr1=np.linspace(2,3,6)	1
3	Rank	1
4	import matplotlib.pyplot as p ary=[5,20,30,45,60,80,100,140,150,200,240] p.boxplot(ary,showmeans=True)	1
5	mad() function is used to calculate the mean absolute deviation of the values for the requested axis.	1
6	(d) linestyle	1
7	plot() function	1
8	(a) All	1
9	Having	1
10	(c) 153.67	1
11	(d) Gateway	1
12	LAN (Local Area Network)	1
13	an alternate key	1
14	Server	1
15	(d) DF.iat[3, 5]=35	1
16	b.Web Browser	1
17	Comma Separated Values	1
18	Digital Property	1
19	Plagiarism	1
20	Indian IT Act 2000	1
21	(b) Phishing	1
Section -II		
Both the case study based questions (22 & 23) are compulsory. Attempt any four sub parts from each question. Each sub question carries 1 mark .		
22	Consider the following dataframe : df1 mark1 mark2 0 10 15 1 40 45 2 15 30 3 40 70	
(i)	c. df1.rename(index={"mark1":"Score1"},inplace=True)	1
(ii)	b.df1.iloc[4]=[50,90]	1
(iii)	a. df1["mark3"]=1000	1
(iv)	b. del df1["fee"]	1
(v)	d. print(df.columns)	1
23.	Consider the table Loan given below: Table : Loan	

	<table border="1"> <thead> <tr> <th>LoanID</th> <th>LoanDate</th> <th>CustomerName</th> <th>LoanAmount</th> </tr> </thead> <tbody> <tr> <td>L101</td> <td>2016-01-04</td> <td>Om Prakash</td> <td>100000</td> </tr> <tr> <td>L102</td> <td>2016-04-17</td> <td>Aneesh Sharma</td> <td>75000</td> </tr> <tr> <td>L103</td> <td>2016-05-20</td> <td>Anil Pathania</td> <td>90000</td> </tr> <tr> <td>L104</td> <td>2015-12-25</td> <td>Manju Dixit</td> <td>50000</td> </tr> <tr> <td>L105</td> <td>2015-10-21</td> <td>Renu Bala</td> <td>20000</td> </tr> </tbody> </table>	LoanID	LoanDate	CustomerName	LoanAmount	L101	2016-01-04	Om Prakash	100000	L102	2016-04-17	Aneesh Sharma	75000	L103	2016-05-20	Anil Pathania	90000	L104	2015-12-25	Manju Dixit	50000	L105	2015-10-21	Renu Bala	20000	
LoanID	LoanDate	CustomerName	LoanAmount																							
L101	2016-01-04	Om Prakash	100000																							
L102	2016-04-17	Aneesh Sharma	75000																							
L103	2016-05-20	Anil Pathania	90000																							
L104	2015-12-25	Manju Dixit	50000																							
L105	2015-10-21	Renu Bala	20000																							
(i)	b. Both (ii) and (iii).	1																								
(ii)	<p>c.</p> <table border="1"> <thead> <tr> <th>LoanID</th> <th>LoanDate</th> <th>CustomerName</th> <th>LoanAmount</th> </tr> </thead> <tbody> <tr> <td>L102</td> <td>2016-04-17</td> <td>Aneesh Sharma</td> <td>75000</td> </tr> <tr> <td>L103</td> <td>2016-05-20</td> <td>Anil Pathania</td> <td>90000</td> </tr> <tr> <td>L105</td> <td>2015-10-21</td> <td>Renu Bala</td> <td>20000</td> </tr> </tbody> </table>	LoanID	LoanDate	CustomerName	LoanAmount	L102	2016-04-17	Aneesh Sharma	75000	L103	2016-05-20	Anil Pathania	90000	L105	2015-10-21	Renu Bala	20000	1								
LoanID	LoanDate	CustomerName	LoanAmount																							
L102	2016-04-17	Aneesh Sharma	75000																							
L103	2016-05-20	Anil Pathania	90000																							
L105	2015-10-21	Renu Bala	20000																							
(iii)	d. Select LoanDate,max(LoanAmount) from Loan group by LoanDate;	1																								
(iv)	c.Select LoanDate, avg(LoanAmount) from Loan group by LoanDate having count(*)>2;	1																								
(v)	b. select CustomerName,max(LoanAmount) from Loan ;	1																								
Part - B																										
Section – I																										
24.	<pre>import pandas as pd d={'Product':['Apple','Pear','Banana','Grapes'],'Quantity':[100,100,200,250],'Cost':[1000,1500,1200,900]} DF1=pd.DataFrame(d) print(DF1)</pre> <p>½ mark for import statement ½ mark for usage of Dictionary ½ mark for stating DataFrame ½ mark for creating object DF1</p>	2																								
25.	<p>i) 1 Mark for Correct Answer ii) Pay column has 1 NULL Value. And count function is count only the Not Null Value.</p>	2																								
26.	<p>i. select round(6545.6895); ii.select round(6545.6895,-2); 1 mark each for correct answer of part (i) , (ii)</p>	2																								
27.	<pre>p.plot(Year,Rate) p.savefig("Graph1.pdf")</pre>	2																								
28.	<p>A.</p> <pre>0 15.0 1 NaN 2 16.0 3 NaN 4 30.0 5 NaN 6 NaN dtype: float64</pre> <p>B.</p> <pre>0 -9.0 1 NaN 2 -4.0 3 NaN 4 -10.0 5 NaN 6 NaN dtype: float64</pre>	2																								
29.	<p>A.</p> <p style="padding-left: 20px;">Name Grade</p> <p>a Rashmi A1</p> <p>b Harsh A2</p>	2																								

	<p>c Ganesh B1 d Priya A1 e Vivek B2 f Anita A2 e Karthik A1</p> <p>B. print(df.head())</p>	
30.	<p>a. select substr("Preoccupied", 4); or select substring("Preoccupied", 4); or select mid("Preoccupied",4); or select right("Preoccupied", 8); b. select substr("Preoccupied",6,3); or select substring("Preoccupied", 6,3); or select mid("Preoccupied",6,3); OR a. select instr 'Preoccupied' , ' 'cup'); b. select left 'Preoccupied',4); 1 mark for each correct answer of part (a) , (b)</p>	2
31.	<p>a. TCP/IP-Transmission Control Protocol/Internet Protocol b. HTTPS-Hyper text Transfer protocol Secure c. WWW-World wide Web d. SMTP-Simple Mail Transfer Protocol</p>	2
32.	1-1 Mark for Correct Answer	2
33.	<p>Digital Footprint. you should be careful: What you share online Where you share With whom you share</p>	2
Section -II		
34.	<p>Consider two objects x and y. x is a list whereas y is a Series. Both have values 30,20,10,40,50. What will be the output of the following two statements considering that the above objects have been created already a. print (x*3) b. print(y*3) Justify your answer. a. will give the output as: [20,40,90,110,20,40,90,110] b. will give the output as 0 40 1 80 2 180 3 220 Justification: In the first statement x represents a list so when a list is multiplied by a number, it is replicated that many number of times. The second y represents a series. When a series is multiplied by a value, then each element of the series is multiplied by that number. 1 mark for output of list multiplication 1 mark for output of Series multiplication 1 mark for the justification</p>	3

35.	3 Marks for Correct Answer	3																				
36.	<pre>import matplotlib.pyplot as p x=[6,7,8,9,10] y=[60,40,55,30,70] p.title('Secondary Class Strength') p.xlabel('Class') p.ylabel('No. of students') p.bar(x,y) p.show()</pre> <p style="text-align: center;">OR</p> <pre>import matplotlib.pyplot as plt x=['JAN', 'FEB', 'MAR', 'APR','MAY','JUN'] y=[30,50,50,30,30,60] plt.plot(x,y) plt.title("Monthly Attendance")</pre>	3																				
37.	<p>i.select Department,Avg(Salary) from Teacher group by Department having count(*)>2;</p> <p>ii. select Category,Count(*) from Teacher group by Category;</p> <p>ii. select Gender,Max(Salary) from Teacher group by Gender;</p>	3																				
Section -III																						
38.	<p>Write a program in Python Pandas to create the following DataFrame Cricket from a Dictionary:</p> <table border="1"> <thead> <tr> <th>R_NO</th> <th>b_Name</th> <th>Score1</th> <th>Score2</th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Amit Sharma</td> <td>90</td> <td>80</td> </tr> <tr> <td>22</td> <td>Dinesh Goel</td> <td>65</td> <td>45</td> </tr> <tr> <td>33</td> <td>M.S.Chauhan</td> <td>70</td> <td>90</td> </tr> <tr> <td>44</td> <td>Kartik Singh</td> <td>80</td> <td>76</td> </tr> </tbody> </table> <p>Perform the following operations on the DataFrame :</p> <ol style="list-style-type: none"> 1)Add both the scores of a batsman and assign to column "Total_Score" 2)Display the highest score in both Score1 and Score2 of the DataFrame. 3)Display the DataFrame <pre>import pandas as pd d1={'B_NO':[1,2,3,4], 'Name':[' Amit Sharma'," Dinesh Goel"," M.S.Chauhan","Kartik Singh'],'Score1':[90,65,70,80], 'Score2':[80,45,95,76] } df=pd.DataFrame(d1,index=[11,22,33,44]) print(df) df['Total'] = df['Score1']+ df['Score2'] Alternative Answer Scheme df['Total'] = sum(df['Score1'], df['Score2']) print(df) print("Maximum scores are : " ,max(df['Score1']), max(df['Score2'])) 1 mark for import statement 2 marks for creating the dataframe 1 mark for creating column Total to hold the sum of scores 1 mark for displaying highest scores in Score1 & Score2</pre>	R_NO	b_Name	Score1	Score2	11	Amit Sharma	90	80	22	Dinesh Goel	65	45	33	M.S.Chauhan	70	90	44	Kartik Singh	80	76	5
R_NO	b_Name	Score1	Score2																			
11	Amit Sharma	90	80																			
22	Dinesh Goel	65	45																			
33	M.S.Chauhan	70	90																			
44	Kartik Singh	80	76																			
39.	<ol style="list-style-type: none"> i) Select Curdate() +10; ii) Select Substr('ABCDEF',3,4); iii)Select Trim(' Computer is good ') iv))select instr(name, fname) v)select power(3,2); <p style="text-align: center;">OR</p>	5																				

	<p>i) <code>update emp set doj=date(now()) where empno=101;</code></p> <p>or</p> <p><code>update emp set doj=now() where empno=101;</code></p> <p>ii)</p> <p><code>mysql> select name from emp where month(doj)=month(now());</code></p> <p>iii)</p> <p><code>mysql> select substring(name,-4) from emp;</code></p> <p>Or</p> <p><code>mysql> select right(name,4) from emp;</code></p> <p>iv)</p> <p><code>mysql> select trim("a" from name) from emp;</code></p> <p>v)</p> <p><code>select round(salary,-3) from emp;</code></p>	
40.	<p>a) 1 Mark for correct Layout</p> <p>b) Star Topology or Tree Topology</p> <p>c) SalesDept because it having maximum number of computer.</p> <p>d) In each building</p> <p>e) SalesDept because it having maximum number of computer.</p>	5