**KENDRIYA VIDYALAYA K-AREA ZIRAKPUR HOMEWORK FOR AUTUMN BREAK**

**CLASS XII 2023-24**

केंद्रीय विद्यालय के एरिया जीरकपुर शरदावकाश-गृहकार्य 2023-24

कक्षा-बारहवीं

**1**.**ENGLISH CORE HOMEWORK FOR AUTUMN BREAK**

Q1.Read "On the Face of It" by Susan Hill, "Memories of Childhood" by Zitkala-Sa and Bama. Write the Summary and do all the textual and extra questions.

Q2.Read "Poets and Pancakes" by Asokamitran, "Going Places" by A. R. Barton. Write the Summary and do all the textual and extra questions.

Q3.Paste and solve the September Monthly Test Question Paper in your notebook.

Q4.Do the entire Holidays' Homework in your fair notebook and learn the syllabus covered upto date.

**2**  **केंद्रीय विद्यालय के एरिया जीरकपुर शरदावकाश-गृहकार्य 2023-24 विषय- हिन्दी**

लिखित भाग

प्रश्न 1- निम्नलिखित विषयों पर रचनात्मक लेख लिखें

(1) मेरी अविस्करणीय यात्रा

(2)कक्षा 12वीं के बाद मेरी अपने भविष्य की योजनाएं

प्रश्न 2– सीबीएसई द्वारा प्रदत्त प्रतिदर्श प्रश्नपत्र को हल कीजिए ।

प्रश्न 3– वितान के पढ़ाए गए पाठ अतीत में दबे पांव से से तीस बहुविकल्पीय प्रश्न तैयार करें।

प्रश्न 4. कोई भी हिंदी साहित्य की एक पुस्तक पढ़े और उसकी पुस्तक समीक्षा लिखकर लाएं

अभ्यास भाग

प्रश्न 1– जनसंचार से सम्बंधित रेडियो नाटक और कैसे करें कहानी का नाट्य रूपांतरण का अभ्यास कीजिए ।

प्रश्न 2– वितान पुस्तक के समस्त पाठों का अभ्यास कीजिए ।

प्रश्न 3– आरोह के समस्त पाठों का अभ्यास कीजिए ।

**3. HOLIDAYS HOME WORK ECONOMICS(XII)**

1. Prepare PROJECT on Economics for final practical examination.

2. Practice numerical on national income estimation

3. Revise all the topics of Indian economic development

4. Practice any sample paper given by the cbse.

**4. Accountancy (055) HOMEWORK FOR AUTUMN BREAK (XII commerce)**

1. Complete project file for the final board examination on any two topics

I. Comparative statements

II. Ratio analysis

III. Cash flow statement

2. Solve two CBSE sample paper in accountancy note book and paste question paper also.

3. Revise properly for 1 st Preboard.

**5. Business Studies (054) HOMEWORK FOR AUTUMN BREAK (XII commerce)**

1. Complete project file for final board examination.

2. Revise whole syllabus for 1st Preboard.

3. Solve two CBSE sample paper in business studies note book paste sample paper also.

**6..Subject – PHYSICAL EDUCATION Class- XII**

 Motor Fitness Test ( 7 test conducted)

 General Motor Fitness(3 test Conducted)

 Measurement of Cardio-Vascular Fitness – Harvard Step Test/Rockport Test –

Computation of Fitness Index

\*Practical-2:\* Procedure for Asanas, Benefits &amp; Contraindication for any two Asanas for each lifestyle disease.

Asanas as preventive measures

 Obesity

 Hypertension

Anyone game of your choice out of the list above. Labelled diagram of field &amp; equipment (Rules,

Terminologies &amp; Skills).

 Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce &amp; Unified

Basketball [CWSN (Children With Special Needs – Divyang)]\*

**7**. **INFORMATICS PRACTICES (065)**

1. Television cable network is an example of:

i. LAN

ii. WAN

iii. MAN

iv. Internet

2. 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 type of values will not be considered by SQL while executing the

following statement?

SELECT COUNT(column name) FROM inventory;

i. Numeric value

ii. text value

iii. Null value

iv. Date value

1

5. If column “Fees” contains the data set (5000,8000,7500,5000,8000), what will

be the output after the execution of the given query?

SELECT SUM (DISTINCT Fees) FROM student; i.

20500

ii. 10000

iii. 20000

iv. 33500

1

6. ‘O’ in FOSS stands for:

i. Outsource

ii. Open

iii. Original

iv. Outstanding

1

7. Which SQL statement do we use to find out the total number of records present

in the table ORDERS?

i. SELECT \* FROM ORDERS;

ii. SELECT COUNT (\*) FROM ORDERS;

iii. SELECT FIND (\*) FROM ORDERS;

iv. SELECT SUM () FROM ORDERS;

**8. Which one of the following is not an aggregate function?**

**i. ROUND()**

**ii. SUM()**

**iii. COUNT()**

**iv. AVG()**

**1**

9. Which one of the following functions is used to find the largest value from the

given data in MySQL?

i. MAX( )

ii. MAXIMUM( )

iii. BIG( )

iv. LARGE( )

1

10. To display last five rows of a series object ‘S’, you may write:

i. S.Head()

ii. S.Tail(5)

iii. S.Head(5)

iv. S.tail()

1

11. Which of the following statement will import pandas library?

i. Import pandas as pd

ii. import Pandas as py

iii. import pandas as pd

iv. import panda as pd

1

12. Which of the following can be used to specify the data while creating a

DataFrame?

i. Series

ii. List of Dictionaries

iii. Structured ndarray

iv. All of these

1

13. Which amongst the following is not an example of a browser?

i. Chrome

ii. Firefox

iii. Avast

iv. Edge

1

14. In SQL, which function is used to display current date and time?

i. Date ()

ii. Time ()

iii. Current ()

iv. Now ()

1

15. Legal term 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

iv. A is false but R is True

17. Assertion (A): - Internet cookies are text files that contain small pieces of data,

like a username, password and user’s preferences while surfing the internet.

Reasoning (R):- To make browsing the Internet faster &amp; easier, its required to store

certain information on the server’s computer.

1

18. Assertion (A):- DataFrame has both a row and column index.

Reasoning (R): - A DataFrame is a two-dimensional labelled data structure like a

table of MySQL.

1

PART B

19. Explain the terms Web page and Home Page.

OR

Mention any four networking goals.

2

20. Rashmi, a database administrator needs to display house wise total number of

records of ‘Red’ and ‘Yellow’ house. She is encountering an error while executing

the following query:

SELECT HOUSE, COUNT (\*) FROM STUDENT GROUP BY HOUSE

WHERE HOUSE=’RED’ OR HOUSE= ‘YELLOW’;

Help her in identifying the reason of the error and write the correct query by

suggesting the possible correction (s).

**2**

21. What is the purpose of Order By clause in SQL? Explain with the help of suitable example.

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:

&gt;&gt;&gt;import pandas as pd

&gt;&gt;&gt;A=pd.Series(data=[35,45,55,40])

&gt;&gt;&gt;print(A&gt;45)

2

25. Carefully observe the following code:

import pandas as pd Year1={&#39;Q1&#39;:5000,&#39;Q2&#39;:8000,&#39;Q3&#39;:12000,&#39;Q4&#39;:

18000}

Year2={&#39;A&#39; :13000,&#39;B&#39;:14000,&#39;C&#39;:12000}

totSales={1:Year1,2:Year2}

df=pd.DataFrame(totSales)

print(df)

Answer the following:

i. List the index of the DataFrame df

ii. List the column names of DataFrame df.

2

**7. MATHMATICS**

**KENDRIYA VIDYALAYA K-AREA ZIRAKPUR**

**AUTUMN BREAK HOME WORK**

**CLASS XII SESSION 2023-24**

**MATHEMATICS**

**( DAY -1 :- 20/10/2023 )**

**RELATIONS & FUNCTIONS**

1. Let A and B be two finite sets with n (A) = m and n (B) = n with m = n then find the number of bijective functions from A to B.

1. Let A = {1,2,3}. Find the number of equivalence relations containing (1,2) .
2. If A = {1,2,3}, B = {4,6,9} and R is a relation from A to B defined by ‘ x is smaller than y’.Write the range of R.
3. The relation R = { (1,1),(2,2),(3,3)} on {1,2,3} is equivalence relation or not.
4. Let A = **R** – {3} and B = **R** – {1}. Consider the function f : A B defined by

f (x) =**Is f one-one and onto? Justify your answer

1. Consider a function f : R+🡪[-5, ∞) defined f(x) = 9x2 +6x – 5. Show that f is

 one- one and onto function, Where R+ is the set of all non-negative real numbers.

1. Show that the function f: R 🡪 {xR :-1 < x < 1} defined by f(x) = , x R is one- one and onto function.
2. Show that the relation R in the set A = {1, 2, 3, 4, 5} given by R = {(a, b) : |a – b| is even}, is an equivalence relation. Show that all the elements of {1, 3, 5} are related to each other and all the elements of {2, 4} are related to each other. But no element of {1, 3, 5} is related to any element of {2, 4}.
3. Show that each of the relation R in the set A = {x **Z** : 0 ≤ x ≤ 12}, given by

 R = {(a, b) : |a – b| is a multiple of 4} is an equivalence relation. Find the set of all

 elements related to 1.

1. Let N denote the set of all natural numbers and R be the relation on N×Ndefined by prove that R is an equivalence relation on N×N.

**ANSWERS**

1)[n!]2) {4,6,9}

3) Equivalence Relation 9) {1, 5, 9}

**( DAY -2 :- 21/10/2023 )**

**Inverse TRIGONOMETRIC FUNCTIONS**



1). Find the principal value of .

2) Find the principal value of .

3) Find the principal value of .

4). Find the value of .

5). Find the value of .

6) . Principal value of is equal to

7) Evaluate :-  8) Evaluate :- 

9) Write the principal value of.

10) Write the value of 

**ANSWERS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1). | 2). | 3)  | 4)  | 5)  |
| 6)  |  7)  | 8)  | 9)  | 10  |

**( DAY -3 :- 22/10/2023 )**

**MATRICES**

1. If O, find .

2) Find the matrix P satisfying the matrix equation . Also

 find a matrix Q such that P + Q = O, where O is a zero matrix

3) If A=. Prove that 

4) If A = , find x and y such that A2 + xI = yA. Also find the value of (x – y).

5) For what value of x: [] = O. Use the value of x to find A2, if

A= .

6) If A = , show that A2 –5A – 14I = O.

7) Let A = , B = , C = . Find a matrix D such that

CD – AB = O.

8) Express A =  as the sum of a symmetric(P) and a skew-symmetric (Q)

matrix. Also find PT + QT.

9) If , then prove that and, hence find .

10) Let A = and Show that (A) = O. Use this result to

find A5.

**ANSWERS**

1) 2) P= , Q = 4) . x = 8, y = 8; 0

5) x = -1, A2 = 7. D =

8)  ;

9) A-1 = 10.

**( DAY -4 :- 23/10/2023 )**

**Determinants**

1. Using matrix method, solve: x + y + z = 6; y + 3z = 11; x – 2y + z = 0

2. Using matrix method, solve: 3x - 2y +3z = 8; 2x + y – z = 1; 4x –3 y +2z = 4

3. Solve the system using matrices:; ;

4. If A = , find A-1 and use it to solve the system of equations:

2x – 3y + 5z = 11, 3x + 2y – 4z = - 5, x + y – 2z = - 3

5. Using matrices, solve the following system of equations:

 (i) x + 2y - 3z = - 4

 2x + 3y + 2z = 2

 3x - 3y – 4z = 11

 (ii) 4x + 3y + 2z = 60

 x + 2y + 3z = 45

 6x + 2y + 3z = 70

6. Find the product AB, where A == and use it to

 solve the equations: x – y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1

7. Using matrices, solve the following system of equations:

; ,

8. Find the product AB, where A = and B= and

use it to solve: x – y +2 z = 1, 2y - 3z = 1, 3x - 2y + 4z = 2.

9. Find A-1 if A = and show that A-1 = .

10. Given A = , B = , find BA and use this to solve the system of equations: .

**ANSWERS**

1. x = 1, y = 2, z = 3 2. x = 1, y = 2, z = 3 3. x = 2, y = 3, z = 5

 4. x = 1, y = 2, z = 3 5. (i) x = 3, y = -2, z = 1 (ii) x = 5, y = 8, z = 8

6. AB = 8I, x = 3, y = - 2, z = -1 7. x = , y = -1, z = 1

8. x = 0, y = 5, z = 3 9. A-1 = 10. x =2, y = -1, z = 4

**( DAY -5 :- 24/10/2023 )**

**CONTINUITY AND DIFFERENTIABILITY**

**1.** Find the value of k for which f(x) = is continuous at x = 0 .

**2.** If f(x) = , continuous at x = 1,find the values of a and b.

**3**. If f(x) = is continuous at x = , find a, b.

**4.** If y = 

5. 

**6** If x =findat .

**7.**

**8.**

**9.**

**10.**

**11.** If 

**ANSWERS**

|  |  |  |
| --- | --- | --- |
| **1.** k =  | **2** | **3.** |

**( DAY -6 :- 25/10/2023 )**

**APPLICATION OF DERIVATIVES**

1. Find the intervals in which function f(x) = 2x 3 – 15 x2 + 36 x +1   is strictly  increasing or strictly decreasing.
2. Find the intervals in which function  *f(x) = sin x – cos x*, is strictly  increasing or strictly decreasing.
3. . Find the absolute maximum and minimum values of a function *f* given by

 *f* (*x*) = 2*x*3 – 15*x*2 + 36*x* +1 on the interval [1, 5].

1. A man whose height is 2 m walks at a uniform speed of 6 m/minutes away from a lamp post 5 m high. Find the rate at which the length of his shadow increases.
2. Water is leaking from a conical funnel at the rate of 5 cm 2 /s. If the radius of the base of the funnel is 5 cm and the altitude is 10 cm, find the rate at which the water level is dropping when it is 2.5 cm from the top.
3. The length *x* of a rectangle is decreasing at the rate of 3 cm/minute and the width *y* is increasing at the rate of 2cm/minute. When *x* =10cm and *y* = 6cm, find the rates of change of (a) the perimeter and (b) the area of the rectangle.
4. The volume of a cube is increasing at the rate of 8 cm3/s. How fast is the surface area increasing when the length of an edge is 12 cm?
5. Show that the volume of the largest cone that can be inscribed in a sphere of radius R is 8/27 of the volume of the sphere.
6. 17. Show that semi-vertical angle of right circular cone of given surface area and maximum volume is Sin-1(1/3).
7. An open box with a square base in to be made out of a given quantity of sheet of area .Show that the maximum volume of the box is .
8. A rectangular sheet of tin 45 cm by 24 cm is to be made into a box without top by cutting off squares from each corner and folding up the flaps. What should be the side of the square to be cut off so that the volume of the box is the maximum possible?
9. Find the interval in which the function f given by strictly increasing.

**( DAY -7 :- 26/10/2023 )**

**Indefinite & Definite Integrals**

1. 1**.** 2.

 3. 4.

5. 6. 7. 8.

9. 10. 11.

 12. If and if find a and b.

 13.

 14.

 15.

 17.Evaluate:

18.

 19.

 20.

**Answer**

**1.****2**.

 3.

**4.** 5. log x- log(x+sinx)+c

**6.** 2 -3+6-6log( 7.

**8.** - +x+c 9.e2x tanx +c 10. ++c

 **11.**  -1 12. A=-1, b=1 13. 14. 5 15. log 2

 17. 18. 1 9. 20.

**( DAY -8 :- 27/10/2023 )**

**APPLICATION OF INTEGRATION**

1. Find the area enclosed by the circle = 2 .
2. Find the area of the region bounded by the curve *y* = *x*2 and the line *y* = 16.
3. Find the area of the region bounded by the curve *y =*and *x*-axis.
4. Find Area of the region bounded by = 4x, y-axis, and the line y = 3.
5. Find The area of the region bounded by the curve x = 2y + 3 and the y lines,

 y = 1 and y = –1

1. Sketch the region of the ellipse  and find its area, using integration.
2. Sketch the graph of y =  and evaluate the area under the curve y =  above x-axis and between x = – 6 to x = 0. using integration.
3. Find the area of the region bounded by x2 = 4y, y = 2, y = 4 and the y-axis in the first quadrant using integration
4. Find the Areaof Triangle having vertices A ( 2 , 3 ) , B ( 4 , 7 ) C ( 6 , 2 )
5. Find the Area of Triangle bounded by lines :- 3x +3 - 2y = 0 , x + 2y -7 = 0 , x-2y+1=0

 Answers:

1. 2
2. 8
3. 6 sq units
4. 2
5. 9 Sq. units
6. 9 sq units
7. 4 sq units

**( DAY -9 :- 28/10/2023 )**

**DIFFERENTIAL EQUATIONS**

1. Find the particular solution of the differential equation

; given that y=1 and x=0

1. Find the particular solution of the differential equation

 given that y=0 when x=0

1. Solve the following differential equation :



1. Solve the following differential equation :



1. Find the solution of the differential equation



1. Solve the following differential equation:



1. Solve the differential equation:



1. Find the particular solution of the differential equation

given that y= 0 and x = pie / 2

9. Find the general solution of the differential equation



10.. solve the differential equation



Answer

1.  2.  3. 
2.  5. 

6. 7.

8.  9. 

10. 

**( DAY -10 :- 29/10/2023 )**

**VECTOR ALGEBRA**

1.Write a vector of magnitude 15 units in the direction of vector – 2+ 2 .

2. .Find if  = 3** − ** + 2** and  = 2** + 3** + 3** .

3. If and are two vectors such that ||= ||, then what is the angle betweenand 

4. If || = 3 , || = 5 and  .  = 9 . Find ||

5. The dot products of a vector with the vectors **− 3**, **− 2** and ** + ** + 4** are 0 , 5 and 8 respectively. Find the vector.

6. If  = 2** + 2** + 3** ,  = − ** + 2** + ** and  = 3** + ** are such that  + λ is

 perpendicular to  , find the value of λ.

7. If |+| = | −|, then find the angle between and .

8. Let , ,  be three vectors such that and each of them being perpendicular to the sum of the other two, find .

9. If with reference to the right handed system of mutually perpendicular unit vectors ,and , = 3– , = 2+ – 3 then express  in the form of 1+2, where 1is parallel to and2 is perpendicular to .

10. If then find a vector perpendicular to both

**ANSWERS**

 1 5 (– 2+ 2

2 .  .  = 9 3.4. 12

5. 15** + 5** -3**6. 8 7. 8. 5

9. 1 = (3 - ), = + - 310.