WINTER HOLIDAY HOMEWORK (PHYSICS)

CLASS XII

1. complete practical work /record if not completed yet.
2. Complete investigatory project.
3. Revise all the chapters for Preboard 2.
4. Solve 10 Years previous year board questions.
5. Solve CBSE sample paper.

Winter Break Homework

Class XII

Prose:

1. Key points
2. Glossary
3. Justification of the Title
4. Central Theme
5. Critical analysis of the main Characters (prose)

Poetry:

1. Summary
2. Glossary
3. Central Theme
4. Justification of the Title
5. Poetic Devices

All the chapters of Flamingo and Vistas.

Chemistry
All Name reactions with proper examples (Also exceptions if any)

HOLIDAY HOMEWORK
class - XII (B)
MATHEMATICS

1. $\int \left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)^2 dx$

2. $\int \sqrt{x} \,(3x^2 + 2x + 3) \, dx$

3. $\int x\sqrt{x+2} \, dx$

4. $\int x^5 \left(x^3 - 1\right)^{1/3} dx$

5. $\int \frac{e^x - 1}{e^x + 1} \, dx$

6. $\int \tan^2(2x - 3) \, dx$

7. $\int \frac{1}{1 - \tan x} \, dx$

8. $\int \sin 2x \sin 3x \sin 4x \, dx$

9. $\int \cos^4 2x \, dx$

10. $\int \frac{1}{\sin(x-a)\sin(x-b)} \, dx$

11. $\int \frac{1}{\sin(x-a)\cos(x-b)} \, dx$

12. $\int \frac{4x + 11}{\sqrt{2x^2 + x - 3}} \, dx$

13. $\int \frac{5x - 2}{1 + 2x - 3x^2} \, dx$

14. $\int \frac{1 - x^2}{x(1 - 2x)} \, dx$

15. $\int \frac{x^3 + x + 1}{x^2 - 1} \, dx$

16. $\int \frac{(x^2+1)(x^2+2)}{(x^2+3)(x^2+4)} \, dx$

17. $\int x^2 \log x \, dx$

18. $\int (\sin^{-1} x)^2 \, dx$

19. $\int e^x \left(\frac{1 + \sin x}{1 + \cos x}\right) dx$

20. $\int \sqrt{1 - 4x^2} \, dx$

21. $\int \sqrt{1 + 3x - x^2} \, dx$

22. $\int_0^{\pi/2} \frac{\sin^3 x}{\cos^3 x + \sin^3 x} \, dx$

23. $\int_2^8 |x - 5| \, dx$

24. $\int_0^1 x(1-x)^n \, dx$

25. $\int_0^\pi \frac{x \, dx}{1 + \sin x}$

26. $\int_0^{2\pi} \cos^5 x \, dx$

27. $\int_0^\pi \log(1 + \cos x) \, dx$

28. $\int_{-\pi/2}^{\pi/2} \sin^3 x \, dx$

29. $\int_0^1 \frac{dx}{\sqrt{1+x} - \sqrt{x}}$

30. $\int_0^{\pi/4} \frac{\sin x + \cos x}{9 + 16\sin 2x} \, dx$

कक्षा XII

शीतकालीन अवकाश हेतू गृह कार्य

1. सिल्वर वैडिंग- कहानी के आधार पर
पीढ़ियों के अंतराल विषय पर एक   200-250 शब्दों में   आलेख लिखिए

2. वितान भाग-2 में संकलित   *सिल्वर वैडिंग*, *जूझ* एवं *अतीत में दबे पांव* पाठ पढ़कर   प्रत्येक पाठ
संबंधित 25 लघूतरात्मक प्रश्न एवं उत्तर तैयार कीजिए ।
 3. कवि आलोक धन्वा के *पतंग*- कविता पढ़कर समान भाव वाली एक स्वरचित कविता बनाइए ।

4 'बाजार दर्शन' पाठ से 10प्रश्न तैयार कर उत्तर लिखिए।

5. भक्ति काल के सर्वश्रेष्ठ कवि तुलसीदास पर परियोजना कार्य तैयार कीजिए।

Class – 12th B

Winter Break holiday homework

1) Complete practical file with all the experiments given in the practical syllabus and also make neat and well labelled diagrams.
2) Revise all the syllabus for pre- board exam II
3) Prepare an Investigatory project on the topic chosen by you To be submitted as a project assignment for CBSE board examination
4) _Revise the following chapter for the test after winter vacations
    1) Principles of inheritance and variations
    2) Molecular basis of inheritance
    3) Evolution
5) Solve the sample question paper shared by the teacher in class notebook.

HOLIDAY HOMEWORK DEC 2023 CLASS 12 IP

WORKSHEET – Data Handling Using Pandas

1	**What will be the output of following code-** import pandas as pd s1=pd.Series([1,2,2,7,'Sachin',77.5]) print(s1.head()) print(s1.head(3))
2	Write a program in python to find maximum value over index in Data frame.

3	**What are the purpose of following statements-**
	    1. df.columns
	    2. df.iloc[: , :-5]
	    3. df[2:8]
	    4. df[:]
	    5. df.iloc[: -4 , :]

4	**Write a python program to sort the following data according to ascending order of Age.**

Name	Age	Designation
Sanjeev	37	Manager
Keshav	42	Clerk
Rahul	38	Accountant

5	**Write a python program to sort the following data according to descending order of Name.**

Name	Age	Designation
Sanjeev	37	Manager
Keshav	42	Clerk
Rahul	38	Accountant

6	**Which of the following thing can be data in Pandas?**
	    1. A python dictionary
	    2. An nd array
	    3. A scalar value
	    4. All of above

7	**All pandas data structure are_____mutable but not always_____mutable.**
	    1. Size, value
	    2. Semantic , size
	    3. Value, size
	    4. None of the above

8	**Data and index in an nd array must be of same length-**
	    1. True
	    2. False

9	**What is the output of the following program?** import pandas as pd df=pd.DataFrame(index=[0,1,2,3,4,5],columns=['one','two']) print df['one'].sum()

10	**What will be the output of following code:**
	Users.groupby('occupation').age.mean()
	1. Get mean age of occupation

    2. Groups users by mean age
    3. Groups user by age and occupation
    4. None

11	**Which object do you get after reading a CSV file using pandas.read_csv()?**
	1. Dataframe
	2. Nd array
	3. Char Vector
	4. None
12	What will be the output of df.iloc[3:7,3:6]?
13	**How to select the rows where where age is missing?**
	1. df[df['age'].isnull]
	2. df[df['age']==NaN]
	3. df[df['age']==0]
	4. None
14	**Consider the following record in dataframe IPL**

Player	Team	Category	BidPrice	Runs
Hardik Pandya	Mumbai Indians	Batsman	13	1000
KL Rahul	Kings Eleven	Batsman	12	2400
Andre Russel	Kolkata Knight riders	Batsman	7	900
Jasprit Bumrah	Mumbai Indians	Bowler	10	200
Virat Kohli	RCB	Batsman	17	3600
Rohit Sharma	Mumbai Indians	Batsman	15	3700

Retrieve first 2 and last 3 rows using python program.

15	Write a command to Find most expensive Player.
16	Write a command to Print total players per team.
17	Write a command to Find player who had highest BidPrice from each team.
18	Write a command to Find average runs of each team.
19	Write a command to Sort all players according to BidPrice.
20	**We need to define an index in pandas-**
	1. True
	2. false

Q No.	Question
21	State True or False **"Tuple is datatype in Python which contain data in key-value pair."**

22	Which of the following is not a keyword?
	(A) eval (B) assert
	(C) nonlocal (D) pass
23	Given the following dictionaries
	dict_student = {"rno" : "53", "name" : 'Rajveer Singh'}
	dict_marks = {"Accts" : 87, "English" : 65}
	Which statement will merge the contents of both dictionaries?
	(A) dict_student + dict_marks (B) dict_student.add(dict_marks)
	(C) dict_student.merge(dict_marks) (D) dict_student.update(dict_marks)
24	Consider the given expression:
	not ((True and False) or True)
	Which of the following will be correct output if the given expression is evaluated?
	(A) True (B) False
	(C) NONE (D) NULL
25	Select the correct output of the code:
	>>> s='mail2kv@kvsangathan.kvs.in'
	>>> s=s.split('kv')
	>>> op = s[0] + "@kv" + s[2]
	>>> print(op)
	(A) mail2@kvsangathan (B) mail2@sangathan.
	(C) mail2@kvsangathan. (D) mail2kvsangathan.
26	Which of the following statement(s) would give an error after executing the following code?
	D={'rno':32,'name':'Ms Archana','subject':['hindi','english','cs'],'marks':(85,75,89)}
	#S1
	print(D) **#S2**
	D['subject'][2]='IP' **#S3**
	D['marks'][2]=80 **#S4**
	print(D) **#S5**
	(A) S1 (B) S3
	(C) S4 (D) S3 and S4
27	What will the following expression be evaluated to in Python?

	print (round (100.0 / 4 + (3 + 2.55) , 1))
	(A) 30.0 (B) 30.55
	(C) 30.6 (D) 31
28	(A) Given is a Python string declaration:
	message='FirstPreBoardExam@2022-23'
	Write the output of: **print(message[: : -3].upper())**
	(B) Write the output of the code given below:
	d1={'rno':25, 'name':'dipanshu'}
	d2={'name':'himanshu', 'age':30,'dept':'mechanical'}
	d2.update(d1)
	print(d2.keys())
29	Predict the output of the Python code given below:
	data=["L",20,"M",40,"N",60]
	times=0
	alpha=""
	add=0
	for c in range(1,6,2):
	times = times + c
	alpha = alpha + data [c-1] + "@"
	add = add + data[c]
	print (times, add, alpha)
30	Predict the output of the Python code given below:
	L=[1,2,3,4,5]
	Lst=[]
	for i in range(len(L)):
	if i%2==1:
	t=(L[i],L[i]2)**
	Lst.append(t)
	print(Lst)

31	Find the invalid identifier from the following a) Marks@12 b) string_12 c)_bonus d)First_Name
4	Identify the valid declaration of Rec: **Rec=(1,"Ashoka",50000)** a) List b) Tuple c)String d) Dictionary
33	Suppose a tuple Tup is declared as **Tup = (12, 15, 63, 80)** which of the following is incorrect? a) print(Tup[1]) b) Tup[2] = 90 c) print(min(Tup)) d) print(len(Tup))
34	The correct output of the given expression is: **True and not False or False** (a) False (b) True (c) None (d) Null
	t1=(2,3,4,5,6) **print(t1.index(4))** output is (a) 4 (b) 5 (c) 6 (d) 2

35	Which of the following statement(s) would give an error after executing the following code?
	
	x= int("Enter the Value of x:")) #Statement 1
	for y in range[0,21]: **#Statement 2**
	  if x==y: **#Statement 3**
	    print (x+y) **#Statement 4**
	  else: **#Statement 5**
	    print (x-y) **# Statement 6**
	(a) Statement 4 (b) Statement 5
	(c) Statement 4 & 6 (d) Statement 1 & 2

36	(a) Given is a Python string declaration: **str="Kendriya Vidyalaya Sangathan"** **Write the output of: print(str[9:17])** **(b) Write the output of the code given below:** **lst1 = [10, 15, 20, 25, 30]** **lst1.insert(3, 4)** **lst1.insert(2, 3)** **print (lst1[-5])**
37	Evaluate the following Python expression **print(12*(3%4)//2+6)** (a)12 (b)24 (c) 10 (d) 14
38	Fill in the Blank **The explicit conversion of an operand to a specific type is called _____** (a)Type casting (b) coercion (c) translation (d) None of these
39	Which of the following is **not a core data** type in Python? (a)Lists (b) Dictionaries (c)Tuple (d) Class
40	What will the following code do? **dict={"Exam":"AISSCE", "Year":2022}** **dict.update({"Year":2023})** a. It will create new dictionary dict={" Year":2023}and old dictionary will be deleted b. It will throw an error and dictionary cannot updated c. It will make the content of dictionary as dict={"Exam":"AISSCE", "Year":2023} d. It will throw an error and dictionary and do nothing
41	What will be the value of the expression : **14+13%15**
42	Which of the following statement(s) would give an error after executing the following code?

| | ```
S="Welcome to class XII"    # Statement 1
print(S)            # Statement 2
S="Thank you"           # Statement 3
S[0]= '@'            # Statement 4
S=S+"Thank you"         # Statement 5
```<br><br>(a)    Statement 3           (b) Statement 4<br>(b)    Statement 5         (d) Statement 4 and 5 |
43	What will be the output of the following expression? **24//6%3 , 24//4//2 , 48//3//4** a)(1,3,4) b)(0,3,4) c)(1,12,Error) d)(1,3,#error)
44	Write the output of following code and explain the difference between a*3 and (a,a,a) **a=(1,2,3)** **print(a*3)** **print(a,a,a)**
45	Identify the invalid Python statement from the following. (a) _b=1 (b) __b1= 1 (c) b_=1 (d) 1 = _b
46	Identify the valid arithmetic operator in Python from the following. (a) // (b) < (c) or (d) <>
47	If Statement in Python is __ (a) looping statement (b) selection statement (c) iterative (d) sequential
48	Predict the correct output of the following Python statement – **print(4 + 3**3/2)** (a) 8 (b) 9 (c) 8.0 (d) 17.5
49	Choose the most correct statement among the following – (a) a dictionary is a sequential set of elements (b) a dictionary is a set of key-value pairs (c) a dictionary is a sequential collection of elements key-value pairs (d) a dictionary is a non-sequential collection of elements
50	Consider the string **state = "Jharkhand"**. Identify the appropriate statement that will display the last five characters of the string state? **(a) state [-5:] (b) state [4:] (c) state [:4] (d) state [:-4]**

51	What will be the output of the following lines of Python code?
	if not False:
	   print(10)
	else:
	   print(20)
	(a) 10 (b) 20 (c) True (d) False

52	Find error in the following code(if any) and correct code by rewriting code and underline the correction;-
	x= int("Enter value of x:")
	for in range [0,10]:
	    if x=y
	print(x + y)
	    else:
	       print(x-y)

53	Find output generated by the following code: **Str = "Computer"** **Str = Str[-4:]** **print(Str*2)**
54	Consider the following lines of codes in Python and write the appropriate output:

	student = {'rollno':1001, 'name':'Akshay', 'age':17} **student['name']= "Abhay"** **print(student)**

55	Find output generated by the following code:
	string="aabbcc"
	count=3
	while True:
	  if string[0]=='a':
	    string=string[2:]
	  elif string[-1]=='b':
	    string=string[:2]
	  else:
	    count+=1
	    break
	print(string)
	print(count)