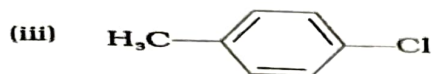
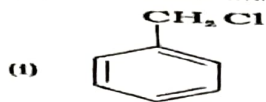


I. Multiple Choice Questions

1. What should be the correct IUPAC name for diethylbromomethane?

- (i) 1-Bromo-1,1-diethylmethane (ii) 3-Bromopentane  
(iii) 1-Bromo-1-ethylpropane (iv) 1-Bromopentane

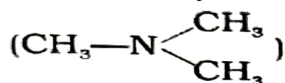
2. The reaction of toluene with chlorine in the presence of iron and in the absence of light yields \_\_\_\_\_.



(iv) Mixture of (ii) and (iii)

3. Chloromethane on treatment with excess of ammonia yields mainly

(i) N, N-Dimethylmethanamine



(ii) N-methylmethanamine ( $\text{CH}_3-\text{NH}-\text{CH}_3$ ) (iii) Methanamine ( $\text{CH}_3\text{NH}_2$ )

(iv) Mixture containing all these in equal proportion

4. Molecules whose mirror image is non superimposable over them are known as chiral. Which of the following molecules is chiral in nature?

(i) 2-Bromobutane (ii) 1-Bromobutane (iii) 2-Bromopropane (iv) 2-Bromopropan-2-ol

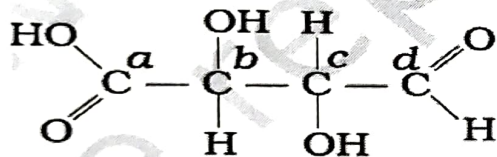
5. Reaction of  $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$  with aqueous sodium hydroxide follows \_\_\_\_\_.

(i)  $\text{S}_{\text{N}}1$  mechanism

(ii)  $\text{S}_{\text{N}}2$  mechanism

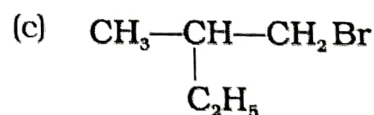
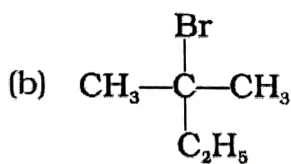
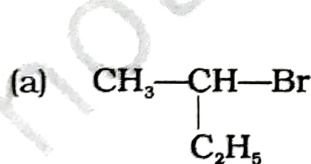
(iii) Any of the above two depending upon the temperature of reaction (iv) Saytzeff rule

6. Which of the carbon atoms present in the molecule given below are asymmetric?



(i) a, b, c, d (ii) b, c (iii) a, d (iv) a, b, c

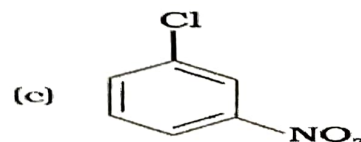
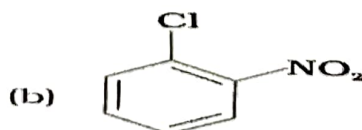
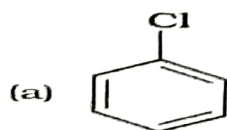
7. Which of the following compounds will give racemic mixture on nucleophilic substitution by  $\text{OH}^-$  ion?



(i) (a) (ii) (a), (b), (c) (iii) (b), (c) (iv) (a), (c)

Note : In the questions 8 to 11 arrange the compounds in increasing order of rate of reaction towards nucleophilic substitution.

8.



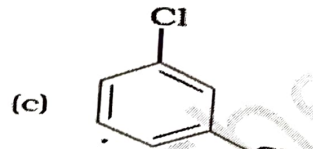
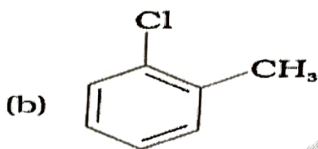
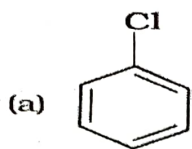
(i) (a) < (b) < (c)

(ii) (c) < (b) < (a)

(iii) (a) < (c) < (b)

(iv) (c) < (a) < (b)

9.



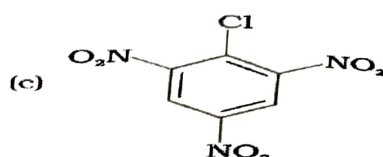
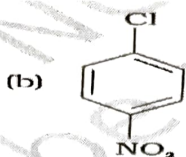
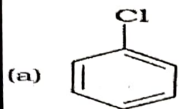
(i) (a) < (b) < (c)

(ii) (a) < (c) < (b)

(iii) (c) < (b) < (a)

(iv) (b) < (c) < (a)

10.



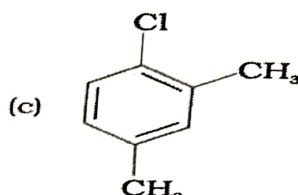
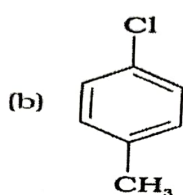
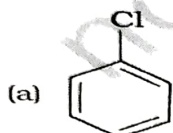
(i) (c) < (b) < (a)

(ii) (b) < (c) < (a)

(iii) (a) < (c) < (b)

(iv) (a) < (b) < (c)

11.



(i) (a) < (b) < (c)

(ii) (b) < (a) < (c)

(iii) (c) < (b) < (a)

(iv) (a) < (c) < (b)

12. Which is the correct increasing order of boiling points of the following compounds?

1-Iodobutane, 1-Bromobutane, 1-Chlorobutane, Butane

(i) Butane < 1-Chlorobutane < 1-Bromobutane < 1-Iodobutane

(ii) 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane < Butane

(iii) Butane < 1-Iodobutane < 1-Bromobutane < 1-Chlorobutane

(iv) Butane < 1-Chlorobutane < 1-Iodobutane < 1-Bromobutane

13. Which is the correct increasing order of boiling points of the following compounds?

1-Bromoethane, 1-Bromopropane, 1-Bromobutane, Bromobenzene

(i) Bromobenzene < 1-Bromobutane < 1-Bromopropane < 1-Bromoethane

(ii) Bromobenzene < 1-Bromoethane < 1-Bromopropane < 1-Bromobutane

(iii) 1-Bromopropane < 1-Bromobutane < 1-Bromoethane < Bromobenzene

(iv) 1-Bromoethane < 1-Bromopropane < 1-Bromobutane < Bromobenzene

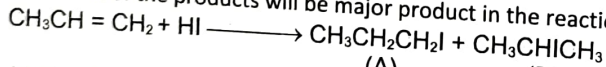
## II. Short Answer Type

14. Out of *o*- and *p*-dibromobenzene which one has higher melting point and why?

15. Which of the compounds will react faster in  $S_N1$  reaction with the  $-OH^-$  ion?  $CH_3-CH_2-Cl$  or  $C_6H_5-CH_2-Cl$

16. Haloarenes are less reactive than haloalkanes and haloalkenes. Explain.

17. Which of the products will be major product in the reaction given below? Explain.



18. Why is the solubility of haloalkanes in water very low?

19. Classify the following compounds as primary, secondary and tertiary halides.

(i) 1-Bromobut-2-ene (ii) 4-Bromopent-2-ene (iii) 2-Bromo-2-methylpropane

20. Compound 'A' with molecular formula  $C_4H_9Br$  is treated with aq. KOH solution. The rate of this reaction depends upon the concentration of the compound 'A' only. When another optically active isomer 'B' of this compound was treated with aq. KOH solution, the rate of reaction was found to be dependent on concentration of compound and KOH both.

(i) Write down the structural formula of both compounds 'A' and 'B'.

(ii) Out of these two compounds, which one will be converted to the product with inverted configuration.

21. Write the structures and names of the compounds formed when compound 'A' with molecular formula,  $C_7H_8$  is treated with  $Cl_2$  in the presence of  $FeCl_3$ .

22. Write down the structure and IUPAC name for neo-pentylbromide.

23. Name the alkene which will yield 1-chloro-1-methylcyclohexane by its reaction with HCl. Write the reactions involved.

24. Which of the following haloalkanes reacts with aqueous KOH most easily? Explain giving reason.

(i) 1-Bromobutane (ii) 2-Bromobutane (iii) 2-Bromo-2-methylpropane (iv) 2-Chlorobutane

25. Write a test to detect the presence of double bond in a molecule.
26. What are the IUPAC names of the insecticide DDT and benzenehexachloride? Why is their use banned in India and other countries?
27. *tert*-Butylbromide reacts with aq. NaOH by  $S_N1$  mechanism while *n*-butylbromide reacts by  $S_N2$  mechanism. Why?
28. Match the the compounds given in Column I with the effects given in Column II.

Column I

- (i) Chloramphenicol  
(ii) Thyroxine  
(iii) Chloroquine  
(iv) Chloroform

Column II

- (a) Malaria  
(b) Anaesthetic  
(c) Typhoid fever  
(d) Goiter  
(e) Blood substituent

29. Some alkylhalides undergo substitution whereas some undergo elimination reaction on treatment with bases. Discuss the structural features of alkyl halides with the help of examples which are responsible for this difference.
30. Some halogen containing compounds are useful in daily life. Some compounds of this class are responsible for exposure of flora and fauna to more and more of UV light which causes destruction to a great extent. Name the class of these halocompounds. In your opinion, what should be done to minimise harmful effects of these compounds.
31. Why are aryl halides less reactive towards nucleophilic substitution reactions than alkyl halides? How can we enhance the reactivity of aryl halides?
32. Write and learn all the name reactions related to chapters i) haloalkanes haloarenes, ii) alcohols, phenols and ethers, iii) aldehydes, ketones and carboxylic acids, iv) Organic compounds containing nitrogen



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Kendriya Vidyalaya Sundargarh

Sub-Mathematics(XII) Holiday Homework

Q1. Find fog, if  $f(x) = 8x^3$  and  $g(x) = x^{\frac{1}{3}}$ .

Q2. If  $\sin(\sin^{-1} \frac{1}{5} + \cos^{-1} x) = 1$ , find the value of  $x$ .

Q3. If  $f(x) = \frac{4x+3}{6x-4}$ , show that  $f \circ f(x) = x$ , for all  $x \neq 2/3$ .

Q4. Show that  $\sin^{-1} \frac{12}{13} + \cos^{-1} \frac{4}{5} + \tan^{-1} \frac{63}{16} = \pi$

Q5. Find the value of :  $\tan^{-1} \frac{1}{5} + \tan^{-1} \frac{1}{7} + \tan^{-1} \frac{1}{3} + \tan^{-1} \frac{1}{8}$ .

Q6. Show that the relation R in the set  $A = \{x \in \mathbb{Z} : 0 \leq x \leq 12\}$  given by  $S = \{(a, b) : a, b \in \mathbb{Z}, |a - b| \text{ is divisible by } 4\}$  is an equivalence relation.

Q7. If  $\tan^{-1} x + \tan^{-1} y = \frac{\pi}{4}$ ,  $xy < 1$ , then write the value of  $x+y+xy$ .

Q8. Solve the equation for  $x$  :  $\sin^{-1} x + \sin^{-1}(1 - x) = \cos^{-1} x$ .

Q9. Prove that  $2\sin^{-1}(\frac{3}{5}) - \tan^{-1}(\frac{17}{31}) = \frac{\pi}{4}$ .

Q10. If  $A = \begin{bmatrix} 0 & 3 \\ 2 & -5 \end{bmatrix}$  and  $KA = \begin{bmatrix} 0 & 4a \\ -8 & 5b \end{bmatrix}$ . Find the values of K and a

Q11. Prove that diagonal elements of a skew symmetric matrix are zero.

Q12. If A & B are symmetric matrices, prove that  $AB - BA$  is a skew symmetric matrix.

Q13. If  $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$  then show that  $A^2 - 5A + 7I = 0$ . Hence find  $A^{-1}$ .

Q14.  $A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 2 \\ 3 & 1 \end{bmatrix}$ . Find the Matrix X such that  $A+B-X=O$

Do it in HW Copy and paste/write the question first. Good luck S.BHOI PGT(MATHS)

KENDRIYA VIDYALAYA SUNDARGARH  
HOLIDAY HOMEWORK SUMMER VACATION 2023  
CLASS: XII Science and Commerce

SUB: ENGLISH

Q1. A Hare was making fun of the Tortoise one day for being so slow.

"Do you ever get anywhere?" he asked with a mocking laugh.

"Yes," replied the Tortoise, "and I get there sooner than you think. I'll run you a race and prove it."

The Hare was much amused at the idea of running a race with the Tortoise, but for the fun of the thing he agreed.

So, the Fox, who had consented to act as judge, marked the distance and started the runners off.

The Hare was soon far out of sight, and to make the Tortoise feel very deeply how ridiculous it was for him to try a race with a Hare, he lay down beside the course to take a nap until the Tortoise should catch up.

The Tortoise meanwhile kept going slowly but steadily, and, after a time, passed the place where the Hare was sleeping. But the Hare slept on very peacefully; and when at last he did wake up; the Tortoise was near the goal.

The Hare now ran his swiftest, but he could not overtake the Tortoise in time.

Choose the correct options from the questions that follow.

- a. The Hare made fun of the Tortoise because \_\_\_\_\_
- i. The tortoise is a funny creature      ii. The tortoise was way much confident  
iii. The tortoise was not a match for him      iv. The tortoise was sluggish
- b. Assertion(A): The Hare lost the battle.  
Reason (R): The Hare was over-confident.
- i. Both the A and R are true and R is the reason for A.  
ii. Both the A and R are true but R is not a reason for A.  
iii. Both the A and R are false.  
iv. A is true but R is false.
- c. Which word will replace the underlined word as its closest synonym.  
...make the tortoise feel very deeply how ridiculous it was for him to try a race with him
- i. risible    ii. sarcastic    iii. challenging    iv. lackadaisical
- d. Why did the Hare lose the race ?

Q2. You are Sumit/Sumita of Pahadgunj, New Delhi. You came across a group of rag-pickers in the city who were without footwears in the summer. Draft a notice for your schoolmates asking them to donate their spare footwears which no more fit their feet. You study at Bloomsberg Public School.

OR

You are Rebat/Riyaz of KV Jabalpur. Your school is planning to organize an exhibition of Millets in your school. Request the students and parents to take part in it by displaying the millets and cuisines made from it. Include relevant details.

  
Principal  
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Sundargarh  
Orissa

Q3. You are Adyasha/Abinash, a press reporter of a national daily. You attended an eye-testing camp organized at Firozabad for the bangle-makers. Use the following cues to write a report for your newspaper.

- \*It was a need of the locality.
- \*Most people lose their eye-sight too early.
- \*Doctors sensitized people about protection of eyes.
- \*30% people aged 30 and above were reported eye-sight issues.
- \*Some were given eye-goggles and medicine.
- \*more than 50 cases were referred for further testing.
- \*The Chief Health Officer expressed concerns and assured all cooperation.

OR

You are Ravindra/Rekha of Savitribai Phule Govt. School, Pune. Your school organized a sensitization programme on the 'Importance of Girls Education' which was attended by school students and local community. Write a report for your school newsletter as a member of CCA Club. You can use the following cues.

- \*There is a huge gap of about 15% in the literacy rate of males and females as per 2011 census.
- \*Focus is being given for co-education and providing incentives to girls education.
- \*The programme was inaugurated by the District Edn. Officer.
- \*Role of Savitribai Phule was reiterated.
- \*The Headmaster read out a report of their school.
- \*The women from community were motivated
- \*It was decided to start an enrolment drive.

Q4. Write a letter to the Editor, The Nav Bharat Times informing him about the lack of sewage, drainage and dinking water facility available for the slum dwellers of Seemanagri, Delhi requesting him to highlight the problem through the daily suggesting some feasible solutions and steps to be taken. You are Anandita/Anand, a resident of East Delhi.

OR

Write a letter to the Editor, New Eastern Times informing him about the pathetic conditions of the bangle-makers of your city Firozpur requesting him to highlight the problem through the daily suggesting some feasible solutions and steps to be taken. You are Arunima/Arjun, a resident of Firozpur.

Q5. Answer any two of the following questions in about 120-150 words.

- Mother Tongue is essential for one's identity. Describe how the people of Alsace realize it too late.
- Comment how time and place intersected in the story 'The Third Level' making the story a riveting one.
- Poverty has but a single face; that is of deprivation, illiteracy and poor living condition. Discuss it after reading of the chapter 'Lost Spring'.

Principal  
Ravindra/Kandina Vajale  
Savitribai Phule  
Firozpur

**KENDRIYA VIDYALAYA SUNDARGARH**  
**HOLIDAY HOMEWORK( SUMMER VACATION)**

**Class- XII SCIENCE**

**Subject- BIOLOGY**

Q1. Draw the diagram of a mature embryo sac and show its 8-nucleate, 7-celled nature. Show the following parts: antipodals, synergids, egg, central cell, polar nuclei.

Q2. Complete the following flow chart

Pollen mother cell → Pollen tetrad → Pollen grain

Q3. Draw a neat labelled diagram of Female reproductive organ

Q4. Describe Pollination with their types?

Q5. Write the specific location and functions of following cell in human males. a) Sertoli cell, b) Leydig cell

Q6. Explain the role of two accessory glands in male reproductive system.

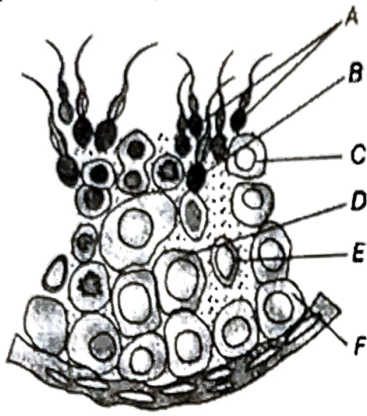
Q7. Explain the different phases of Menstruation cycle in correct sequence.

*Suman Nayak*

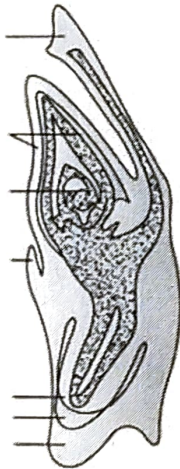


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Q8. Identify A,B,C,D,E,F. Explain the different Events occurring in this



Q9. Name the part of gynoecium that determines the compatible nature of pollen grain.



Q10.

Identify the above diagram and label any 6 of the above diagram.

Q11. Differentiate spermatogenesis, spermiogenesis, spermiation.

Q12. Define parthenocarpy and apomixis with example.

Q13. Explain Triple fusion.

Q14. What is acrosome reaction. What prevent polyspermy in fertilization?

Q15. What are the post fertilization events occurs in human reproduction?

W



# Kendriya Vidyalaya Sundargarh

Subject – Physics

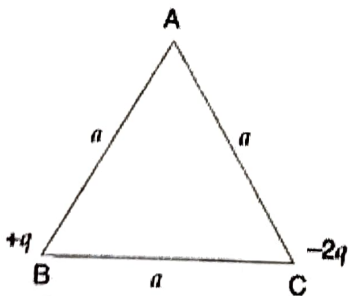
Class- XII ( Science)

## Summer Vacation Holiday Homework

1. Define the term electric dipole moment of a dipole. State its S.I. unit
2. Why do the electric field lines not form closed loops?
3. Two charges of magnitudes  $-3Q$  and  $+2Q$  are located at points  $(a, 0)$  and  $(4a, 0)$  respectively. What is the electric flux due to these charges through a sphere of radius ' $5a$ ' with its centre at the origin?
4. Define electric flux. Write its S.I. unit.
5. A charge  $q$  is enclosed by a spherical surface of radius  $R$ . If the radius is reduced to half, how would the electric flux through the surface change?
6. State Gauss's law.


A thin straight infinitely long conducting wire of linear charge density ' $\lambda$ ' is enclosed by a cylindrical surface of radius  $r$  and length ' $l$ '—its axis coinciding with the length of the wire. Obtain the expression for the electric field, indicating its direction, at a point on the surface of the cylinder.

7. Two point charges  $+q$  and  $-2q$  are placed at the vertices 'B' and 'C' of an equilateral triangle ABC of side as given in the figure. Obtain the expression for (i) the magnitude and (ii) the direction of the resultant electric field at the vertex A due to these two charges.



8. Derive the expression for electric field at a point on the equatorial line of an electric dipole.

(ii) Depict the orientation of the dipole in

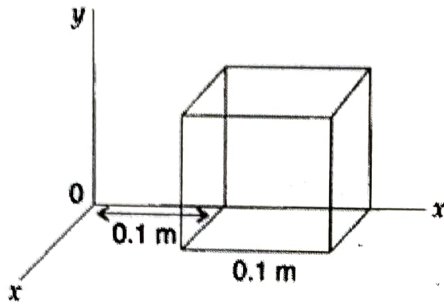
  
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सुन्दरगढ़/Sundargarh  
उड़ीसा/Orissa

9. Deduce Coulomb's law from Gauss's theorem.

10. The electric field components due to a charge inside the cube of side 0.1 m are as shown :


$$E_x = \alpha x, \text{ where } \alpha = 500 \text{ N/C-m}$$

$$E_y = 0, \quad E_z = 0.$$



Calculate

- (i) The flux through the cube, and
- (ii) The charge inside the cube

  
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Bhubaneswar, Orissa

# KENDRIYA VIDYALAYA SUNDARGARH

## HOLIDAY HOME WORK

Class- XII SCI.

### Subject- COMPUTER SCIENCE

Q.1 In order to open a connection with MySQL database from within Python using mysql.connector package, \_\_\_\_\_ function is used.

- (a) open( )      (b) database( )      (c) connect( )      (d) connectdb( )

Q.2 To obtain all the records retrieved , you may use <cursor>.\_\_\_\_\_ method.

Q.3 Assertion: A database connection object controls the connection to a database.

Reason: A connection object represents a unique session with a database, connected from within a script/ program.

- (a) Both A and R are true and R is the correct explanation of A.  
(b) Both A and R are true but R is not the correct explanation of A.  
(c) A is true but R is false.  
(d) A is false but R is true.

Q.4 Write the following statements to complete the code:

```
import mysql.connector as mysql
con=mysql.connect(host="localhost", user="root",passwd="root",database="school")
mycursor=_____ #statement 1
print("Students with marks greater than 75 are:")
_____ #statement 2
data=_____ #statement 3
```

for i in data:

print(i)

- a) To form the cursor object?  
b) To execute the query that extracts records of those students whose marks are greater than 75.  
c) To read the complete result of the query into the object named *data*.

Q.5 What is database connectivity?

Q.6 What is the difference between delete and drop command? (Any two points)

- Q.7 What is the difference between char and varchar data type? (Any two points)
- Q.8 What is the difference between update and modify command? (Any two points)
- Q.9 What is the difference between DDL and DML commands?
- Q.10 What is type casting? Explain its types.
- Q.11 What are jump statements in Python? Illustrate with an example.
- Q.12 Find and write the output of the following Python code:

```
def Change(P,Q=30):  
    P=P+Q  
    Q=P-Q  
    print(P,"#",Q)  
    return(P)
```

R=150

S=100

R=Change(R,S)

print(R,"#",S)

S=Change(S)

- Q.13 Find and write the output of the following Python code:


```
def fun(s):  
    k=len(s)  
    m=""  
    for i in range(0,k):  
        if(s[i].isupper()):  
            m=m+s[i].lower()  
        elif s[i].isalpha():  
            m=m+s[i].upper()  
        else:  
            m=m+"bb"  
    print(m)  
fun("school2@com")
```

Q.14 Predict the output of the Python code given below:

```
def Diff(N1, N2):  
    if N1>N2:  
        return N1 -N2  
NUM=[10,23,14,54,32]  
for CNT in range(4,0,-1):  
    A=NUM[CNT]  
    B=NUM[CNT-1]  
    print( Diff(A,B),"#",end=" ")
```

Q.15 Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.

```
Value=30  
For VAL in range(0,Value)  
    If VAL%4==0":  
        Print(VAL*4)  
    Elseif val%5 ==0:  
        Print(VAL +3)  
    else  
        Print(VAL +10)
```

  
28/04/2023



प्राचार्य/Principal  
केन्द्रीय विद्यालय/ Kendriya Vidyalaya  
सुन्दरगढ़/ Sundargarh  
उड़ीसा/ Orissa

केन्द्रीय विद्यालय, सुन्दरगढ़  
शीष्मकालीन अवकाश गृह कार्य

कक्षा - बारहवीं (अ/ब)

विषय - हिन्दी

प्र१. 'एक गीत' कविता के माध्यम से कष्टों को सहते हुए भी खुशी और मस्ती का माहौल कैसे पैदा किया जा सकता है?

प्र२. आपके जीवन में शरद ऋतु क्या मायने रखती है?

प्र३. 'भाषा को सहूलियत' से बरतने से क्या अभिप्राय है?

प्र४. किशनदा का चारित्रिक व्यक्तित्व का उल्लेख करें।

प्र५. निम्नलिखित विषयों पर रचनात्मक लेख लिखिए।

क) स्त्री-शिक्षा

ख) ऑनलाइन खरीदारी: व्यापार का बदलता स्वरूप

ग) राष्ट्र हमारा सबको प्यारा

Pinki Kumari Samanth