KERALA PUBLIC SCHOOLS

ACADEMIC YEAR 2020-21

CLASS : IX

HOME ASSIGNMENT

DATE:7.05.2020 to 20.05.2020

SUBJECT	ASSIGNMENTS
HINDI	**साहित्य** **पाठ-2 –'ल्हासा की ओर 'पाठ को दो बार पढ़ें|** **[1] दिए गए प्रश्नों के उत्तर दें-** (क) तिब्बत मे खेती की क्या व्यवस्था है? (ख) सुमति अपने यजमानों से मिलने के लोभ को क्यों छोड़ नहीं पा रहे थे? (ग) नेपाल से तिब्बत जानेवाले मुख्य मार्ग बताइए| (घ) अपनी यात्रा के दौरान लेखक को किन कठिनाइयों का सामना करना पड़ा ? (ङ) लेखक लङकोर के मार्ग में अपने साथियों से किस कारण पिछड़ गया ? **भाषा** –पेड़ –पौधे के अनियंत्रित कटाव को रोकने के लिए जिलाधिकारी को पत्र लिखें| *बस में यात्रा करते हुए आपका एक बैग छूट गया था जिसमें जरूरी कागज और रुपये थे |उसे बस कंडक्टर ने आपके घर आकार लौटा दिया |उसकी प्रशंसा करते हुए परिवहन निगम के अध्यक्ष को पत्र लिखिए |
MATHS	Students are requested to download Diksha App .Refer to the videos /ppt given in the app .Answer the questions given in the app . **Chapter 2 Polynomials** Diksha App [M.C.Q , Diksha App[Short Questions] Diksha App [very short questions], Diksha App [Long questions] Ex-2.1, Ex-2.2, Ex-2.3, Ex-2.4, Ex-2.5 First watch and understand the above YouTube link the solve the above exercises. Please try to solve different types of questions from RSAGGARWAL BOOK You tube Link:- https://youtu.be/-S8LZgUuPGo [Polynomials]
SCIENCE	**PHYSICS** **Ch- Force and Laws of motion** 1. Define balanced and unbalanced forces.pg no - 115 (NCERT) . 2.Define the first law of motion and Galileo Galili experiment. Pg no -117 3. Do the Q/A of pg -118 (Intext questions) 4.Read and write derivation and proof of second law of motion with applications and mathematical formula. 5.Do the examples 9.1,9.2,9.3,9.4,9.5 (Numericals) Use school's You tube channel. https://www.youtube.com/channel/UCCihSvCAtpia5SbOJdKRn7Q **BIOLOGY** CHAPTER 6 TISSUE (ANIMAL TISSUE) Day1: Read page no.73 only till third paragraph of N.C.E.R.T book. DAY 2: Read page no.73, 74 till epithelial tissue, also study about all four types of epithelial tissue. DAY 3: Read page no.74 (connective tissue) and page no 75.study about different kind of connective tissue. DAY 4: Draw the different kind of connective tissue in your note book and also write its feature and function. DAY 5: Read page no.75 (muscle tissue).Draw the diagram of different kind of muscle fibers.

	Chemistry **Chapter-2 Is Matter Around Us Pure** Pg15- Q1,2 Pg18- Q1,2,3 NCERT Write question answer – pg-28 Q-2 , pg-29 Q-4,5,6,7,8,9 Refer NCERT Refer Science Together With & write down the question answers in your note book; Pg 42 Pg 43 Pg44 Pg45 ,Pg46 ,Pg47 ,Pg48, Pg49, Pg-50,Pg54 ,Pg55- The pages have been scanned and attached for your reference.

11. Which of the following are chemical changes?

(*a*) **Growth of a plant** (*b*) **Rusting of iron**
(*c*) **Mixing of iron filings and sand** (*d*) **Cooking of food**
(*e*) **Digestion of food** (*f*) **Freezing of water**
(*g*) **Burning of a candle**

Ans. (*a*) Growth of a plant, (*b*) Rusting of iron, (*d*) Cooking of food, (*e*) Digestion of food and (*g*) Burning of a candle are chemical changes.

SOLVED QUESTION BANK

Very Short Answer Type Questions [1 Mark]

1. State any one difference between pure and impure substances. **[CBSE 2014]**

Ans. Pure substance has fixed melting and boiling point where as impure substance does not have fixed melting and boiling point.

2. What are the two components of a solution? **[CBSE 2014]**

Ans. Solute and solvent are two components of solution.

3. How can you convert a saturated solution into an unsaturated saturation? **[CBSE 2014]**

Ans. When we heat saturated solution, it can be converted into unsaturated.

4. What is meant by concentration of a solution? **[CBSE 2014, 2013, 2012]**

Ans. Concentration of solution is defined as amount of solute dissolved in fixed amount of solution.

5. Identify homogeneous mixture from the following:
Soda water, Soil, Vinegar, Unfiltered tea.

Ans. Soda water and vinegar are homogeneous mixtures. **[CBSE 2010]**

6. Write dispersed phase and dispersion medium of emulsion.

Ans. Both dispersed phase and dispersion medium are liquids. **[CBSE 2010]**

7. Give two examples of suspension.

Ans. Muddy river water, chalk powder in water. **[CBSE 2010]**

8. Choose the chemical change out of the following:
Digestion of food, Freezing of water, Glowing of electric lamp, Mixing of Iron filings with sulphur.

Ans. Digestion of food is a chemical change. **[CBSE 2010]**

9. Give one example of two miscible liquids where distillation can be used for separating them.

Ans. Acetone and water. **[CBSE 2010]**

10. Which type of solution is formed when milk and water is mixed uniformly.

Ans. Colloidal solution. **[CBSE 2010]**

11. Identify the solute and solvent in: tincture of iodine

Ans. Iodine is solute, alcohol is solvent. **[CBSE 2010]**

12. Explain how the separation of cream from milk takes place.

Ans. Cream can be separated from milk by centrifugation.

13. What do you observe on churning the milk?

Ans. The cream from the milk gets separated.

14. What happens when saturated solution is allowed to cool? **[CBSE 2012]**

Ans. Crystals of pure substance will be formed.

15. Define mixture.

Ans. It contains two or more substances in any ratio.

16. What is solute and solvent in brass?

Ans. In brass copper is a solvent and zinc is solute because copper is 70% and zinc is 30%.

17. What is solute and solvent in air?

Ans. In air, O_2 is solute and N_2 is solvent because N_2 is in large quantity whereas O_2 is in smaller amount.

18. Why is sky blue in colour?

Ans. It is due to Tyndall effect. Dust particles and water vapours in air scatter blue light which reaches our eyes and sky looks blue to us.

19. List the two conditions essential for using distillation as a method for separation of the components from a mixture. **[CBSE 2014]**

Ans. (*i*) Liquids should be miscible i.e. should mix. with each other.
(*ii*) They should have large difference in their boiling points (25 °C or more)

20. What is meant by fractionating column?

Ans. Fractionating column is a tube packed with glass beads which provide surface for vapours to cool and condense. It gives the effect of repeated distillation.

21. Name the process used to obtain pure copper sulphate from impure sample. **[CBSE 2013]**

Ans. Crystallization is used to obtain pure copper sulphate from impure sample.

22. Why are metals good conductors of heat and electricity whereas non-metals are not?

Ans. Metals are good conductors of heat and electricity because they have free electrons whereas non-metals are not good conductors of heat and electricity because electrons are not free to move in non-metals.

23. Why are silicon and germanium metalloids?

Ans. Silicon and germanium show the properties of both metals as well as non metals, therefore, called metalloids.

24. How many elements are known to us till today?

Ans. 118 elements are known to us till today.

25. How many elements are naturally occurring?

Ans. 90 are naturally occurring whereas 28 are man-made elements.

26. Name two metals which exist as liquids above 30°C.

Ans. Mercury and Gallium.

Short Answer Type Question [I] [2 Marks]

27. Define a solution. Give an example of (*i*) gas in liquid solution. (*ii*) gas in gas solution. **[CBSE 2011]**

Ans. Solution is homogenous mixture of two or more substances.
(*i*) Cold drinks contain carbon dioxide gas dissolved in liquid water.
(*ii*) Air is solution of nitrogen gas and oxygen gas.

28. Name the dispersed phase, dispersion medium and type of colloid in the following. [CBSE 2014]

(*i*) Fog (*ii*) Milk

Ans. (*i*) Dispersed phase is liquid and dispersion medium is gas in fog. Fog is an aerosol.

(*ii*) Both the dispersed phase and dispersion medium in milk is liquid. Milk is an emulsion.

29. How many litres of 15% (mass/volume) sugar solution would take it to get 75 g of sugar? [CBSE 2016]

Ans. $$\text{Mass by volume of solution} = \frac{\text{Mass of solute}}{\text{Volume of solution}} \times 100$$

$$15 = \frac{75\text{ g}}{\text{Volume of solution}} \times 100$$

$$\text{Volume of solution} = 500\text{ mL}$$

30. Explain the term centrifugation? Give two of its applications. [CBSE 2016]

Ans. Churning at high speed, denser particles settle at the bottom separating cream from milk. washing machine, blood and urine test are based on centrifugation.

31. (*a*) What are heterogeneous mixtures? [CBSE 2015]

(*b*) Why mixture does not have a fixed melting or fixed boiling point? Give two reasons.

Ans. (*a*) Those mixture whose composition is not uniform throughout are called heterogeneous.

(*b*) (*i*) It is because they do not have fixed composition.

(*ii*) No new compound is formed in the mixture.

32. A solution is prepared by adding 40 g of sugar in 100 g of water. Calculate the concentration in terms of mass by mass percentage of solution. [CBSE 2012]

Ans. Mass of solution = Mass of solute + Mass of solvent = 40 g + 100 g = 140 g

$$\text{Mass percentage of solution} = \frac{\text{Mass solute}}{\text{Mass of solution}} \times 100 = \frac{40}{140} \times 100 = \frac{200}{7} = 28.57\%$$

33. State the condition for using the method of centrifugation to separate contents of a mixture. State the principle involved in this process. [CBSE 2012]

Ans. The density of substance to be separated should be different. The denser particles are forced to settle at the bottom and the lighter particles stay at the top when rotated (spun) at high speed in centrifugal machine.

34. State the principle used in separating different components of a mixture by the method of centrifugation. List any two applications of this method. [CBSE 2011]

Ans. Colloidal particles get separated from dispersion medium due to difference in densities.

(*i*) Cream can be separated from milk.

(*ii*) Precipitate (solid) can be separated from solvent.

35. (*a*) Define Tyndall Effect.

(*b*) Why is water considered a compound? Mention two points. [CBSE 2011]

Ans. (*a*) When a beam of light is passed through a colloidal solution placed in a dark place, its path becomes clearly visible. This phenomenon is called Tyndall Effect.

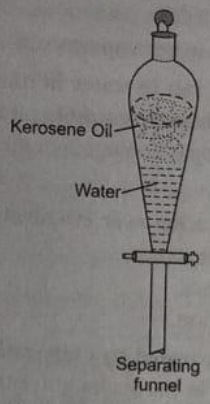
(*b*) Water is compound because:

(*i*) it has hydrogen and oxygen in fixed ratio, i.e. 2: 1.

(*ii*) it can be separated into H_2 and O_2 by electrolysis, i.e. by chemical method.

36. Name the principle used to separate kerosene and water. Draw a neat and labelled diagram of apparatus used in this separation. [CBSE 20

Ans. Kerosene oil and water differ in their densities, therefore, can be separated by separating funne



37. Write any two applications of chromatography. Also write a condition necessary fo chromatography. [CBSE 2010

Ans. (*i*) It is used to separate coloured substances.
(*ii*) It is used to separate amino acids which form proteins.
It is based on the principle that different components dissolve in same solvent to different extent.

38. Can a substance be in a pure form of matter? Justify this statement with a suitable example.

Ans. When we observe sugar placed on a sheet of paper with magnifying glass, we observe that the colour, shape and size of all particles of sugar are same. This sugar constant of particular of one type, therefore, it is pure substance.

39. How we can prove that a mixture contains more than one substance?

Ans. Take salt solution. Let us evaporate salt solution water will get evaporated, whereas salt will be left behind. It shows salt solution is a mixture and containing more than one substance, i.e. water and salt.

40. In a solution there is homogeneity at the particle level. Explain the statement with an example.

Ans. There is homogeneity even at particle level in solution because all the parts of sugar solution have the same sugar-water composition.

41. If same amount of honey or sodium chloride is taken do they dissolve in water at a given temperature?

Ans. No, Honey will be less soluble than sodium chloride because sodium chloride is an ionic compound whereas honey is a mixture of many substances which are less polar.

42. How Tyndall effect can be observed in the canopy of a dense forest. [CBSE 2014]

Ans. When a beam of light passes through dust particle in air, colloidal solution in the canopy of dense forest, the path of light becomes clearly visible due to scattering of light. It is called Tyndall effect.

43. What term is given to a mixture having uniform composition and no distinct components?

Ans. Homogeneous mixture.

44. On dissolving chalk powder in water, a suspension is obtained. Give any four reasons to support the fact that mixture so obtained is a suspension only. [CBSE 2012]

Ans. (*i*) It is heterogeneous
(*ii*) It is opaque
(*iii*) The particle of chalk can be separated by filtration
(*iv*) Chalk particles can be seen by naked eye.

45. Why filtration method is not considered for the separation of true solution?

Ans. Particles of true solution are very small and pass through the pores of filter paper, therefore filtration is not suitable for separation of true solution.

46. What do you understand by aerosol?

Ans. Colloidal particles like smoke, dust, water vapours are suspended in air, it is called aerosol.

47. You are provided with a solution of salt in water in one jar and mixture of salt and sand in other. Can you state one property in which they resemble and differ from one another.

Ans. Both of them are mixtures. Salt solution is homogeneous mixture whereas salt and sand is heterogeneous mixture.

48. Write three advantages of crystallization over evaporation.

Ans. (*a*) It leads to formation of pure substance.
(*b*) It forms crystals of pure substance.
(*c*) It takes less time than evaporation.

49. What type of substances can be separated by evaporation technique.

Ans. Those substance which are soluble in particular solvent but impurities do not dissolve, they can be separated by filtration followed by evaporation. Salt can be obtained from sea water by evaporation.

50. What are the essential conditions to separate any dyl using paper chromatography?

Ans. The components of mixture should differ in solubility in the same solvent.

51. How do sol and gel differ from each other? Give one example for each. **[CBSE 2014]**

Ans.

Sol	Gel
1. Solid is dispersed in liquid	1. Liquid is dispersed in solid.
2. Starch is disperssed in water sol	2. Water is disperssed in paneer, hair gel.

52. When we add acid or base in water it evolves so much of heat. Does it involve any chemical change?

Ans. When we add acid or base in water, less heat is evolved. Yes, it is chemical change. Dilute H_2SO_4 differs in properties from conc. H_2SO_4. Dil HNO_3 also differs in properties than conc. HNO_3.

53. Silver iodide, AgI is a yellow crystalline solid. But when it is exposed to sunlight, it forms solid grey silver and iodine. Why? Give one practical application of this reaction and write the equation also.

Ans. It is used photography and in X-ray film

$$\underset{\text{Silver chloride}}{2AgCl(s)} \xrightarrow{\text{Sunlight}} \underset{\text{Silver}}{2Ag(s)} + \underset{\text{Chlorine}}{Cl_2(g)}$$

54. Which separation technique is best suitable for removing grease stains from clothes. Explain the process also.

Ans. Grease is soluble in organic solvent like petrol or kerosene.

55. Is alcohol is a mixture or a pure substance?

Ans. Alcohol is a pure substance as it contains only one kind of matter.

56. Do pure substances always have one phase?

Ans. Pure substance always have one phase.

57. How can you tell that bronze is a mixture and not a compound?

Ans. Bronze is made up of copper and tin. Its melting point is different from pure copper as well as pure tin. It does not have fixed melting point. It does not have fixed composition, therefore, it is a mixture and not a compound.

58. On which factor would you conclude whether a given solution is dilute, concentrated or saturated?

Ans. It density of solution is less, it can flow easily, it is dilute. If density of solution is more, it can not flow easily, it is concentrated. If no more amount of solute can be dissolved, it means it is saturated.

59. How is heating of wood different from heating of dry ice?

Ans. Heating of wood will not change into vapours completely whereas heating of dry ice will get converted into CO_2 gas and dry ice will disappear.

60. Write the constituent element of magnesium chloride and vinegar?

Ans. (*a*) Magnesium (Mg) and chlorine are present in $MgCl_2$.

(*b*) Vinegar (CH_3COOH) contain carbon (C), hydrogen (H) and oxygen (O) as constituting elements.

61. Is mixture is pure substance?

Ans. No, mixture consist of two or more substances, therefore, it is not a pure substance.

62. Fish prefer to go in deep waters during day light. Why?

Ans. It is because water becomes hot at upper surface where there is less dissolved oxygen than in cold deep water which has more oxygen dissolved in it.

63. Can physical and chemical changes happen at the same time? Support your answer with illustrative example.

Ans. Yes, both can take place simultaneously breaking of chocolate in mouth is physical change. Its digestion is a chemical change.

64. Can we separate sugar solution by using a separate funnel?

Ans. No, sugar solution cannot be separated by separating funnel because it is homogeneous.

65. What are gels? Give some example.

Ans. When liquid is dispersed in solid it is called gel, e.g. cheese, paneer, hair gel, etc.

66. Do mixtures have definite chemical formula?

Ans. No, mixture do not have definite chemical formula because their composition is not fixed.

67. What volume of ethyl alcohol and water must be mixed together to prepare 250 ml of 60% by volume of alcohol in water. **[CBSE 2014]**

Ans. Let the volume of ethyl alcohol be x

$$\text{Concentration of solution} = \frac{\text{Volume of solvent}}{\text{Volume of solution}} \times 100$$

$$= 60 = \frac{x}{250} \times 100$$

$$x = \frac{250 \times 600}{100}$$

$$= 150 \text{ ml}$$

$\therefore$ 150 ml of ethyl alcohol should be mixed to prepare 250 ml of solution.

68. 2.5 g of sugar is dissolved in 47.5 g of water. Calculate its concentration as per cent by mass.

Ans. Mass of solute = 2.5 g

Mass of solvent = 47.5 g

Mass of solution = 50.0 g = 2.5 + 47.5 = 50.0 g

$$\text{Mass by mass percentage of solution} = \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100 = \frac{25}{50} \times 100 = 5\%$$

69. Calculate the amount of glucose required to prepare 250 g of 5% solution of glucose by mass.

Ans. Mass by mass percentage of solution $= \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100$

$$5 = \frac{\text{Mass of solute}}{250} \times 100$$

$$\text{Mass of solute} = \frac{5 \times 250}{100} = \frac{125}{10} = 12.5 \text{ g}$$

70. A solution contains 50 g of common salt in 350 g of water. Calculate the concentration of solutio

Ans. Mass of solute (salt) = 50 g
Mass of solvent (water) = 350 g
Total mass of solution = 400 g

Mass by mass percentage of solution $= \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100 = \frac{50}{400} \times 100 = 12.5\%$

71. 5 g of sugar is dissolved in 250 ml of solution. Calculate its mass percentage by volume.

Ans. Mass of solute (sugar) = 5 g
Volume of solution = 250 ml

Mass by volume percentage of solution $= \frac{\text{Mass of solute}}{\text{Mass of solution}} \times 100 = \frac{5}{250} \times 100 = 2\%$

72. **(*i*) Give the difference between mixture and compound.**
(*ii*) Classify the following mixture as homogeneous and heterogeneous.
(*a*) Tincture of iodine (*b*) Smoke (*c*) Brass (*d*) Sugar solution [CBSE 2015]

Ans.

Mixture	Compound
1. It does not have fixed composition.	1. It has fixed composition.
2. Its components can be separated by physical methods.	2. Its components can be separated by chemical methods.

Short Answer Type Question [II] [3 Marks]

73. Write down the processes involved in sequential order to get the supply of drinking water to your home from the water works.

Ans. Reservoir→Sedimentation tank→Loading tank→Filtration tank→Chlorination kill bacteria→To Home. [CBSE 2016]

1. Water is passed through sedimentation tank in which heavy impurities settle down due to gravity.
2. Loading tank contains potash alum which helps in making sedimentation faster by suspending impurities which are lighter.
3. Filtration tank removes insoluble suspended impurities.
4. Chlorination tank is used to disinfect water and make it fit for drinking which is supplied to our homes.

74. Define solubility. How does solubility. How does solubility of a solid in water change with temperature?

Ans. Solubility is defined as amount of substance dissolved in given amount of solvent solubility of solid in water increases with increase in temperature. [CBSE 2012]

75. **A solution of alcohol in water has been prepared by mixing 150 ml of alcohol with 600 ml of water. Calculate the volume. Percentage of the solution.** [CBSE 2015]

Ans. $$\% \text{ by volume} = \frac{\text{Volume of alcohol}}{\text{Volume of alcohol + volume of water}} \times 100$$

$$= \frac{150}{150 + 600} \times 100 = \frac{150}{750} \times 100 = 20\%$$

76. **Two students A and B were given 10 ml of water in a bowl and a plate respectively. They 'were told to observe the rate of evaporation. Name the student whose water evaporates faster and explain its reason.** [CBSE 2016]

Ans. Water of 'B' will be evaporated faster.
It is because surface area is more in plate. Therefore, rate of evaporation become faster. Rate of evaporation depends upon surface area. Greater the surface area, more will be rate of evaporation. That is why we drink hot tea from saucer easily then from a cup.

77. **Why the inter-conversion of states of matter is considered as a physical change? Give three reasons to justify your answer.** [CBSE 2016]

Ans. (*i*) It is because it occurs without change in composition.
(*ii*) The substances differs in physical properties but chemically they are same. e.g. water changes into ice below 0°C. Ice changes into liquid above 0°C. Liquid water changes into steam at 100°C. Physical states of water are different due to different force of attraction and intermolecular spaces but composition is same, i.e. all of them contain same water molecules.
(*iii*) No new substance with new properties will form.

78. (*a*) **Define an element.**
(*b*) **What is meant by malleability. Name any two substances that are malleable.** [CBSE 2016]

Ans. (*a*) Element is a substance which is made up only one kind of atoms.
(*b*) Malleability is a property due to which a metal can be beaten into sheets. Gold and silver are highly malleable.

79. **Differentiate between an element and a compound (any two point). Write one example of each.** [CBSE 2015]

Ans.

Element	Compound
1. It consist of one kind of atoms.	1. It consist of one kind of molecules made up of two or more types of atoms.
2. These are simplest substances and cannot be broken into simpler substances.	2. They can broken down into simpler substances.
Example: Hydrogen	Example: Water

80. (*a*) **Name the separation technique you would follow to separate**
(*i*) **Dyes from black ink**
(*ii*) **A mixture of salt and ammonium chloride**
(*iii*) **Cream from milk**
(*iv*) **Sodium chloride from its solution in water**
(*b*) **State the principle used in separating a mixture of two immiscible liquids.** [CBSE 2015]

Ans. (*a*) (*i*) Chromatography (*ii*) Sublimation (*iii*) Centrifugation (*iv*) Evaporation.
(*b*) The principle used in separation of immiscible liquids by separating funnel is difference in the densities. Heavier liquid will form lower layer which will get separated first. Lighter liquid wi form upper layer, so it will get separated later.

81. Why copper sulphate solution in water does not show tyndall effect but mixture of water and milk shows. [CBSE 2015]

Ans. Copper sulphate solution does not show tyndall effect because particles are very small and do not cause scattering of light.

Water and milk form colloidal solution which shows Tyndall effect because particle are larger which causes scattering of light and show Tyndall effect.

82. Name the separation technique by which we can obtain coloured components from ink? Give two more application of the technique used. [CBSE 2015]

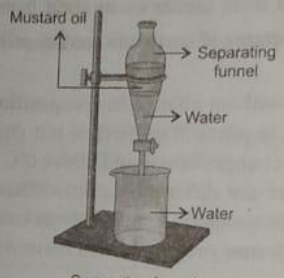
Ans. Chromatography is used to obtain coloured components from ink.

Application: (*i*) Pigments from natural colour can be separated by chromatography.

(*ii*) Drugs from blood can be separated by chromatography.

83. Draw labelled diagram of the apparatus used to separate a mixture of two immiscible liquids. [CBSE 2014]

Ans.



Separating funnel

Separation of Immiscible liquids by using separation funnel

84. Define evaporation. Explain any two factors that affects its rate. [CBSE 2014]

Ans. Evaporation is a process in which liquid changes into vapours.

Factors affecting evaporation:

(*i*) **Surface area:** Greater the surface area, more will be rate of evaporation, e.g. tea becomes cold in saucer more easily, than in a cup.

(*ii*) **Temperature:** Higher the temperature, more will be rate of evaporation. Clouds are formed in summer due to higher rate of evaporation.

85. (*a*) Write one difference between concentration and solubility?

(*b*) What is the effect of temperature on the rate of solubility?

Ans. (*a*) Concentration is defined as amount of substances dissolved in 100 g of solution at a particular temperature. [CBSE 2013]

Solubility is amount of solute dissolved in given amount of solvent at a particular temperature.

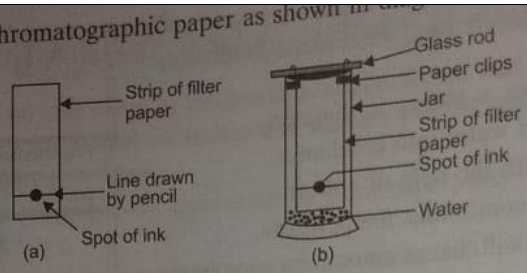
(*b*) Solubility increases with increase in temperature in case of solid dissolved in liquid. The solubility of gases dissolved in liquid decreases with increase in temperature.

86. List three differences between metals and non-metals.

Ans. [CBSE 2013]

Metals	Non-metals
1. They are malleable and ductile.	1. They are not malleable and ductile.
2. Most of them are solids except mercury.	2. They exist as solid, liquid as well as gases.
3. They are hard mostly except Na, K.	3. They are soft and brittle except diamond.

Take a thin strip of chromatographic paper as shown in



Chromatography

- Draw a line using a pencil approximately 1 inch above the smaller edge as shown in figure.
- Put a small spot of ink at the center of line with the help of sketch pen or capillary tube. Let it dry.
- Suspend the chromatographic paper into the gas jar containing mixture of 50% ethanol and water as shown in figure and leave it undisturbed. Watch carefully, as solvent rises up on the chromatographic paper.
- Stop the process when black ink gets separated into its components.

Applications of Chromatography:

- It is used to separate amino acids which form proteins.
- It is used to separate colours of the dye.

99. (*a*) List any four properties of a colloid and mention any two properties in which colloids differ from suspension.

(*b*) State what is Tyndall effect? Which of the following solutions will show Tyndall effect? Starch solution, sodium chloride solution, Tincture iodine, air. **[CBSE 2011]**

Ans. (*a*) (*i*) Their particles can be seen with powerful microscope.

(*ii*) They appear to be homogeneous but actually they are heterogeneous.

(*iii*) They show Tyndall effect.

(*iv*) They can pass through filter paper.

Difference from suspension:

(*i*) In suspension, residue is left on filter paper whereas in colloidal solution, particles pass through filter paper.

(*ii*) In suspension, particles can be seen with naked eyes whereas in colloidal solution it can't be seen.

(*b*) **Tyndall Effect:** When a beam of light is passed through a colloidal solution placed in a dark place, its path becomes clearly visible. This phenomenon is called Tyndall Effect.

Starch solution will show Tyndall effect.

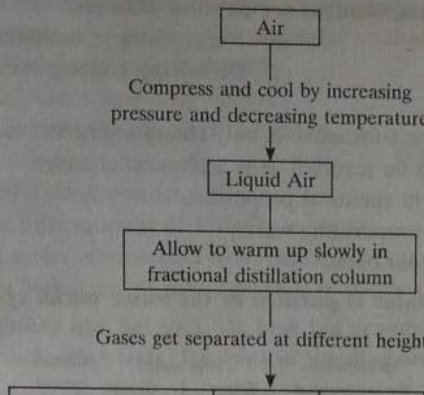
100. (*a*) You are given a mixture of sand, water and mustard oil. How will you separate the components of this mixture? Explain it with the help of different separation methods involved in it.

(*b*) Give flow diagram showing the process of obtaining gases from air. **[CBSE 2015, 2011]**

Ans. (*a*)

- Filter the mixture. Sand will be residue. Mustard oil and water will be filtrate
- Take mustard oil and water in separating funnel.
- Open the stop cock, water will come out first. Collect it in a beaker. Mustard oil will be left in separating funnel and get separated.

(*b*)



	Oxygen	Argon	Nitrogen
Boiling Point (°C)	–183 °C	–186 °C	–196 °C
% Air by Volume	20.9	0.9	78.1

Flow diagram shows the process of obtaining gases from air

101. (*a*) How much water should be added to 15 g of salt to obtain 15% salt solution?
(*b*) What is the main difference between aqueous solution and non-aqueous solution?
(*c*) Why does solution of sodium chloride not show Tyndall effect where as the mixture of water and milk shows? **[CBSE 2011]**

Ans. (*a*) $$\text{Mass percentage} = \frac{\text{Mass of solute}}{\text{Mass of solute} + \text{Mass of solvent}} \times 100$$

$$15 = \frac{15}{15 + \text{Mass of solvent}} \times 100$$

Mass of solvent = 85 g.

(*b*) Aqueous solution is solution in water.
Non-aqueous solution is solution in any other solvent except water.

(*c*) Particles of NaCl solution, Na^+ and Cl^- are very small and can't scatter light whereas particles of milk are bigger and can scatter light.

102. How will you justify the following changes are chemical change?
(*a*) Gasoline burning **(*b*) Egg cooking**
(*c*) Bread rising **(*d*) Milk turning sour**
(*e*) Sun-tanning

Ans. (*a*) It produces carbon dioxide and water along with lot of energy, i.e. new substances are formed with lot of energy change.

(*b*) Boiling of egg leads to denaturation of protein which is a chemical change because it can not be reverted.

(*c*) Rising of bread is due to carbon dioxide produced by heating baking soda, it cannot be reversed.

(*d*) Milk become sour due to fermentation and it cannot be reversed.

(*e*) Sunlight reacts with upper part of skin and changes the colour of skin. It cannot be reversed easily without using super medicines.

ENGLISH	**GRAMMAR** **<u>REARRANGE THE SENTENCES</u>** Rearrange the following words and phrases to form meaningful sentences. The first one has been done for you. 1.poverty/ the village people/ from/ most/ suffer/ of Ans- Most of the village people suffer from poverty. 2.in rural areas / is/ employment opportunities/ there / of/ lack 3.come to cities/ in/ people/ so/ of work/ search 4.are killed/ accidents/ daily/ in/ road/ many people 5.not/ children/ below/ of/ the age/ must/ drive/ eighteen years 6.protection/ our/ we/ must/ helmets/ own/ wear/ for 7.phones/ must/ used/ not/ mobile/ be/ driving/ while 8.traffic police/ making efforts/ is/ to increase/ on the roads/ safety 9.they/ gone/ have/ to/ match/ a/ see 10.race/ slow/ wins/ steady/ the/ and 11.those who/ in life/ get glory/ only/ work hard/ and success 12.service/ the/ of mankind/ God/ the service/ of/ is 13.of most/ nowadays/ the attitude/ parents is/ different 14.effort/ great/ without/ nothing/ achieved/ can/ be 15.join college/ decided to/ at the/ I/ thirty-five/ age of **<u>ENGLISH LITERATURE</u>** Read about the characters in the story BEEHIVE- THE SOUND OF MUSIC (PART-1) by Deborah Cowley <u>About the characters</u> 1. **Evelyn Glennie-** The renowned xylophone player who was deaf but managed to overcome her disability. 2. **Ron Forbes-**The percussionist who spotted the potential within the young Evelyn and motivated her to play drums. (Write down question answers, reference to context and long answer in your English notebook) **Answer the following questions.** Question 1: How old was Evelyn when she went to the Royal Academy of Music? Answer: She was sixteen when she went for the audition of the Royal Academy of Music. Question 2. When was her deafness first noticed? When was it confirmed? Answer: Her deafness was first noticed when she was eight years old. When she turned eleven, her deafness was confirmed.

Question 3. Who helped her to continue with music? What did he do and say?
Answer: It was a percussionist named Ron Forbes who spotted her potential in music. Ron Forbes advised her to feel the music instead of listening it. He said her to feel it thorough her whole body.

Question 4: Name the various places and causes for which Evelyn performs.
Answer: Evelyn performs at music concerts. Apart from that she also performs at prison and hospitals. Through music she wants to spread the message of love and peace to prisoners and sick people.

Question 5: How does Evelyn hear music?
Answer: Evelyn hears music through her whole body. In fact she just feels the music. She tries to feel the vibrations which create sound. While playing drums she uses her upper and lower body to feel vibrations from different types of drums. While playing xylophone she feels the music pulsating through her fingers. When she has to perform on wooden floors, she removes her shoes. This enables her to feel the vibrations through her bare feet. She even feels the music through her hair.

Answer the following with reference to the story.

1. Evelyn Glennie's loss of hearing had been gradual…."Everything suddenly looked black", says Evelyn.

(i) Why was Evelyn taken to a specialist?
A. Evelyn was taken to the specialist in order to have a thorough check-up of her hearing problems.

(ii) Why did Evelyn say that everything looked black?
A. Evelyn said that everything looked black as there was a suggestion for her to be sent to a school for the deaf, which would have spoiled her future life.

(iii) Which word is not similar to 'progressed' in the extract.
A. The word is deteriorated.

(iv) How was Evelyn's abnormality noticed?
A.Evelyn's abnormality was noticed for the first time when she was to play the piano, but when her name was called, she didn't hear it.

2. As for music, she explains, "It pours in through every part of my body……she removes her shoes so that the vibrations pass through her bare feet and up her legs.

(i) How did Evelyn 'hear' the music?
A. Evelyn 'heard' the music as she left it being poured in through every part of her body.

(ii) How can Evelyn sense the sound of the xylophone?
A.Evelyn could sense the sound of the xylophone passing up the stick into her fingertips.

(iii) Find the word that has same meaning to the word 'describes' in the extract.
A.The word is explains .

(iv) What explanation did Evelyn give about music?
A.Evelyn explained about music that it poured in through every part of her body.

Long question answer

1. How was the deafness of Evelyn detected for the first time? When was it confirmed?
A. Evelyn was waiting to play the piano once. She was waiting for her name to be called. Somebody called her name but she didn't move at all. With this no response, it was probable that her hearing ability had been impaired. That gave a hint of her abnormality for the first time. Anyway, she was able to conceal her deafness somehow. But,it was evident that the impairment would not be suppressed for long.When she was eleven, her marks began to deteriorate and, on the urge of her headmistress, her parents took her to a specialist and then only was it confirmed that, due to gradual nerve damage, she wouldn't be able to hear anymore.

Read about the characters in the story
BEEHIVE- THE SOUND OF MUSIC (PART-2)

by Deborah Cowley

About the characters

3. **Aurangzeb-** A Mughal Emperor who banned the playing of pungi in the royal court.
4. **Bismillah Khan-** The legendary shehnai player who brought this instrument to the front of the world.
5. **Rasool Bux Khan-** The grandfather of the great Bismillah Khan.
6. **Paigambar Khan-** The father of Bismillah Khan.
7. **Ali Bux-** Maternal uncle of Bismillah Khan.

Summary

This lesson is an effort to understand Indian classical musicians and instruments especially the origin of shehnai and Shehnai maestro Ustad Bismillah Khan. Shehnai replaced pungi which had an unpleasant sound. Pungi's tonal quality was improved by a nai (barbar) of sah (emperor Aurangzeb); hence it was named as shehnai.

The lesson beautifully deals with the early life of Bismillah khan in Dumraon in Bihar. His grandfather was a shehnai-Nawaz of the bhojpur king's court. Bismillah Khan took to music early in life when he was 3 years old in the company of his maternal uncle. His life is a source of simplicity and communal harmony from the very beginning when he used to sing ' Chiata' in Bihariji temple and practicing shehnai in Vishnu temple and Mangala Maiya temple of Varanasi. Bismillah khan got his big break with the opening of All India Radio in Lucknow in 1938. He also played shehnai on 15 August 1947 from Red Fort in presence of Pandit Nehru.

Bismillah khan gave many memorable performances both in India and abroad where he was honored with so many awards. He also gave music in two movies 'Gunj Uthi shehnai' and 'Sanadhi Apanna". He was so fond of his motherland India, Benaras, and the holy Ganga that he refused an offer to be the Head of Shehnai school in the USA. In 2001, Ustad Bismillah Khan was awarded India's highest civilian award, the Bharat Ratna. In the end, his life is a perfect example of the rich, cultural heritage of India, one that effortlessly accepts that a devout Muslim like him can very naturally play the shehnai at the Kashi Vishwanath Temple.

(Write down question answers, reference to context and long answer in your English notebook)

Answer the following questions.

Q. Why did Aurangzeb ban the playing of the pungi ?
A. Aurangzeb banned the playing of the pungi because it had a shrill unpleasant sound.

Q. How is a shehnai different from a pungi ?

A. A shehnai is a pipe with a natural hollow that is longer and broader than a pungi. It has seven holes on the body of the pipe .

Q. Where was the shehnai played traditionally ? How did Bismillah Khan change this ?

A. The shehnai was played traditionally in royal courts, temples and weddings .Bismillah Khan changed this by improvising and creating ragas that were earlier considered to be beyond the range of the shehnai.

Q. When and how did Bismillah Khan get his big break ?

A. Bismillah Khan got his big break with the opening of the All India Radio in Lucknow in 1938.

Q. Where did Bismillah Khan play the shehnai on 15 August 1947 ? Why was the event historic?

A. Bismillah Khan played the shehnai on 15 August 1947 at Red Fort. It was a historic day as India gained independence on that day. He was the first India to greet the independent nation with his shehnai.

Q. Why did Bismillah Khan refuse to start a shehnai school in the U.S.A. ?

A. He refused to start a shehnai school in the USA because the nation did not have the holy river Ganga. It was not possible to transport the Ganga from India to the USA. That was why whenever he was in a foreign country. He kept yearning to see Hindustan.

Q. Find at least two instances in the text which tell you that Bismillah Khan loves India and Banaras.

A. The first instance is when he turned down his student's offer to start a shehnai school in the USA.The second instance is when he was asked why he did not shift to Pakistan during partition.He said that he would never leave Benaras.

Answer the following with reference to the story.

1. The sound of the shehnai began to be considered auspicious… he would earn big laddu weighing 1.25kg, a prize given by the local Maharaja.

(i) How is shehnai important?
A.Shehnai is important as it is played in the North Indian wedding.Also,it used to be part of the traditional ensemble.

(ii) What prize did Bismillah Khan get?
A. The prize that Bismillah Khan got was a big laddu weighing 1.25kg.

(iii) To which word 'global' is not associated with?

	B. The word is local. (iv) Why is shehnai played at the temples? A.Shehnai's sound is considered auspicious. So, it is played at the temples. 2. At the age of 14,Bismillah accompanied his uncle to the Allahabad Music Conference…He soon became an often heard shehnai player on radio. (i) What happened at the Allahabad Music Conference? A. At the Allahabad Music Conference Ustad Faiyaz Khan patted Bismillah's back and complimented him . (ii) How was the day of independence memorable for Bismillah? A.On the day of independence, Bismillah's greeted the nation with his shehnai and that's why it was a memorable day. (iii) Find the word that is antonymous to 'lost'.. A.The word is gained . (iv) How is the opening of All India Radio important for Bismillah Khan? A.With the opening of All India Radio, Bismillah Khan got his break and he was often heard after that. Long question answer 1. Describe the importance of shehnai in Indian classical music. How did Bismillah contribute to its development? A. The shehnai's sound is considered very auspicious.Due to this it is played in temples and has become an indispensable indispensable part of North Indian weddings.In earlier times, it was a part of the traditional custom of the royal court. Therefore, it can be said that shehnai was very important in Indian music.Bismillah Khan changed the concept of playing of shehnai.He brought it to the front of classical music.He made it a global instrument and took it to the world stage.
SOCIAL SCIENCE	**Chapter- What is Democracy?** **Why Democracy?** **Read the chapter and refer to the videos uploaded in the You Tube channel (subscribe NML KPS)** **Part 1- https://youtu.be/UPWE2-QnvTY** **Part 2 - https://youtu.be/jVYwswZtJ0U** **Part 3 - https://youtu.be/rfyhEhjwuwI** **Short type** 1. How democracy allows us to correct it's own mistakes? 2. How does democracy enhance the dignity of citizens?

	3. Define the term "Democracy". 4. Give an example of Mexico, prove that although having a democratic system, they were not practicing democracy. 5. Compare the democratic system in China with Mexico. 6. Give examples of the countries which do not provide equal rights to vote. 7. Give arguments against democracy. 8. Give arguments in favour of democracy. 9. What according to you is the broader meanings of democracy? 10. Why is democracy considered as the best form of government **Long type** 1. State the main features of democracy. 2. Once elected by the people, what kind of duties are needed to be performed by the office bearers? 3. In which countries, even today, there is denial of equal right to vote? 4. Why do we need to define democracy accurately? 5. Under what conditions is a government run after the elections? 6. "Democracy is better than others forms of government because it allows us to correct its own mistakes". Do you agree with it or not? 7. Explain the statement- ' There should be sufficient room for normal political activities before elections '. 8. ' In a democracy,no one is a permanent winner or loser'. Why do we say that ? Give three points? 9. How does democracy improve the quality of decision making ? 10. How does democracy provide a platform to deal with differences and conflicts?
COMPUTER	**Ch.3 Basics of operating system** 1. Read the chapter Carefully. 2. Go through the Terminologies given at the back of the chapter. 3. Complete Application Based Questions in your notebook. **[Short notes for this chapter will be provided to you in your What's app group].** **Ch.4 Communication and networking** 1. Read the chapter Carefully. 2. Go through the Terminologies given at the back of the chapter. 3. Complete Application Based Questions in your notebook. **Ch .5 Cyber Safety** 1. Read the chapter Carefully. 2. Go through the Terminologies given at the back of the chapter. 3. Complete Application Based Questions in your notebook.

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