G.D. GOENKA
INTERNATIONAL SCHOOL,ROHTAK

JUNE 2024

SUMMER HOLIDAY HOMEWORK
2024-25

CLASS : – XII Science

ACTIVITIES

SESSION 2024

DEAR PARENTS

Vacation is the time for the children to explore their myriad interest and indulge in various activities which would lead to their all-round development.

Summer Vacation is the most awaited time for both parents and kids. We have tried to keep the homework simple, informative, interesting and fun filled.

Here are a few tips for parents to act as a facilitator to help your child balance his/her eagerness in pursuing adventure, creativity and self-expression with development of responsibility.

- Make sure that you are spending quality time with your wards.
- Teach them the importance of moral value in their life.
- Motivate them to read good books.
- Encourage and help your child in shouldering responsibilities in household chores. It will aid them to be independent.
- Keeping in view the prevailing situation, indulge yourself in various indoor games with them.
- Encourage the child to wish 'Good Morning' and 'Good Night' to everybody.
- Encourage the child to speak simple sentences in English
- Talk respectfully with the child and encourage your child to do the same.
- Motivate the child to use polite words such as 'Please', 'Thank You', 'Sorry', 'May I'.
- Revise the work done in the classes.

<u>Please note:</u> Use resources (rough notebook) only which are available at home to complete all homework including project work. Prepare a systematic time table and follow it religiously from the very first day. Allow them to complete homework on their own under your guidance. Make these holidays memorable for the young learners by providing a nurtured and stimulated environment at home which is full of fun, excitement, and learning. Wish you all safe and healthy holiday ahead!

Sr. No.	SUBJECTS	NAME OF SUBJECT TEACHER	PHONE NO.
1	ENGLISH	MS. A. ROY	8981435834
2	PHYSICS	MR. JUBER ALAM	8077225694
3	CHEMISTRY	MR. AMAN MISHRA	9718767021
4	MATHS	MR. AMIT GAUR	78767 80134
5	BIOLOGY	MS. MINAKSHI	7027491010
6	I.P.	MR. ANIL KUMAR	8222911803
7	PHY. EDU.	MR. RAJAT	8808382828
8	FINE ARTS	MR. YOGESH	8285867691
9	MUSIC	MR. NAVDEEP	9876205809

SUBJECT WISE HOLIDAY HOMEWORK

Sr. No	Subject	Holiday Home Work
1	ENGLISH	1. Compare the condition of Saheb and Mukesh in the story 'Lost Spring' in your fair notebook. 2. Write an essay on the importance of vacation in students life in your fair notebook 3. Make a dictionary of 50 words in a separate notebook. 4. Read the poem 'An Elementary School Classroom in a Slum' and write a short summary of it in your fair note book.
2	PHYSICS	1. Revise the volume-1 (NCERT) 2. Do the practice time of Ch-1 to 8 in fair notebook from GDGIS coaching module 3. Do NCERT exercise of Ch-1 to 8 in fair notebook 4. Make the investigatory project file (A4 size page) for board practical. 3 marks will be awarded for the project in Mid-Term Examination 2024.
3	CHEMISTRY	1. Do NCERT ex. of Ch-1,6 & 7 in fair notebook 2. Do the practice time of Ch-1,6 & 7 in fair notebook from GDGIS coaching module. 3. Make short notes of Ch-1,6 & 7 in fair notebook from GDGIS coaching module. 4. Make the investigatory project file (A4 size page) for board practical. 4 marks will be awarded for the project in Mid-Term Examination 2024.
4	MATHS	1. Solve all Questions of NCERT Ch : Relation and Function, Inverse trigonometric Functions, Matrix and Determinants, Continuity and Differentiability, Application of Derivatives 2. Solve all Questions (given in class for homework) of book Elements Ch : Relation and Function, Inverse trigonometric Functions, Matrix and Determinants, Continuity and Differentiability, Application of Derivatives

		3. Solve all the question of Practice Time of GDGIS coaching module + All questions done in class of other exercise of Competitive Module Ch : Relation and Function, Inverse trigonometric Functions, Matrix and Determinants, Continuity and Differentiability, Application of Derivatives.
5	BIOLOGY	**Writing work:** 1. Do NCERT questions of Ch – 5 (Molecular basis of inheritance) in a separate notebook. 2. Attempt all practice questions of Ch -4 and 5 from coaching module. **Learning Work:** Learn Ch-4 & 5 and pre-reading of Ch-6 (Evolution).
6	I.P	Do the given worksheets (1 to 6) in fair notebook. All the worksheets are attached with this document.
7	PHY.EDU.	1. Make diagram of Olympic flag 2. Learn relaxation technique for improving concentration 3. Learn and perform 7 sitting yoga asana 4. Learn question answer of Ch-1,2
8	FINE ARTS	**Unit-1** Ch-2 Rajasthani school of miniature painting Ch-3 Pahari school of miniature painting Make a note on Ch-2 and Ch-3 **Practical Work** Make two creative composition on human figure 2-Still life with pencil shading 1 Canvas painting (landscape and composition)
9	MUSIC	1. Revise and learn the given topics - Definitions of music concepts, Raag Bhairav, Taal Jhap & Rupak) 2. Listen and do practice of Raag bharav. **Songs for practice**

CLASS XII – IP   NAME OF CHAPTER: Series
TOPIC: Series (Create Series, Access element, Filter value)
WORKSHEET NO. 1

QN.	Questions	M
1	Write a program to create a series to print scalar value "5" four times.	2
2	Write a program to create a series object F1 using a dictionary that stores the number of furniture in each lab of your school. **Note:** Assume four furniture names are Table, Sofa, Chair and stool having 40, 2,45,26 items respectively and pandas library has been imported as pd.	2
3	What will be the output of the following code: import pandas as pd L= [9,10,12] S=pd.Series(L) Dbl=pd.Series(data = S*2) print("New Series: ") print(Dbl)	1
4	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
5	What will be the output of the following code: >>>import pandas as pd >>>A=pd.Series(data=[35,45,55,40]) >>>print(A==data) What will be the output: a. True b. False c. [35,45,55,40] d. Error	1
6	Find the output of following program. import numpy as np d=np.array([10,20,30,40,50,60,70]) print(d [-4:])	1
7	What will be the output of the following code: >>>import pandas as pd >>>A=pd.Series(data=[35,45,55,40]) >>>print (A[A>45])	1
8	Write the output of the given command: import pandas as pd s=pd.Series([1,2,3,4,5,6],index=['A','B','C','D','E','F']) print(s[s%2==0])	1
9	What will be the output of the following code: >>>import pandas as pd >>>A=pd.Series(data=[35,45,55,40]) >>>print ([A>45])	1
10	What will be the output of the following code: >>>import pandas as pd >>>A=pd.Series(data=[35,45,55,40]) >>>A[2:5]=25 >>>print (A)	1
11	Write a program to create a series object comp using a list that stores the number of quantity of computer item in lab of your school. Note: Assume four computer item names as index are KB, Mouse, computer and printer havingvalues are 30, 25, 20, 2 items respectively and pandas library has been imported as pd.	2

CLASS XII – IP

NAME OF CHAPTER: Series
TOPIC: Series Attribute and methods

WORKSHEET NO. 2

Q. No	Questions	M
1	Which attribute is used to get total number of elements in a Series? a. size b. itemsize c. shape d. ndim	1

2	To display last five rows of a series object **'S'**, you may write:
	   a. S.Head()
	   b. S.Tail(5)
	   c. S.Head(5)
	   d. S.tail()
		1

3	To display top five rows of a series object **'S'**, you may write:
	   a. S.head()
	   b. S.Tail(5)
	   c. S.Head(5)
	   d. S.tail()
		1

4	_____method in Pandas can be used to change the index of rows and columns of a Series or DataFrame: (i) rename() (ii) reindex() (iii) reframe() (iv) none of the above	1
5	CSV stands for _____	1
6	Pandas Series is: _____ a. 2-Dimensional b. 3-Dimensional c. 1 Dimensional d. Multidimensional	1
7	Python pandas was developed by:_____ a. Guido van Rossum b. Travis Oliphant c. Wes McKinney d. Brendan Eich	1
8	The command to install the pandas is: a. install pip pandas b. install pandas c. pip pandas d. pip install pandas	1
9	The name "Pandas" is derived from the term: a. Panel Data b. Panel Series c. Python Document d. Panel Data Frame	1
10	We can analyse the data in pandas with a. Series b. Data Frame c. Both of the above d. None of the above	1
11	Pandas is a: _____ a. Package b. Language c. Library d. Software	1
12	Which of the following import statement is not correct? a. import pandas as CLASS12 b. import pandas as 1pd c. import pandas as pd1 d. import pandas as pd	1
13	Which of the following is not an attribute of pandas data frame? a. length b. T c. Size d. shape	1
14	import pandas as pd s=pd.Series([1,2,3,4,5], index=['akram','brijesh','charu','deepika','era'])	1

	print(s['charu']) a. 1 b. 2 c. 3 d. 4	
15	Assuming the given series, named stud, which command will be used to print 5 as output? Amit 90 Ramesh 100 Mahesh 50 john 67 Abdul 89 Name: Student, dtype: int64 a. stud.index b. stud.length c. stud.values d. stud.size	1
16	A social science teacher wants to use a pandas series to teach about Indian historical monuments and its states. The series should have the monument names as values and state names as indexes which are stored in the given lists, as shown in the code. Choose the statement which will create the series: import pandas as pd Monument=['Qutub Minar','Gateway of India','Red Fort','Taj Mahal'] State=['Delhi','Maharashtra','Delhi','Uttar Pradesh'] a. S=df.Series(Monument, index=State) b. S=pd.Series(State, Monument) c. S=pd.Series(Monument, index=State) d. S=pd.series(Monument, index=State)	1
17	Difference between loc() and iloc().: a. Both are Label indexed based functions. b. Both are Integer position-based functions. c. loc() is label-based function and iloc() integer position-based function. d. loc() is integer position-based function and iloc() index position-based function.	1
18	Method or function to add a new row in a Series is: a. .locate() b. .loc() c. join d. add()	1
19	Rasha wants to set all the values to zero in Series, choose the right command to do so: a. S1=0 b. S1[]=0 c. S1[:]=0 d. S1[:]==0	1
20	Write the output of the given program: import pandas as pd S1=pd.Series([5,6,7,8,10],index=['v','w',' x','y','z']) Output required (5,) a. print(S1.shape()) b. print(S1.shape) c. print(S1.values) d. print(S1.size())	1
21	To check if the Series object contains NaN values, attribute is display. a. hasnan b. nbytes c. ndim d. hasnans	1

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CLASS XII – IP

NAME OF CHAPTER: Series
TOPIC: Vector operation, slicing

WORKSHEET NO. 3

QN.	Questions	M
1	Consider the following series named animal: ``` L Lion B Bear E Elephant T Tiger W Wolf dtype: object ``` Write the output of the command: print(animal[::-3])	2
2	Write the output of the given program: import pandas as pd S1=pd.Series([5,6,7,8,10], index=['v','w',' x','y','z']) l=[2,6,1,4,6] S2=pd.Series(l,index=['z','y','a','w','v']) print(S1-S2)	2
3	Give the output: import pandas as pd name=['Raj','Ankur','Harsh'] p=pd.Series(name,index=[2,5,6]) print(p) p1=p.reindex([2,5]) print (p1)	2
4	Give the output: list1=["Dance",'Music','violin', 'guitar','drums'] list2=[100,200,300,400,500,600] list3=list1[:2] list4=list2[2:5] print(list3) print(list4)	2

5	Consider the following series named color:
	Color
	1 Red
	2 Green
	3 Orange
	4 Yellow
	5 Black
	
	dtype: object
	Write the command that generates the output as:
	        2 Green
	        4 Yellow
	dtype: object
		1

6	What will be the output of the given code? **import pandas as pd** **s=pd.Series([3,6,9,12,14],index=['a', 'b','c','d','e'])print(s['a']+s['c'])**	2

7	Given two series S1 and S2
	
	S1 S2
	A 39 A 10
	B 41 B 10
	C 42 D 10
	D 44 F 10
	Find the output for following python pandas statements?
	     a. S1[: 2]*100
	     b. S1 * S2
	     c. S2[: : -1]*10
		2

8	How many elements will be there in the series named "S1"?
	    >>> S1 = pd.Series(range(5,10))
	    >>> print(S1)
		1

9	Consider the following series
	    CapCntry = pd.Series(['NewDelhi', 'WashingtonDC', 'London', 'Paris', 'Tokyo',
	    'Beijing'], index=['India', 'USA', 'UK', 'France', 'Japan', 'China'])
	      Write the output of the following statements:
	         i) CapCntry[: : 2] ii) CapCntry[5:1:-1]
	         iii) CapCntry[: :-1] iv) CapCntry[3:]
		4

10	Consider the following code. Write appropriate words to complete Line1: import pandas as pd Line2: import_____ # Library name Line3: A=np._____(2,11,2) # function name to get numpy array Line 4: S=pd.Series(_____, Index=[_____]) # Data name and indexes Line 5: Print(S)	3
	TOTAL	

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NAME OF CHAPTER: **DATA FRAME**
TOPIC: **CREATE DATA FRAME by various method**
Remove row and column of DataFrame

WORKSHEET NO. 4

QN		M
1	import pandas as pd d=[[101,'Gurman',98],[102,'Rajveer',95],[103,'Samar',96],[104,'Yuvraj',88]] c=['sno','Name','Score'] stock=pd.DataFrame(d,columns=c) print(stock)	2

2	import pandas as pd
	
	d=[['Nancy Drew',150],\
	
	   ['Hardy boys',180],\
	
	   ['Diary of a wimpy kid',225],\
	
	   ['Harry Potter',500]]
	
	c=['Name','Price']
	
	stock=pd.DataFrame(d,columns=c)
	
	print(stock)
		2

3	d={'Name':['Nancy Drew','Hardy boys','Diary of a wimpy kid','Harry Potter] 'Price':[150,180,225,500]} stock =pd.DataFrame(d) print(stock)	2
4	s1=pd.Series(['Nancy Drew','Hardy boys','Diary of a wimpy kid','Harry Potter']) s2=pd.Series([150,180,225,500]) d ={'Name':s1,'Price':s2} stock=pd.DataFrame(d) print(stock)	2
5	Q1 Q2 Q3 Q4 0 5000 8000 12000 18000 1 10 20 30 40	2
6	1	2

	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)		
8	Consider the given DataFrame 'Stock': Name Price 0 Nancy Drew 150 1 Hardy boys 180 2 Diary of a wimpy kid 225 3 Harry Potter 500 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 Price. iv. Remove first and third rows from DataFrame	4	
9	Consider the given DataFrame df: Q1 Q2 Q3 Q4 0 5000 8000 12000 18000 1 10 20 30 40 Write suitable Python statements for the following: i. Add a column called Q5 with the following data: [2000,44]. ii. Add a new record with appropriate values. iii. Remove the column Q2, Q4. iv. Remove first and second rows from DataFrame.	4	
10	Write a python code to create empty DataFrame	1	
	TOTAL		

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NAME OF CHAPTER: **DATA FRAME**
TOPIC: **CREATE DATA FRAME by various method**
Remove row and column of DataFrame

WORKSHEET NO. 5

QN	Questions	M
1	Write a Python code to create a DataFrame with appropriate column headings from the csv file given below: city Maxtemp Mintemp Rainfall 0 Delhi 40 32 24.1 1 Bengaluru 31 25 36.2 2 Chennai 35 27 40.8 3 Mumbai 29 21 35.2	2
2	Write a Python code to create a DataFrame 'temp' by using list: city Maxtemp Mintemp Rainfall 0 Delhi 40 32 24.1 1 Bengaluru 31 25 36.2 2 Chennai 35 27 40.8 3 Mumbai 29 21 35.2	2
3	Write a Python code to create a DataFrame 'temp' by using dictionary method: city Maxtemp Mintemp Rainfall 0 Delhi 40 32 24.1 1 Bengaluru 31 25 36.2 2 Chennai 35 27 40.8 3 Mumbai 29 21 35.2	2
4	Write a Python code to create a DataFrame 'temp' by using Series method: city Maxtemp Mintemp Rainfall 0 Delhi 40 32 24.1 1 Bengaluru 31 25 36.2 2 Chennai 35 27 40.8 3 Mumbai 29 21 35.2	2
5	Find output of following code import pandas as pd x={'Qtr1':[5000,10],'Qtr2':[8000,20],'Qtr3':[12000,30],'Qtr4':[18000,40]} df=pd.DataFrame(x) print(df)	2
6	Find output of following code import pandas as pd x={'Qtr1':[5000,10],'Qtr2':[8000,20],'Qtr3':[12000,30],'Qtr4':[18000,40]} totSales={1:x} df=pd.DataFrame(totSales) print(df)	2

7	What will be the output of following code and Answer the following:
	     i. List the index of the DataFrame df
	     ii. List the column names of DataFrame df.
	 import pandas as pd
	 x={'Qtr1':5000,'Qtr2':8000,'Qtr3':12000,'Qtr4': 18000}
	 y={'p' :13000,'q':14000,'r':12000}
	 totSales={1:x,2:y}
	 df=pd.DataFrame(totSales)
	 print(df)
		2

8	Consider the given DataFrame 'temp':
	     city Maxtemp Mintemp Rainfall
	 0 Delhi 40 32 24.1
	 1 Bengaluru 31 25 36.2
	 2 Chennai 35 27 40.8
	 3 Mumbai 29 21 35.2
	 Write suitable Python statements for the following:
	   i. Add a column called area with the following data: [135455,153330,225000,442540].
	   ii. Add a new city named 'calcutta having maxtemp 20,mintemp 12 and rainfall
	   iii. Remove the column rainfall.
	   iv. iv.Remove first and third rows from DataFrame
		4

9	Consider the given DataFrame df:
	     Qtr1 Qtr2 Qtr3 Qtr4
	 0 5000 8000 12000 18000
	 1 10 20 30 40
	 Write suitable Python statements for the following:
	   i. Add a column called Qtr5 with the following data: [1444,20].
	   ii. Add a new record with appropriate values.
	   iii. Remove the column Qtr1, Qtr3.
	   iv. iv.Remove first and second rows from DataFrame.
		4

10	Write a python code to create empty DataFrame	1
	TOTAL	

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NAME OF CHAPTER: **DATA FRAME**
TOPIC: **CREATE DATA FRAME by various method**
Remove row and column of DataFrame

WORKSHEET NO. 6

Q. No	Questions	M
1	Write a Python code to create a DataFrame 'lib' with appropriate column headings from the csv file given below: Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
2	Write a Python code to create a DataFrame 'lib' by using list: Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
3	Write a Python code to create a DataFrame 'lib' by using dictionary method: Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
4	Write a Python code to create a DataFrame 'lib' by using Series method: Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
5	Write a Python code to display output of Transpose of DataFrame . Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
6	Write a Python code to create a DataFrame 'lib' with appropriate column headings save the DataFrame in sample.csv: Pcd title Price qty 0 P01 Notebook 85 500 1 P02 Pencilbox 76 200 2 P03 WaterBottle 129 50 3 P04 SchoolBag 730 70	2
7	Write a Python code to create a DataFrame 'temp' and save the DataFrame in temp.csv file	2

		city Maxtemp Mintemp Rainfall 0 Delhi 40 32 24.1 1 Bengaluru 31 25 36.2 2 Chennai 35 27 40.8 3 Mumbai 29 21 35.2	

8	Consider the given DataFrame:
	     Pcd title Price qty
	0 P01 Notebook 85 500
	1 P02 Pencilbox 76 200
	2 P03 WaterBottle 129 50
	3 P04 SchoolBag 730 70
	Write suitable Python statements for the following:
	  i. Add a column called ACC_NO with the following data:
	        [135,153,225,442].
	 ii. Add a new Record
	iii. Remove the column qty.
	 iv. Remove first and third rows from DataFrame
		4	

9	Consider the given DataFrame df:
	      A B C D
	0 50 80 120 180
	1 110 120 130 140
	Write suitable Python statements for the following:
	  i. Add a column called E with the following data: [14,220].
	 ii. Add a new record with appropriate values.
	iii. Remove the column A, C.
	 iv. Remove first and second rows from DataFrame.
		4	

10	Consider the given DataFrame df: A B C D 0 50 80 120 180 1 110 120 130 140 Write python code to Transpose df.	1	
	TOTAL		

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ENJOY

SUMMER VACATION

"Summer is messy, Summer is fun, Trips to the beach, In the hot, hot Sun, Let's give summer, A big fat cheer! Summer is the best time of the year". Happy Summer