

WINTER HOLIDAY HOMEWORK

SESSION 2023-24

CLASS10

HINDI

1 टोपी शुक्ला पाठ के पात्रों के माध्यम से, कहानी का अंत बदलकर रचनात्मक एवं मौलिक कहानी A4 पृष्ठ में लिखें।

2 - कारतूस एकांकी अथवा अब कहां दूसरों के दुख में दुखी होने वाले पाठ में घटित घटनाओं की अवधारणा को चित्र के माध्यम से A4 पृष्ठ में अभिव्यक्त कीजिए।

3- किन्ही दो सैंपल पेपर्स में आए अपठित गद्यांश और व्याकरण का अभ्यास व्याकरण की कॉपी में कीजिए।

MATHS

1. LAB ACTIVITIES:

- (a) To obtain the Pythagoras theorem by Bhaskara method
- (b) To verify Tangent Radius theorem of a circle .
- (c) To verify Equal tangent Length Theorem of a circle.
- (d) To determine the experimental probability of head by tossing a coin 3 times and compare it with the theoretical probability .
- (e) To form a cone from a sector of a circle and to find the formula.
- The above mentioned activities to be done in the lab manual
- Proper steps of working to be shown for each activities.

2. ART INTEGRATED PROJECT- UTTARAKHAND PAIRED WITH PUDUCHERRY

Make an art integrated Project pairing Uttarakhand with Puducherry by including the following domains

- (a) Population comparison and its statistical representations.
- (b) Number of districts / domains and its statistical representations
- (c) Languages spoken in both states and their pie chart representations

(d) Famous architecture and heritage places and their trigonometric applications in finding height and distance .

- Do the art integration project in the well decorated file mentioning font page details, certificate, Acknowledgement, about Uttarakhand and Puducherry and conclusion.

SCIENCE

1. Complete the following : (in the practical file)

(a) Observing the action of Zn, Fe, Cu and Al metals on the following salt solution

i) ZnSO_4 (aq)

ii) FeSO_4 (aq)

iii) CuSO_4 (aq)

Arranging Zn, Fe, Cu, and Al (Metals) on the decreasing order of the reactivity based on the above the result.

b) Study the following properties of acetic acid

i) Odour

ii) solubility in water

iii) effect on litmus

iv) reaction with sodium hydrogen carbonate

c) Study the comparative cleaning capacity of sample of soap in soft and hard water

d) Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance .Also plot a graph between V and I.

e) Determine the Focal length of

i) Concave mirror

ii) Convex mirror

by obtaining the image

of a distant object

f) Tracing the path of the ray of light through a rectangular glass slab different angles of incidence .Measure the angle of incidence , angle of refraction , angle of emergence and interpret the result.

g) Studying

i) binary fission in Amoeba

ii) budding in yeast and hydra

2. Answer the following Question in Separate note book

a). Make 6 MCQ Questions and 4 Assertion and reasoning from each chapter , other than given in text book.

3. Chapter 3- Metals and Non Metals

Q1. Give the steps involved in extracting low and medium reactivity metals from their respective sulphide ores.

Q2. Explain the following

(a) Reactivity of Al decreases if it is dipped in HNO_3

(b) Carbon cannot reduce the oxides of Na or Mg

(c) NaCl is not a conductor of electricity in solid-state, whereas it does conduct electricity in aqueous solution as well as in the molten state

(d) Iron articles are galvanised.

(e) Metals like Na, K, Ca and Mg are never found in their free state in nature.

Q3. (a) Complete and balance the following chemical equations-

(i) $\text{Al}_2\text{O}_3 + \text{HCl} \rightarrow$

(ii) $\text{K}_2\text{O} + \text{H}_2\text{O(l)} \rightarrow$

(iii) $\text{Fe} + \text{H}_2\text{O(l)} \rightarrow$

(b) An element 'X' replaces iron from the aqueous solution of iron sulphate. List your observations when the element 'X' is treated with the aqueous solutions of copper sulphate, zinc sulphate and silver nitrate solution. Depending on the statements, arrange X, Zn, Cu and Ag in increasing order of their reactivities.

Ch-4-Carbon and its compounds

Q5. A salt X is formed, and gas is evolved when ethanoic acid reacts with sodium hydrogen carbonate. Name the salt X and the gas evolved. Describe an activity and draw the diagram of the apparatus to prove that the evolved gas is the one you have named. Also, write a chemical equation of the reaction involved.

Q6. (a) Write the formula and draw the electron dot structure of carbon tetrachloride.

(b) What is saponification? Write the reaction involved in this process.

Q7. A compound C (molecular formula, $C_2H_4O_2$) reacts with Na – metal to form a compound R and evolves into a gas which burns with a pop sound. Compound C on treatment with an alcohol A in the presence of an acid forms a sweet-smelling compound S (molecular formula, $C_3H_6O_2$). On addition of NaOH to C, it also gives R and water. S on treatment with NaOH solution gives back R and A. Identify C, R, A, and S and write down the reactions involved.

Ch-8- How do organism reproduce?

Q8.a) Explain the difference between binary fission and multiple fission.

b) Vegetative propagation is practised for growing some plants. Give a reason and explain why vegetative propagation is important.

Q9. Explain the methods of birth control that deliberately prevent fertilisation in humans. How does using these techniques directly impact the health and prosperity of a family?

Q10. State the changes that take place in the uterus when:

(a) Implantation of the embryo has occurred.

(b) Female gamete/egg is not fertilised.

Ch-9-Hereditry and Evolution

Q11.a) How do Mendel's experiments show that the traits may be either dominant or recessive?

b) How do Mendel's experiments show that the traits may be either dominant or recessive?

Q12. Wild cabbage was converted into a number of variants like cauliflower, broccoli and cabbage by man. What is this process known as? Does it play an important role in organic evolution?

Q13. Name the plant Mendel used for his experiment. What type of progeny was obtained by Mendel in F₁ and F₂ generations when he crossed the tall and short plants? Write the ratio he obtained in F₂ generation plants.

Ch-12 Electricity

Q14. Three resistors of $5\ \Omega$, $10\ \Omega$ and $15\ \Omega$ are connected in series, and the entire combination is connected to a battery of 30 V. Ammeter and Voltmeter are connected in the circuit. Draw a circuit diagram to connect all the devices in the proper, correct order. What is the current flowing and potential difference across $10\ \Omega$ resistance?

Q15. If an electric heater rated 800 W operates 6h/day. Find the Cost of energy to operate it for 30 days at ₹3.00 per unit of consumption.

Q16. What is the overloading of an electrical circuit? Explain two possible causes due to which overloading might occur in any household circuit. Explain one precaution, if any, that should be taken to avoid the overloading of a domestic electric circuit.

Ch-13 Magnetic effects of Electric current

Q17. Distinguish between a solenoid and a bar magnet. Draw the magnetic lines for both

Q18. Name and state rule used to determine the direction of magnetic field produced around a straight conductor carrying current?

Q19. What is a solenoid? Draw magnetic field lines showing the magnetic field inside and outside the current carrying solenoid.

ENGLISH

INSTRUCTION : Do Question 1 and 2 in A4 sheets / coloured papers OR in soft copy in computer and submit the print outs to your subject teacher.

Q1. Take the interview of any Policeman/Grocer/ Driver/Shopkeeper/ Salesperson and write about the following:

- A. Mention the name, age, address and profession of the person
- B. What do they think about their profession
- C. Their qualification
- D. Obstacles or challenges in their profession
- E. What are the motivating or driving factors to pursue it
- F. Their future plans
- G. Suggestions/ Recommendation to the present generation

Q2. Make your profile by using the following hints :

- a. Name , Date of birth (also paste or draw your picture)

- b. Information about your family
- c. Your friends
- d. Your interests and hobbies
- e. Your strengths and weakness
- f. Your aim in life

Q3. Revise the syllabus for upcoming Board exams.

ARTIFICIAL INTELLIGENCE

Write the following Python Programs:

Instructions-Write all the given Python programs in AI Practical File. Program output to be written with Pencil only. Practical file should be completely covered and presentable.

1. Write a python program to add the odd numbers up to a given value N and print the result.
2. Write a python to print table of 8.
3. Write a python program to check if a given number is an Armstrong number.

Note: An Armstrong number is a number that is equal to the sum of cube of its digits. For example- 123, 223, 370

4. Write a python program to print Fibonacci series first 10 elements like 0 1 1 2 3 5 8
5. Write a python program using While loop that asks the user for a number , and prints a countdown from that number to 0.
6. Write a python program to accept a number and display whether the given “String” is Palindrome or not.
7. Write a python program to count the number of Vowels in the given String.
8. Write a python program using For loop that calculates exponentials. Your program should ask for base and exponential from the user.
9. Write a python script to print the following pattern:

1

13

10. Write a python script to print the following pattern:

6 6 6 6

6 6 6 6

6 6 6 6

INFORMATION TECHNOLOGY

Do the following questions in a Practical File. Write the steps on the right-side page and paste the coloured printout of the output on the left page. Use OpenOffice Calc and Base.

Objective: Using various commands to create styles in OO Writer.

Task: Type a paragraph with at least 100 words and create below given styles as instructed:

1.Heading: Font name: Font name: Times New Roman, Size: 24 , Colour: Red. Give the style name: Dream Heading (Use create style from selection command to create style)

2.Paragraph: Apply Style Text Body from the Style Gallery

3.Quote: Font Name: Broadway, Size:16, Colour: Blue, Alignment: Center. Give the style name: DreamQuot

Task 1: Input your marks for five subjects into separate sheets, namely Preboard-1, Preboard-2, and Preboard-3. Calculate their sum in a consolidated sheet (fourth sheet).

Task 2:Create a macro to be run as a function which halves the value of the passed argument.

Task 3:A student is planning her goals about the marks she should attain in the forthcoming examinations in order to achieve a distinction (75%). Assuming that the examination of each subject is for 100 marks; her marks of PT 1 and Term 1 are given as under. Find out how many marks should she obtain in term 2 to secure distinction.

	English	Maths	Science
PT 1	72	63	54
Term 1	70	69	80

Task 4:Create the following table in OO Base using SQL command.

Admno	Name	Class	House
1001	Sonam	9	Blue
1002	Ravi	10	Yellow
1003	Poonam	10	Green

Task 5:Using the above table, write and run the SQL commands to do the following:

- a) Insert the five records in the table.
- b) Display the names of the students whose house colour is green.
- c) Display the adm no. of the students who are studying in class 10.

Project work: Prepare a project file on any one of the following topics- (10-15 pages)

- Digital Documentation
- Electronic Spreadsheet
- Database management System

SOCIAL SCIENCE

1. Revision for Board exam.
2. Solving sample question papers and previous years question.