

**HOLIDAYS HOMEWORK**  
**CLASS X (Session 2018 - 19)**

**ENGLISH**

1. Read the novel 'The story of my life' by Helen Keler (prescribed) and prepare the following:
    - a. Character sketch of Helen Keler
    - b. Character sketch of your favourite character
    - c. Write a critical review of the novel.
  2. Do special assignment in your notebook.
  3. Find minimum 20 new words from the newspaper during vacation and write their meaning in your notebook.
- Note: Holiday homework to be done in your English notebook.

**HINDI**

१. निम्नलिखित विषयों से सम्बंधित दो पंक्तियों का स्लोगन लिखिए ---देशभक्ति ,पर्यावरण ,युवा वर्ग ,आर्थिक समस्या , नैतिक मूल्य, समय ,नारी ,व्यायाम
२. बड़े भाई साहब ,डायरी का एक पन्ना ,ततारा -वमीरो कथा ,कबीर ,मीरा पाठों की संक्षिप्त प्रश्नोत्तरी तैयार कीजिए ।
३. ५०समस्त पदों के समास विग्रह करके भेद भी लिखिए ।  
नोट ----ग्रीष्मावकाश गृह कार्य हिंदी कार्य पुस्तिका में ही करना है

**MATHEMATICS**

1. Collect information about the highest scorer batsman from each team of IPL 2018.
  - i) Find the mean and modal value of their scores.
  - ii) Find the median of their scores.
  - iii) Draw histogram and frequency polygon to represent the runs.
2. Complete the worksheet in the notebook that will be uploaded on website

**SCIENCE**

All Holidays Homework will be done in SUBJECT NOTEBOOK only. No Separate notebooks will be made for Holidays Homework.

1. Go through class IX N.C.E.R.T , then complete the following in your science register.

Element/ Ion	Symbol	Valency	Charge with Sign	Element/ Ion	Symbol	Valency	Charge with Sign
1. First 20 elements in periodic tables				12.	Oxide		
2. Gold				13.	Sulphide		
3. Silver				14.	Nitride		
4. Copper				15.	Ammonium		
5. Zinc				16.	Hydroxide		
6. Iron				17.	Nitrate		
7. Hydride				18.	Hydrogen Carbonate/ Bicarbonate		
8. Chloride				19.	Carbonate		
9. Bromide				20.	Sulphite		
10. Iodide				21.	Sulphate		
11. Fluoride				22.	Phosphate		

2. Complete the Assignments of chapters done in the month of April/ May.

## **SOCIAL SCIENCE**

1. Prepare a project on Popular Struggles and Movements (Political Science: Refer to CH-5 Popular Struggles and Movements)  
Note: The project should be covered within 15 pages. (Use A4 sheets)
2. Complete the assignments of the chapters done till now. Also, revise and prepare well for your examinations.

## **ART & CRAFT**

1. Do any of the following artwork on a canvas of any size out of A2, A3, A4, A5.
  - 3-D Art
  - Abstract Art
  - Modern Art
  - Doodle Art
  - Spray Painting
  - a. Don't use oil colours, water colours, water colour pencils or any kind of sketch pens.
  - b. Use only fabric colours or acrylic colours.
  - c. Detailing of the painting is required and to be done by a thin permanent marker or OHP.
2. Make a beautiful bookmark by using paints or craft. Also, write a quotation on "Education" on your bookmark.

## SCIENCE ASSIGNMENTS

### Assignment 1- Chemical Equations and Reactions

- Balance the following equations step wise and state their type:-
  - $Ba + AgBr \rightarrow BaBr_2 + Ag$
  - Magnesium + Hydrochloric acid  $\rightarrow$  Magnesium chloride + hydrogen
  - Potassium bromide + Barium iodide  $\rightarrow$  Potassium iodide + Barium bromide
  - Phosphorus burns in chlorine gas to form Phosphorus pentachloride.
  - $BaCl_2 + Al_2(SO_4)_3 \rightarrow AlCl_3 + BaSO_4$
  - $Pb(NO_3)_2 + Fe_2(SO_4)_3 \rightarrow Fe(NO_3)_3 + PbSO_4$
  - Calcium chloride + potassium phosphate  $\rightarrow$  calcium phosphate + potassium chloride
  - Aluminium metal replaces iron from ferric oxide.
- Can a displacement reaction be a redox reaction? Explain with the help of examples.
- Account for the following :
  - Aluminium is more reactive than iron, but its corrosion is less than iron.
  - Hydrogen gas is not evolved when zinc metal reacts with dil.  $HNO_3$ .
- Describe an activity to show that rusting of iron requires air and water
- State any two observations in an activity which may suggest that a chemical reaction has taken place. Give examples to support your answer.
- Two solutions of lead nitrate and potassium iodide are mixed together.
  - What do you observe?
  - Write a balanced chemical equation for the same.
  - Name the type of reaction.
- A substance X when heated in presence of air, it turns black. On heating this black substance in hydrogen it regains its original colour. Identify X and write the chemical equations involved in these reactions.
- What is galvanised iron? How is galvanised iron protected from rust?

### Assignment 2- Electricity

- Nichrome and copper wires of same length and radius are connected in series. Current I is passed through them. Why does the nichrome wire get heated first? Explain.
- What are the factors on which the resistance of a conductor depends? Give the corresponding relation.
- What is the commercial unit of electrical energy? Relate KWh and joule.
- An immersion heater has a rating of 2KW, 220V. while in use calculate:
  - Current passing through it
  - its resistance.
- Calculate the amount of charge that would flow in 1 hour through the element of an electric bulb drawing a current of 0.2 A.
- A heater coil is rated 100W, 200V. it is cut into two identical parts. Both parts are connected together in parallel to the same source of 220V. Calculate the energy liberated per second in the new combination.
- What is the cause of current? How is it different from conventional current?
- Name the instruments used to measure current and potential difference. How are they connected in a circuit?
- Arrange the materials given in ascending order of their resistivity: silver, silicon, paper, nichrome, aluminium.
- A bulb is rated at 5.0 volt, 100 mA. Calculate its (i) power (ii) resistance.
- A wire of resistance 'R' is stretched by 50%. What will be percentage change in its resistance? (Stretched  $\Rightarrow$  Area will also change along with length)
- The resistance of 100 W bulb is less than resistance of 40 W bulb. Explain the reason.
- Derive the equation for resultant resistance of Resistors in series
- State Ohm's law.
  - Describe an activity with the help of a diagram to establish the relation between current(I) and potential difference(V).
  - Draw the shape of curve obtained when graph is plotted between V and I.
  - What does the slope of this graph represent?
- in the given circuit, calculate
  - effective resistance

- ii) reading of ammeter
  - iii) reading of voltmeter across 5 ohm resistor.
16. You have two metallic wires of resistances 6 ohm and 3 ohm. How will you connect these wires to get the effective resistance of 2 ohm?
17. An electric lamp is marked 220 V, 100 W. It is used for 5 hours daily. Calculate: (a) its resistance while glowing (b) energy consumed in kWh/day
18. How are ammeters and voltmeters connected in a circuit? What do they help us measure?

### Assignment 3- Life Processes

#### Knowledge

1. What is blood pressure? How is it measured? Give one difference between systolic and diastolic pressure.
2. What is the role of skin, lungs and liver in the process of excretion in human beings?
3. Plant respiration is slower than animal respiration. Suggest one reason for it.
4. How do autotrophs obtain CO<sub>2</sub> and N<sub>2</sub> to make their food.

#### Understanding

5. How is respiration different from breathing? Explain the process of aerobic and anaerobic respiration.
6. A young green plant receives sunlight from one direction only. What will happen to its shoots and roots?
7. Name the two stages in photosynthesis
  - a. What is the role of light in photosynthesis?
  - b. State differences between an artery, vein and capillary.

#### Application/Analysis

1. Leaves of healthy potted plant were coated with Vaseline to block the stomata. Will this plant remain healthy for long? State three reasons for your answer.
2. A farmer floods his field everyday thinking that watering in this manner will result a better yield of his wheat crop. What will be the result of this action of the farmer?
3. Nutrition is the intake of nutrients. Which two properties should a substance have in order to be called a nutrient?
4. Draw a diagram showing human respiratory system. Label the following parts:  
Larynx, trachea, primary bronchus, lungs.

Why do the walls of trachea not collapse when there is less air in it?

1. a) Draw a labeled diagram of human alimentary canal.
- b) Label the following on the diagram drawn:
- Oesophagus, liver, gall bladder, duodenum.
- c) What is the function of liver in the human body?

#### Evaluation/Synthesis

1. How does major nutrient in chapattis eaten by you in your food get digested and finally absorbed by the alimentary canal?
2. Why is nutrition necessary for an organism?
3. How does the butter in your food get digested and absorbed in the body? Explain in detail.
4. Photosynthesis is considered the most important process in the biosphere. Justify.

### Assignment 4- Acids, Bases and Salts

#### Knowledge

1. Why should water be never added dropwise to concentrated sulphuric acid?
2. Name an alkali solution which has no metallic ion.
3. What is the pH of a neutral solution?

4. What is a universal indicator?
5. What do you understand by the term salt?
6. Write fully balanced equation when carbon dioxide is passed through ammoniacal brine solution.
7. Name a carbonate of a metal which has cleansing properties.
8. Name the chemical which is used as a preservative in pickles and curing fish.
9. Name two metals which react with concentrated sodium hydroxide solution to liberate hydrogen gas.
10. Write the general word equation for reaction between acids and bases.
11. Blue and red litmus papers are placed simultaneously in a colourless aqueous solution. It is found that the colour of both litmus papers is red. What is the nature of the solution and why?
12. What is the chemical name of washing soda? Name the three chief raw materials used for making washing soda by Solvay process.

### Understanding

13. Given below are some pH values of four different liquids: 7.0, 14.0, 4.0, 2.0. Which of these could that be of: a) lemon juice b) distilled water c) 1 M NaOH solution d) tomato juice?
14. Dry ammonia gas has no action on litmus paper, but a solution of ammonia in water turns red litmus paper blue. Why is it so?
15. The pH of a sample of vegetable soup was found to be 6.5. How is this soup likely to be tasted?
16. Why does HCl(g) not conduct electricity when dissolved in toluene?
17. Explain monoprotic acids, diprotic acids and triprotic acids by citing examples.

### Application/ Analysis

18. Seven solutions A, B, C, D, E, F and G have pH 1, 2, 7, 9, 11, 13 and 14 respectively.
  - a) Identify which of them is strongly acidic.
  - b) Identify which of them is neutral.
  - c) Identify which of them is weakly basic.
  - d) Which of them will turn phenolphthalein pink?
  - e) Identify which of them is strong base.
  - f) Which of them make methyl orange pink?
19. State the chemical property in each case on which the following uses of baking soda are based:
  - i) As an antacid
  - ii) as a constituent of baking powder.
20. pH of gastric juice lies between 1 and 3.
  - a) Which substance is responsible for the specific pH of gastric juice?
  - b) Is it acidic or basic?
  - c) How is this pH range helpful in digestive system?
21. Differentiate between: a) strong acid and concentrated acid b) weak base and dilute base
22. Why is it advised not to use copper or brass vessels to store pickles or curd?

### Synthesis/Evaluation

23. How would you distinguish between baking powder and washing soda by heating?
24. Identify the compound of calcium which is used for plastering of bones. With the help of chemical equation, describe how this compound is prepared. What special precaution should be taken during the preparation of this compound?
25. "Sulphuric acid is a dibasic acid". Write two reaction equations to justify this statement and name the reaction products in the two cases.
26. In one of the industrial processes used for manufacture of sodium hydroxide, a gas X is formed as by product. The gas X reacts with dry slaked lime to give a compound Y which is used as a bleaching agent in chemical industry. Identify X and Y

### SOME MORE

Q1. When you add sodium hydrogen carbonate to acetic/ethanoic acid in a test tube a gas liberates with brisk effervescence.

- a. Name this gas and describe a method to test this gas.
- b. What is the characteristic colour & odour of this gas?
- c. It burns vigorously if a burning matchstick is brought close to it. Correct the statement.

Q2. A student prepared a 20% solution of Sodium Hydroxide in water in a beaker. Which of the following observations are correct :-

- a. Sodium Hydroxide is in the form of Pellets
- b. It dissolves readily in water
- c. The beaker feels cold
- d. Red litmus turns blue when dipped in the solution.

If he prepares a similar solution of acetic acid will it readily dissolve in water or not?

Q3.

- (i) What are the colours of aqueous solution of Copper Sulphate, Zinc Sulphate and Iron Sulphate ?
- (ii) Acetic acid smells like vinegar. True or False.
- (iii) What will be the colour of coating if Aluminium foil reacts with Zinc Sulphate solution?

Q4. Give the derivations of the following :

- (i) Relation between 'I', 'R' and 'H'(Heat) . What is this relation known as? How much heat will an instrument of 12W produce in 1 minute if it is connected to a battery of 12V?
- (ii) Relation between Equivalent Resistance ( $R_{EQ}$ ) ,  $R_1$  ,  $R_2$  and  $R_3$  in parallel combination. Draw diagram and show how will you connect voltmeter and ammeter in measuring Current and Voltage across  $R_1$ .
- (iii) Relation between Equivalent Resistance ( $R_{EQ}$ ) ,  $R_1$  ,  $R_2$  and  $R_3$  in series combination with diagram.

Q5.

- (i) Explain the process of digestion in mouth, stomach, and small intestine in human body.
- (ii) List the 3 events that take place during Photosynthesis and Explain the role of stomata in this process.
- (iii) Describe an experiment to show that : (A) "Sunlight" is essential for Photosynthesis .  
(B) "Carbon Dioxide" is essential for Photosynthesis.
- (iv) Explain double circulation in heart through a schematic diagram.
- (v) Draw a well labelled diagram of nephron and explain its working in human body.

Q6. Make a list of new Elements discovered and it's abundance as well as use.

Q7. Find out the Nobel Prize Winners in the field of Physics, Chemistry and biology along with their work.