SACRED HEART SCHOOL

(Affiliated to CBSE, New Delhi, up to +2 Level)

HOLIDAY HOMEWORK (2026-27)

CLASS:- IX

Subject:- Hindi(For The Section of A & B Students)

Q1.)रैदास जी का चित्र बनाकर उनका जीवनी लिखने एवं उनके चार पदों को भावार्थ के साथ लिखकर stick fileमें लाना है।

Hindi(For The Section of C & D Students)

Q1.)झूरी और गया के व्यवहार में क्या मुख्य अंतर है? इस अंतर के आधार पर बताओ कि पशुओं का स्वभाव उनके मालिक पर कैसे निर्भर करता है? पाठ से 2 उदाहरण देकर सिद्ध करो।
Q2.)आपके मोहल्ले में एक व्यक्ति है जिसने कुत्ता पाला है। वह कुत्ते के साथ अच्छा व्यवहार नहीं करता है।' दो बैलों की कथा' से मिली सीख के आधार पर तुम उस आदमी को क्या समझाओगे? हीरा-मोती के किस व्यवहार का उदाहरण देकर उसे बताओगे कि पशुओं के साथ कैसा व्यवहार करना चाहिए? 100 शब्दों में लिखो।
Q3.)अगर आपको अवसर मिले तो आप हीरा और मोती के लिए कौन-कौन से कानूनी अधिकार मांगना चाहेंगे?

English

Q1.)Grandmother touched her granddaughter's feet after learning to read. What values of humility and respect are reflected in this act?
Q2.)The story highlights determination and self-confidence. Describe a situation where determination can help a person overcome difficulties.
Q3.)India is described as a land rich in nature and heritage. What responsibilities do citizens have towards protecting the environment and culture?
Q4.)The poem inspires feelings of pride and patriotism. How can patriotism be expressed through positive actions instead of words alone?

Mathematics

Q1.)A school water tank contains 2.75 litres of water in one section and 3.125 litres in another section. Find the total amount of water in the tank. Express your answer as a rational number.
Q2.)The length of a playground is $\sqrt{225}$ metres and the width is $\sqrt{144}$ metres. Find the perimeter of the playground.
Q3.)A customer is standing at point (5,-4)
Identify the quadrant and signs of x-coordinate and y-coordinate.
Q4.)A farmer marks four corners of his land a, (2,3) , (2,8) ,(7,8), and (7,3).
What shape is formed by these points?

Science

PHYSICS

A professional athlete is practicing on a straight 100m track. She starts from rest at the starting line, uniformly increases her speed for the first 4 seconds reaching a velocity of 8 m/s, maintains this top speed for the next 6 seconds, and then smoothly slows down to a complete stop over the final 4 seconds as she crosses the finish line. An observer records her motion to help analyze her performance metrics for an upcoming national championship.
Objective Questions (1 Mark Each)
Q1. What is the acceleration of the athlete during the first 4 seconds of her run?
A) 0.5 m/s^2 B) 2 m/s^2 C) 4 m/s^2 D) 0 m/s^2
Q2. Which of the following describes the athlete's motion between the 4th and 10th seconds?
A) Uniform acceleration B) Non-uniform deceleration C) Uniform velocity D) Rest
Q3. What is the value of acceleration during the last 4 seconds of the run?
A) 2 m/s^2 B) -0.5 m/s^2 C) 0 m/s^2 D) -2 m/s^2
Q4. What is the total distance covered by the athlete during the phase of uniform velocity?
A) 32 m B) 48 m C) 80 m D) 24 m

Q5. If displacement is defined as the shortest straight-line distance from start to finish, how do the magnitude of displacement and the total distance compare for this athlete?
A) Displacement magnitude is greater than distance. B) Displacement magnitude is less than the distance.
C) Displacement magnitude is equal to distance. D) Displacement is zero.

CHEMISTRY

Q1.) During an experiment in the school laboratory, Rohan accidentally mixes fine sand, common salt, and ammonium chloride in a single beaker. He needs to recover all three substances in their pure, dry forms sequentially.
(a) Design a step-by-step experimental flowchart detailing the exact separation techniques Rohan should employ.
(b) Explain the physical property and underlying principle that justifies the choice of your first separation step.
(c) Why is it essential to dry the sand completely before weighing it to verify mass conservation? [4 Marks]
Q2.)A pharmaceutical manufacturing unit accidentally contaminated a large batch of water-soluble liquid medicine with volatile organic solvents that have boiling points ranging from 56°C to 78°C. The active therapeutic ingredient in the medicine stable up to 150°C and decomposes thereafter.
(a) Suggest an efficient industrial separation technique to remove the volatile impurities without damaging the active medicine.
(b) Draw a neat, labeled schematic diagram of the experimental apparatus that would be set up in a laboratory to simulate this process.
(c) What critical modification must be done to a standard simple distillation setup to ensure complete separation of multiple volatile liquids with close boiling points? [4 Marks]
Q3.)In a chemistry activity, a teacher provides three unlabeled test tubes containing different mixtures to groups of students:
- Test Tube A: Milk diluted with water.
- Test Tube B: Copper sulfate dissolved in water.
- Test Tube C: Chalk powder suspended in water.
(a) Predict and describe what will happen when a strong beam of light is passed through each test tube in a dark room. What is this phenomenon called?
(b) Classify each mixture into its correct category (True Solution, Colloidal Solution, or Suspension).
(c) Which of these mixtures will leave a residue on a filter paper when filtered? Explain why the others do not leave any residue based on particle size. [4 Marks]
Q4.) An investigative forensic team recovers a document from a crime scene with a handwritten threat note. The suspects used black gel pens from three different brands (X, Y, and Z). The forensic scientist decides to use paper chromatography to match the ink on the note with the suspects' pens.
(a) Detail the laboratory procedure required to perform this chromatographic analysis.
(b) If the ink from the note resolves into three distinct colored spots (blue, yellow, and red) on the chromatogram, what does this tell you about the nature of the ink?
(c) How does the solubility of a component in the moving solvent determine its migration speed up the chromatography paper? [4 Marks]
Q5.)A standard lab activity requires students to prepare a 15% (by mass) aqueous solution of sodium chloride (NaCl) at 25°C. A student dissolves 45 grams of NaCl in 250 grams of pure water.
(a) Calculate the mass percentage of the solution prepared by the student. Did the student achieve the target concentration?
(b) If the solubility of NaCl at 25°C is 36g per 100g of water, determine whether the student's solution is unsaturated, saturated, or supersaturated.
(c) What macroscopic observation would indicate that a solution has transitioned from unsaturated to saturated during the gradual addition of solute? [4 Marks]
Q6.) In rural areas, river water or pond water is heavily contaminated with suspended clay particles and mud, making it unfit for consumption. Villagers often swirl a piece of alum (fitkari) in a container filled with this muddy water to clarify it rapidly.
(a) Explain the chemical mechanism behind the action of alum on suspended muddy particles.
(b) Name the specific scientific term used for this process of settling down suspended particles using an external agent.
(c) How does this activity-based method compare to the natural process of sedimentation in water purification plants? [4 Marks]
Q7.)An engineering student is designing an eco-friendly mechanism to separate a massive spill of olive oil and engine oil from an estuary. However, for a preliminary lab model, they are dealing with a simple mixture of mustard oil and water.

(a) Identify the apparatus used to separate these two liquids in a laboratory setting.
(b) State the physical principle that allows these two liquids to be separated using this apparatus.
(c) While operating the apparatus, what precautions must a student take to ensure that the two layers do not mix again during collection? [4 Marks]
Q8.)During an open-ended lab inquiry, Group A mixes iron filings and sulfur powder in a china dish at room temperature. Group B takes the same proportions of iron filings and sulfur powder in a test tube and heats it strongly over a Bunsen burner until a black mass forms.
(a) How will the two groups behaviorally differ when a strong horseshoe magnet is brought near their respective china dish/test tube contents? Explain.
(b) What will be observed when dilute hydrochloric acid (HCl) is added to both samples separately? Write the names of the gases evolved, if any.
(c) Classify the products obtained by Group A and Group B into elements, mixtures, or compounds. [4 Marks]
Q9.)Gases like oxygen, nitrogen, and argon are highly demanded in medical and industrial fields. These gases are commercially extracted from atmospheric air, which is a homogenous mixture of various gases.
(a) Outline the sequence of physical treatments air must undergo before it can be separated into individual gaseous components.
(b) By what physical property and process are liquefied atmospheric gases separated from one another?
(c) Why is carbon dioxide gas removed completely before the liquefaction of air begins? [4 Marks]
Q10.)A student performs an activity where they pass electricity through a beaker containing pure distilled water, and notices no change. However, when they add a few drops of dilute sulfuric acid to the water, vigorous bubbling occurs at both electrodes, yielding two different gases.
(a) Is the initial addition of dilute sulfuric acid to water a physical change or a chemical change? Justify.
(b) Identify the nature of the change that occurs when electricity passes through the acidified water. What are the gases produced at the anode and cathode?
(c) Based on this activity, can water be classified as a mixture or a compound? Provide two structural reasons to validate your answer. [4 Marks]

BIOLOGY

Q1.)A person feels weak and tired due to lack of energy production in cells.
a. Which cell organelle may not be functioning properly?
b Explain its role.
Q2.) Onion peel cells and cheek cells were observed under a microscope.
a.Which one will have a cell wall?
b.How will their shapes differ?
Q3.)Draw neat, coloured, and labelled diagrams of:
a. Nucleus
b. Mitochondria
c. Golgi Apparatus

Social Science

History and Civics

Q1.) In the A4 Size sheet prepare a proper timeline of History that include Prehistory and Protohistory. Consist of Paleolithic, Mesolithic, Neolithic, Chalcolithic age and Harrapan civilisation with few important features of each.
Q2.) "Democracy is based on dignity and freedom of the individual". If your monitor takes all decisions without asking anyone, which democratic value is being ignored? Suggest two ways to make class decision more democratic.

GEOGRAPHY

Q1.)Earthquakes cannot be stopped, but their damage can be reduced. Explain how.
Q2.)“Human activities are increasing natural disasters.” Do you agree? Give examples.
Q3.)If glaciers melt rapidly due to global warming, what problems may arise for humans and nature?
Q4.)Which is more dangerous for humans — volcanic eruptions or earthquakes? Justify your answer.

Information Technology

Q1.)What is IT ?

Q2.)What is ITeS ?
Q3.)How are IT and ITeS interrelated ?
Q4.)What is BPO ?
Q5.)What is BPM ?
Q6.)How are BPO and BPM interrelated ?
Q7.)List some BPO services.
Q8.)List some BPM services.
Q9.)What is a call centre ?
Q10.)What are the categories of BPO vendors ?
Q11.)What are the categories of BPM companies ?
Q12.)List some applications of IT.
Q13.)What is digital locker ?
Q14.)What is chatbots ?
Q15.)List some IT applications in the field of :
(a) Banking (b) Marketing (c) Entertainment (d) Education (e) Healthcare
(f) Government and Public Sector