

FOR CLASS X SCIENCE 2009-10

INDEX

CHAPTER 1	CHEMICAL REACTIONS AND EQUATIONS
CHAPTER 2	ACIDS BASES AND SALTS.
CHAPTER 3	METALS AND NON METALS
CHAPTER 4	CARBON COMPOUNDS
CHAPTER 5	PERIODIC CLASSIFICATION OF ELEMENTS
CHAPTER 6	LIFE PROCESSES
CHAPTER 7	CONTROL AND COORDINATION
CHAPTER 8	HOW DO ORGANISMS REPRODUCE?
CHAPTER 9	HEREDITY AND EVOLUTION
CHAPTER 10	LIGHT :REFLECTION AND REFRACTION
CHAPTER 11	HUMAN EYE AND COLOURFUL WORLD
CHAPTER 12	ELECTRICITY
CHAPTER 13	MAGNETIC EFFECTS OF ELECTRIC CURRENT
CHAPTER 14	SOURCES OF ENERGY
CHAPTER 15	OUR ENVIRONMENT
CHAPTER 16	MANAGEMENT OF NATURAL RESOURCES

CHEMICAL REACTIONS AND EQUATIONS

CHAPTER 1

1. What happens to idli dough when it is kept at room temperature on a summer day? (1)
2. People living in coastal areas use plastic articles than iron articles for their day to day activities. Why? (1)
3. The decomposition of vegetable matter into compost is an example of what type of reaction? (1)
4. Which term is used to indicate the development of unpleasant smell and taste in butter and oil containing food? (1)
5. What color difference would you observe on burning a candle and a magnesium ribbon? (1)
6. Ashok wanted his house to white washed. He bought 10kg quick lime from market and dissolved it in 30 liters of water. On adding lime to water he noticed that bubbles were produced and the solution becomes hot. Give reason and name the product formed. (2)
7. Arun took a pale green substance X in a test tube, and heated it over a flame. He observed a color change along with evolution of two gases with the smell of burning sulphur
(a) Identify X. (b) Identify the product formed. (c) Write the equation.
(d) Identify the type of chemical reaction. (3)
8. Grey colored metal 'X' is used in making dry cell. It is also used for coating iron metal to prevent it from rusting. When granules of 'X' are added to blue solution of compound of a reddish brown metal 'Y', the color of the solution gets discharged and metal 'Y' is formed. Identify 'X' and 'Y'. Write the chemical reaction and identify the type of reaction. (3)
9. A compound 'X' is used for drinking has pH=7. Its acidified solution in presence of electricity undergoes decomposition to produce gases 'Y' and 'Z'. The volume of 'Y' is double than 'Z'. 'Y' is highly combustible where as 'Z' is a supporter of combustion. Identify 'X', 'Y', 'Z' and write the chemical reactions involved. (3)

10. A metal nitrate solution 'A' is added to reddish brown metal 'B'. The metal present in 'A' is used for making jewellery and turns black in air, very thin foils of metal are used to decorate sweets. The compound 'C' formed on chemical reaction is blue in color and metal present in 'A' is formed. Identify A 'B' and 'C' and write chemical reactions involved. (3)
11. Silver articles develop black coating and copper articles develop green coating. Which chemical phenomenon is responsible for this coating? (2)
12. An aqueous solution of metal nitrate 'X' reacts with Sodium bromide solution to form yellow precipitate of compound 'Y' which is used in photography. 'Y' on exposure to sunlight, undergoes decomposition reaction to form metal present in 'X' along with gas. Identify 'X' and 'Y'. Write the chemical reaction and identify the type of reaction (3)

ACIDS BASES AND SALTS.

CHAPTER 2

1. A compound 'X' is an important ingredient of an antacid. It is also used in fire extinguisher. Identify 'X'. (1)
2. Plaster of Paris should be stored in moisture proof container. Why? (2)
3. When acid rain flows into rivers the aquatic lives are affected. Why? (2)
4. Both glucose and HCl contain hydrogen in them, but HCl shows acidic character Whereas glucose does not. Why? (2)
- 5.. Under what soil condition do you think a farmer would treat the soil of his field with Quicklime, slaked lime or chalk? (1)
6. A person is caused with burns while adding water into a concentrated acid.

- What was the reason behind it? (1)
7. Why do acids not show acidic behavior in the absence of water? (2)
8. What is the colour change when a stain of curry on a white cloth comes in contact with soap? And why? (2)
- 9.. A colourless compound 'x' obtained from sea water used in daily meals is taken in a test tube .Conc.H.₂SO₄ was added to the test tube. , a pungent smelling gas 'Y' comes out which does not affect dry blue litmus paper but turns moist blue litmus paper red. Identify 'X' and 'Y'. (1)
10. Compound 'X' forms enamel of teeth. It is the hardest substance of the body. It does not dissolve in water but it is corroded when PH in the mouth is below 5.5.Write the chemical reactions involved. (2)
11. A metal is found in the lab in the form of grey colored granules. It reacts with dil.H₂SO₄ to form a gas which burns with a pop sound. Identify the metal .It also reacts with caustic soda to liberate the same gas. Write chemical reactions involved. (3)
12. 'A' is soluble acidic oxide and 'B' is soluble base. Compared to the pH of pure, water what will be the pH of solution A and solution B? (1)
13. A few drops of phenolphthalein were added to an unknown solution A. it acquired pink colour. Now another unknown solution B was added to it drop by drop. The solution became colorless. What is the nature of A and B? (1)
14. A milk man adds a very little amount of baking soda to fresh milk.
- a) Why does he shift the pH of fresh milk?
- b) What do you expect to observe when milk comes to boil (2)

METALS AND NON METALS

CHAPTER 3

1. A metal is soft. It can be cut with a knife. Its salt is called is rock salt. The metal is kept in kerosene oil. Name the metal and the reason for storing in oil. (2)
2. A metal 'X' is highly malleable and ductile. Its foil is used for wrapping food materials. It is used for making transmission wires. Identify the metal and predict the nature of oxide formed by this metal. (1)
3. A yellow coloured powder 'X' is soluble in carbon di sulphide .It burns with a blue flame forming suffocating smelling gas which turns moist blue litmus red. Identify 'X' and give chemical reaction. Identify it is a metal or non metal. (2)
4. Royal water is prepared by mixing two acids. 'A' and 'B' .It can dissolve gold and platinum. It is highly corrosive and fuming liquid. Identify 'A' and 'B'.
What is the ratio in which 'A' and 'B' are mixed? (2)
5. A metal 'X' is found in the form of filings burn vigorously when sprinkled on flame. When these filings are heated with sulphur, a black colored compound 'Y' is formed which is not attracted by a magnet. 'X' reacts with dil. HCl to liberate hydrogen gas. 'X' reacts with steam to form to form 'Z' along with hydrogen gas. Identify 'X','Y' and 'Z' and write the chemical reactions involved. (5)
6. A reddish brown metal 'X' on heating forms a black coating of oxide 'Y' on its surface. The metal does not react with dil.HCl and dil H₂SO₄. It reacts with hot conc.H₂SO₄ to give a pungent smelling gas similar to that produced by burning matchstick. The metal oxide reacts with dil.H₂SO₄ to form a blue solution. Identify ' X', 'Y' and 'Z'. Write the chemical reactions involved. (3)
7. Why pure metal is always collected at cathode during electrolytic refining? (2)

8. A girl has a hobby to collect coins of different countries. One day she observed the black coating on silver coins and green coating on copper ones. What is the reason? (2)
9. An 'A' element when is burnt produces a gas that turns lime water milky and when passed through moist blue litmus paper, it turned red. Identify 'A'. (1)
10. Tarnished copper vessels are cleaned with lemon or tamarind juice. Explain why these substances are effective? (2)

CARBON AND ITS COMPOUNDS

CHAPTER 4

1. If the pH of water is two, out of soap and detergent which one will you use for cleaning clothes? (1)
2. An organic compound X with a molecular formula C_2H_6O undergoes oxidation with in presence of Alkaline $KMnO_4$ to form a compound Y. X on heating in presence of conc. H_2SO_4 at $443k$ gives Z which on reaction with H_2O in presence of H_2SO_4 gives back 'X' 'Z' reacts with Br_2 (aq) and decolorizes it. Identify X, Y & Z and write the reactions involved. (3)
3. An organic compound 'A' is widely used as a preservative in pickles and has a molecular formula $C_2H_2O_2$. This compound reacts with ethanol to form a sweet smelling compound B.
- (i) Identify the compound A.
- (ii) Write the chemical equation for its reaction with ethanol to form compound 'B'
- (iii) How can we get compound 'A' back from B?
- (iv) Name the process and write corresponding chemical equation (3)

4. Hydrocarbons X and Y have melting points -190°C & -90°C respectively. Which one of these has minimum carbon in the molecule & why? (2)
5. Three bottles without labels contain alcohol, ethanoic acid and soap solution separately how will you test which bottle contains what. (3)
6. A compound X has molecular formula C_4H_{10} . It undergoes substitution reaction more readily than addition reaction. It burns with blue flame and is present in LPG. Identify 'X' and give the balanced equation for its combustion and substitution reaction with Cl_2 in the presence of sunlight. (3)
7. A compound 'A' works well with hard water. It is used for making shampoos and products for cleaning clothes. A is not 100% biodegradable and causes water pollution. 'B' does not work well with hard water. It is 100% biodegradable and does not create water pollution. Identify A & B. (1)
8. Can we use sodium metal for drying alcohol, why? (2)

PERIODIC CLASSIFICATION OF ELEMENTS

CHAPTER 5

1. The elements with atomic numbers (Z) equal to 107 and 109 have been made recently. The element $Z = 108$ has not been made. Indicate the groups in which the above elements can be placed? (1)
2. Which of the following species will have largest and smallest size? Mg, Mg^{2+} , Al, Al^{3+} (1)
3. Arrange the C, Si, N, and F in the increasing order of non-metallic character. (1)
4. Among the elements with atomic numbers 9, 12, 36 identify the element which is
 a. Highly electronegative in nature
 b. An inert gas in nature
 c. Highly electropositive in nature (3)

5. Using the periodic table, predict the formulas of compounds which might be formed by the following pair of elements
- Si and Br
 - Al and S (2)
6. The position of three elements A, B and C in the periodic table is shown below:
- | Group XVI | Group XVII |
|-----------|------------|
| --- | --- |
| -- | A |
| ---- | --- |
| B | C |
- State whether A is a metal or non-metal
 - State whether C is more reactive or less reactive than A
 - Will C be larger or smaller in size than B?
 - Which type of ion, cation or anion, will be formed by element A? (3)
7. From the positions of the elements in the periodic table predict which members of each of the following pairs will
- Conduct electricity, Ca or S
 - Form a negative ion, Co or Cl
 - Form a solution of an acid in water, N_2O_3 or CaO
 - Form an ionic compound with Flourine, Al or P
 - Form a covalent compound with Oxygen, K or N
 - Have higher electro negativity, Ba or B (3)
8. From the positions of elements in the periodic table predict which member of each of the following pairs will be
- A base, CsOH or BrOH
 - An oxidizing agent, S or N
 - An ionic compound RbCl or BrCl
 - More easily reduces, Ca or O (2)
9. Indicate the elements which belong to the same group, from the atomic numbers 9, 17, 24, 30, 35 and 45. (3)
10. Identify the following:
- an element with four electrons in its M shell
 - Element with half as many electrons in the fourth shell as compared to the third shell
 - an alkali metal
 - lightest metalloid (2)

LIFE PROCESSES

CHAPTER 6

1. Is the food vacuole of amoeba temporary structure or permanent structure? (1)
2. A T P is the energy currency of the cell. Do you agree with the statement? (1)
3. We are gifted to have haemoglobin as oxygen carrier and not diffusion. Do you agree with the statement if so, why? (2)
4. Anshu is fond of eating chocolates but her father advises to brush the teeth after eating them. What is the reason? (2)
5. If there were no algae, there would be no fish in the sea. Comment on this statement. (1)
6. Why don't the lungs collapse even after forceful expiration? (1)
7. A certain tissue in a green plant somehow gets blocked and the leaves wilted. What was the tissue that got blocked? (1)
8. Why enzymes are in active form even when there is no food in our stomach? (1)
9. Is leaf fall related to excretion? How? (2)
10. What advantage does a terrestrial organism have over an aquatic organism with regard to obtaining oxygen for respiration? (1)
11. The two openings of the pharynx, one leading to trachea and the other leading to oesophagus, lie very close to each other. Yet food we swallow normally does not enter into our trachea. Why? (2)
12. Normally a vein opens into a large vein or into the heart but does not end in capillaries. Which one or more veins in human are exceptions to this rule? (1)
13. Why is the inner wall of the alimentary canal not digested although the digestive enzymes can digest all the materials that make cells? (2)
14. Why is carbon-di-oxide mostly transported in the dissolved form in our blood than oxygen? (1)

CONTROL AND COORDINATION

CHAPTER 7

1. Which hormone is known as emergency hormone?
(1)
2. What type of movement is shown by "Mimosa" plant leaves when touched with a finger?
(1)
3. On touching a hot plate, you suddenly withdraw your hand. Which category of neurons become active first and which one next?
(1)
4. How does a plant shoot bends, when the plant is placed in a room having only one open window?
(1)
5. Pancreas is the overall controller of the blood glucose level. How do you support the statement?
(2)
6. 'Adrenal' is called the ""stress managing glands of the body".Justify your answer.
(2)
7. Leaves drop off seasonally. Attribute a reason.
(1)

HOW DO ORGANISMS REPRODUCE?

CHAPTER 8

1. Why is regeneration considered a method of reproduction? Why does asexual mode of reproduction have limitations in evolution of species?
(2)
- 2.. How do you know that two individual organisms belong to the same species?
(1)
- 3.. Is copy of DNA formed identical to original cell? If yes or no, how is it beneficial to the species? Why is variation beneficial to the species but not necessarily for the individual? (2)
4. Can an unfertilized egg form a new organism in the sexually reproducing type of organisms?
(1)

5. An individual may have a good health even when the whole of reproductive system is removed. What is the function of the reproductive system then? (1)
6. If a woman is using copper- T, will it help in protecting her from sexually transmitted diseases? (1)
8. How are ornamental plants grown artificially? (3)

HEREDITY AND EVOLUTION

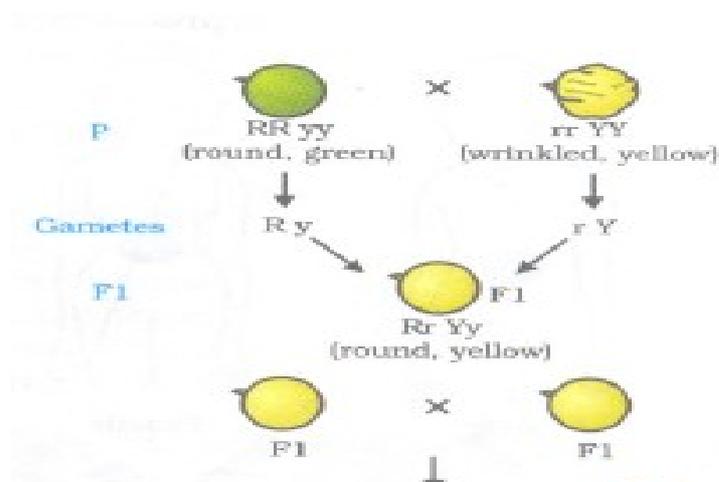
CHAPTER 9

1. In a mono hybrid cross between a white flowered plant and pink, the F1 generation was pink.

Answer these:

- a. Which are the dominant and the recessive traits?
- b. Represent the gene combination for the parental and F1 plants.
- c. If the F1 plants are selfed what will be the ratio of the pink and white Flowers? (3)

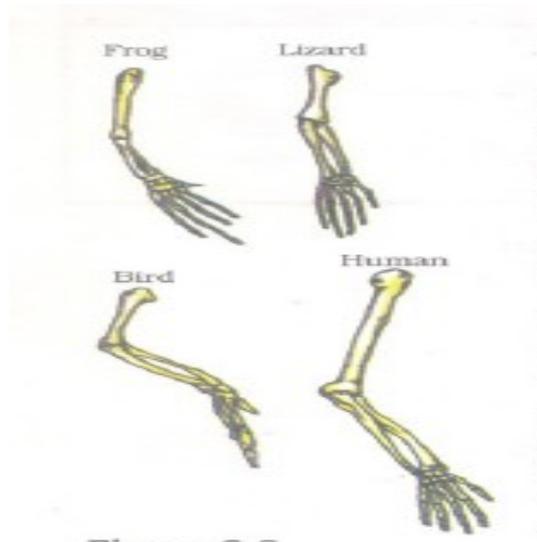
2. Study the dihybrid cross shown below



- a. How many characters are transmitted in this cross?
- b. If F1 hybrids are selfed what will be the colours obtained and their ratio .

c. If 556 plants were obtained in the F2 generation what will be the ratio and the number of each of the plants? (3)

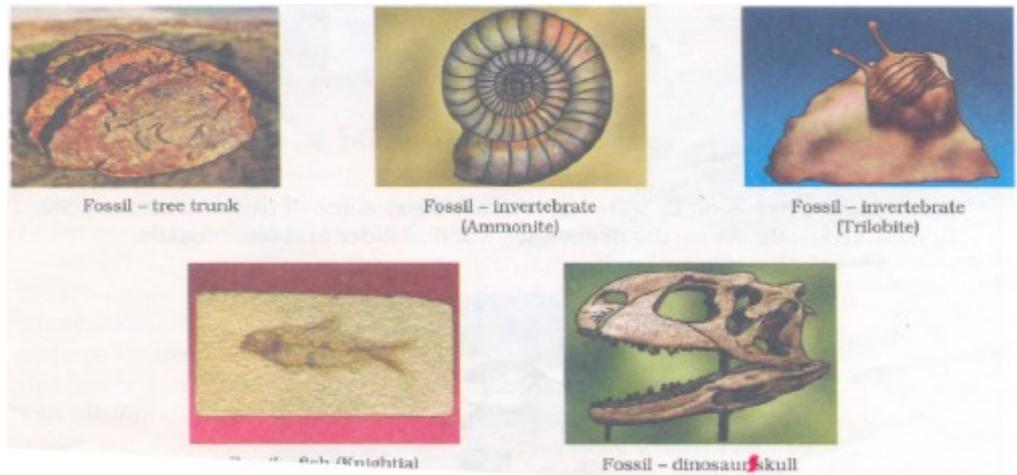
3. Study the picture shown



a. What do the organs represent?

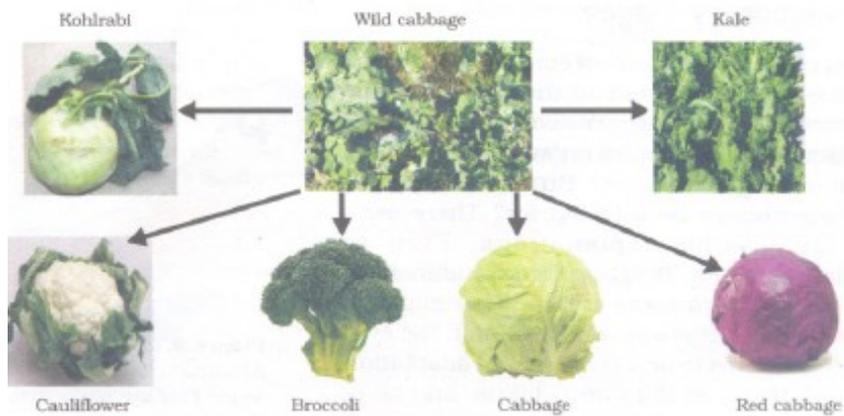
b. how does this throw light on evolution? (2)

4. Suggest one term for all the pictures.

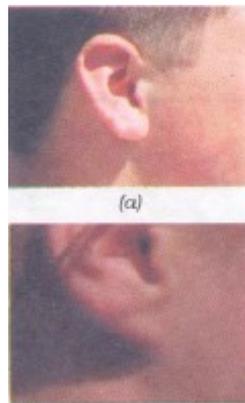


(1)

5. How does the following set of pictures suggest artificial selection?



6.



Identify at least three other such traits as shown by the set of pictures above? (3)

7. The tendrils in cucumber and thorns in Bougainvillea are Homologous organs. Why? (2)
8. The nictitating membrane present in frogs and birds serves as a covering membrane for the eyes. But this membrane is vestigial in humans. Why? (2)
9. Dinosaurs were ancient reptiles but they have said to have feathers, but it could not fly. Why? (2)
10. In python and whale, the vestigial remains of hind limbs and pelvic girdle are present. Functionless wings are present in kiwi birds. Splint bones are present in the hind limbs of a horse. How do these organs support the theory of organic evolution? (2)

11. Mother is responsible for the sex of her baby. Is this statement right? If not why? (2)
12. If the weight of the individual is reduced because of starvation, the progeny will not have low weight. Give reason. (1)
13. Why does the tadpole resemble a fish? (1)
14. Both the parents are fair, but the child born is dark in complexion why? (1)
15. A pea plant with purple flowers were crossed with white flowers producing 40 plants with only purple flowers .On selfing , these plants produced 470 plants with purple flowers and 162 with white flowers. What genetic mechanism account for these results? (2)
16. If species –A has more common characteristics with species -C, where as species-B has less common characteristics with species—C which two species are more closely related? (2)
17. A man with type A blood has a wife with type B. They have a child with type O blood. Give the genotype of all the three. What other blood groups can be expected in the future off spring of this couple? (2)
18. Braying donkeys with drooping ears is crossed with silent donkeys with erect ears. Braying and drooping is dominant while silent and erect is recessive .Find the genotype ratio. (2)

LIGHT :reflection and refraction

CHAPTER 10

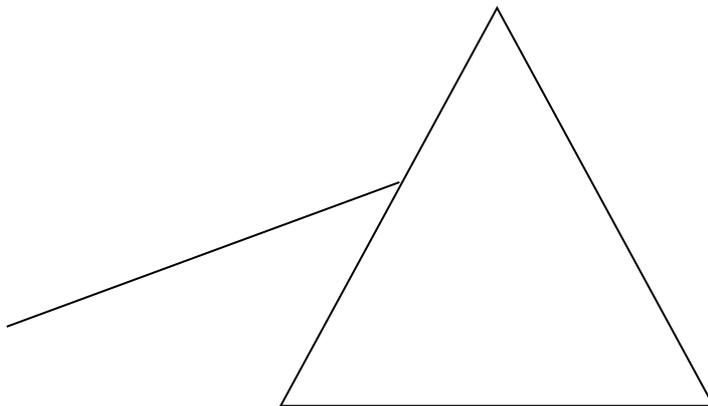
1. You are given kerosene, turpentine oil and water. In which of these does the light ray travel fastest? Given refractive index of kerosene = 1. 44, Refractive index of turpentine 1· 47, refractive index of water = 1· 33. (1)
2. Under what condition a convex lens when placed in a medium behaves as an ordinary glass plate? (1)
3. Light having a free space wavelength $\lambda = 500$ nm passes from vacuum into diamond having refractive index 2.4. What would be the wavelength of light in the diamond? (2)

4. A ray of light is travelling in water medium falls on the water-air interface at an angle of 45° with the vertical. Will it be possible by the ray of light to come out of the water surface? (2)
5. A virtual image cannot be focused on a screen.” this statement appears to be contradictory as we focus a virtual image onto a screen, i. e retina explain it. (2)
6. In what way is the word AMBULANCE painted in front of the hospital vans? Why is it painted this way? (2)
7. A concave mirror and convex lens are held in water. What change, if any, do you expect to find in the focal length of either? (1)
8. ‘ Vehicles in this mirror are closer than they appear’. This warning is printed on the convex mirror outside the driver’s side of a vehicle. What is the reason for this warning? (2)
9. A glass tumbler is placed over a coin and filled with water. Coin disappears after sometime when seen from the sides of the tumbler. Give suitable name for the phenomena observed. (1)
10. If a lens has been blackened in strips, what will be the difference in the nature of the image? (1)
14. How many images are seen when two mirrors are placed in parallel?
(1)
15. Is it possible for a lens to act as a convergent in one medium and divergent in another? (1)

HUMAN EYE AND COLOURFUL WORLD

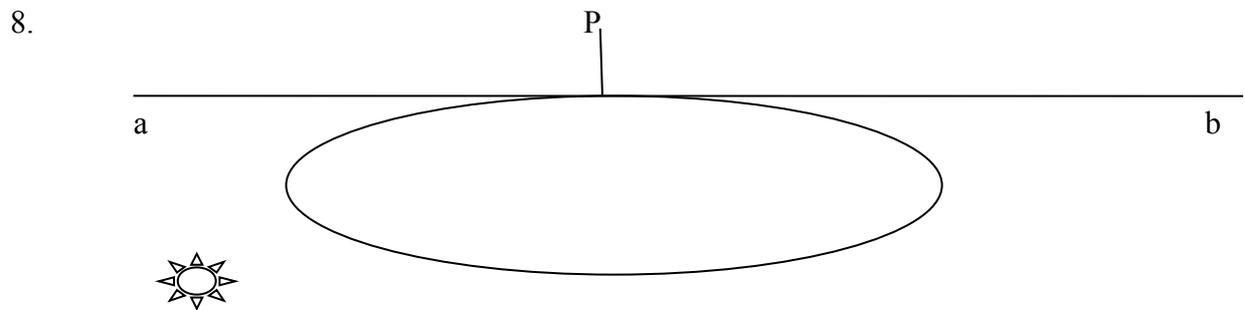
CHAPTER 11

1. What happens to the image distance in the eye when we increase the distance of an object from the eye? (1)
2. A student has difficulty in reading the black board while sitting in the last row. What would be the defect the student is suffering from? How can it be corrected? (2)
3. A person with a myopic eye cannot see objects beyond 1.2 m distinctly. What should be the nature of the corrective lens used to restore proper vision? (1)
4. A person is able to see objects clearly only when these are lying at distances between 50 cm and 300 cm from his eye.
 - (a) What kind of defects of vision is he suffering from?
 - (b) What kind of lenses will be required to increase his range of vision from 25 cm to infinity? Explain briefly.(3)
5. A beam of white light is passed through a hollow prism, will it produce a spectrum? (2)
6. Complete the given figure.



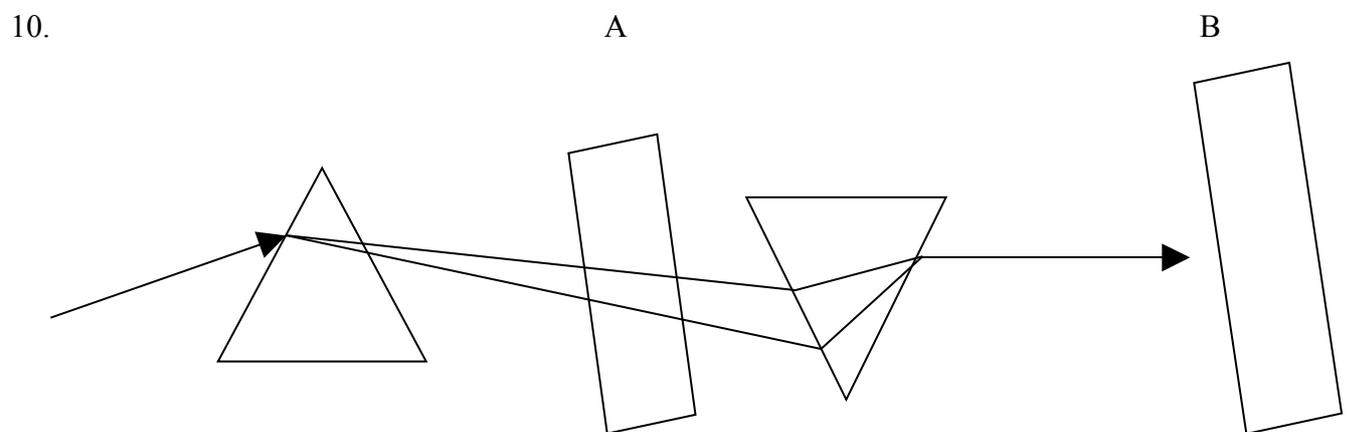
(2)

7. You are asked to set up traffic lights for a railway station, why would you choose red as the danger signal? (2)



If p represents a person on earth then what does the line ab represent? What should be the minimum distance of the sun from 'ab' so as to enable 'p' to see its image? (2)

9. Do all people looking at a star, locate it at the same apparent position? If not explain. (2)



What will be observed when a screen is placed at A and at B. (3)

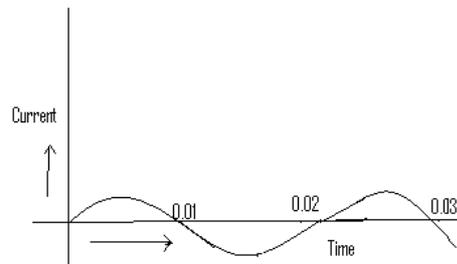
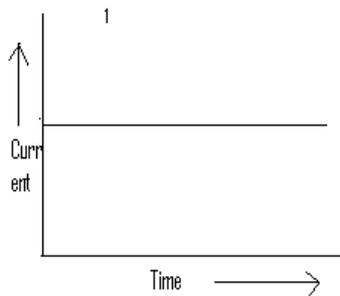
11. When a torch light is focussed on the eye which cells get activated immediately?
a) Sensory cells b) light sensitive cells
c) Cells of the ciliary muscles d) cells at the blind spot (1)
12. The defect in vision developed due to gradual weakening of ciliary muscle and diminishing flexibility of eye lens is:
a) Myopia b) hypermetropia c) night blindness d) presbyopia (1)

ELECTRICITY

CHAPTER 12

1. A hot plate of an electric oven connected to a 220 volt line has two resistance coil A and B each of 24 ohm resistance which may be used separately in parallel or series
(I) What will be the power consumed in each case?
(ii) In each of two cases, find the rating of the fuse required? (2)
2. A wire of length l , area A is made in to a wire of double its length by -
(I) attaching a similar wire.
(ii) Melting the existing wire
If the original resistivity is p , what will be the new resistivity and resistance? (2)
3. Two metallic wires A and B of same material are connected in parallel. Wire A has length (l) and radius (r) and wire B has length ($2l$) and radius $2r$. Compute the ratio of the total resistance of parallel combination and the resistance of wire A.
(2)
- 4.. Two wires are of the same length, same radius, but one of them is of copper and the other is of iron. Which will have more resistance? (1)

5. Two wires of same material and same length have radii r_1 and r_2 . Compare their resistances. (1)
6. A wire of length L and resistance R is stretched so that its length is doubled. How will its (a) Resistance change (b) Resistivity change? (2)
7. You are given following current-time graphs from two different sources



- a.. Name the type of current in two cases.
- b.. Identify any one source for each type of these currents.
- c.. What is the frequency of current in case (ii) in India?

Use above graphs to write two points of difference between the current in two cases.

(2)

8. The electric power consumed by a device may be calculated using either of the two expressions $P = I^2 * R$ or $P = V^2/R$. The first expression indicates that it is directly proportional to R whereas the second expression indicates inverse proportionality. How can the seemingly different dependence of P on R in these expressions be explained? (2)

9. A battery of 9 v is connected in series with resistance of 0.2Ω , 0.3Ω , 0.4Ω , 0.5Ω and 12Ω respectively. How much current would flow through the 12Ω resistor? (2)

10. Current in a wire is due to the flow of electrons in the wire. Although the drift speeds of electrons in the wire are very small, yet an electric bulb lights up as soon as the switch is on. Explain. Why? (2)

11. Electrical resistivity of some substances at 20°C are given below:

Silver $1.60 \times 10^{-8} \text{ Q m}$

Tungsten $5.2 \times 10^{-8} \text{ Q m}$

Iron $10.0 \times 10^{-8} \text{ Q m}$

Mercury $94.0 \times 10^{-8} \text{ Q m}$

Nichrome $100 \times 10^{-6} \text{ Q m}$

Answer the following questions in relation to them:

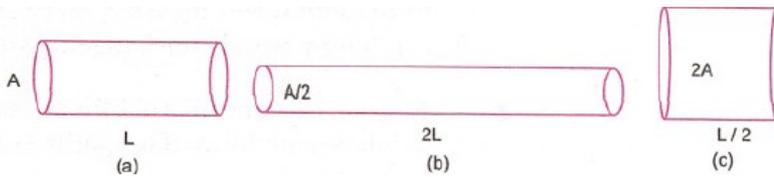
(i) Among silver and copper, which one is a better conductor? Why?

(ii) Which material would you advise to be used in electrical heating devices? Why?

(3)

12. If the resistance of an electrical component remains constant while the potential difference across the two ends of the component decreases to half its former value, what change will occur in the current through it? (1)

13. Figure *a*, *b* and *c* show three cylindrical conductors along with their face areas and length. Which geometric figure will have highest resistance?



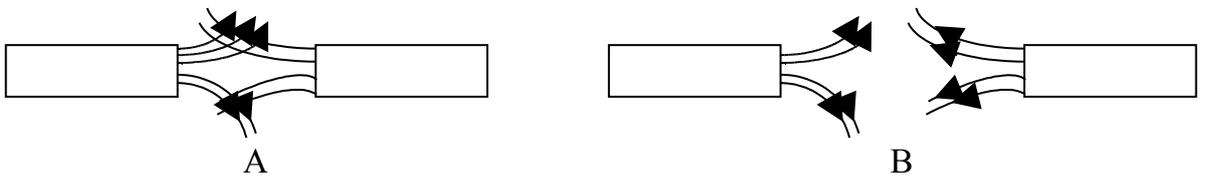
(3)

MAGNETIC EFFECTS OF ELECTRIC CURRENT CHAPTER 13

1. A magnet is moved in to a coil having a galvanometer along its axis,
- Galvanometer shows deflection. Give reason.
 - State the energy change which takes place during the movement of the magnet
 - Name this phenomenon. (3)
2. Two parallel long straight wires are carrying same current in a same direction perpendicular to plane of paper outwards-
- Why a magnetic field between the mid-points of the line joining the two wires Will be zero?

(b) If the direction of current in one of the wire is reversed, what will be the effect on magnetic field at the midpoint given in (a) above? (2)

3. Magnetic lines of force of two pairs of magnets are shown in figure A and B. Out of these two figures, which one represents the correct pattern of field lines, Name the poles of magnets facing each other.



(2)

4. A current-carrying straight conductor is placed in the east-west direction. What will be the direction of the force experienced by this conductor due to earth's magnetic field? How will this force get affected on?

(c) Reversing the direction of flow of current

(d) Doubling the magnitude of current. (3)

5. A coil of insulated copper wire is connected to a Galvanometer. What will happen if a bar magnet is (a) pushed into the coil (b) with draw from inside the coil (c) held stationary inside the coil. (3)

6. A student performs an experiment to study the magnetic effect of current around a current carrying straight conductor. He reports that

- (i) The direction of deflection of North Pole of a compass needle kept at a given point remains unaffected even when the terminals of the battery sending current in the wire are interchanged.
- (ii) For a given battery, the degree of deflection of N-pole decreases when the compass is kept at a point further away from the conductor.

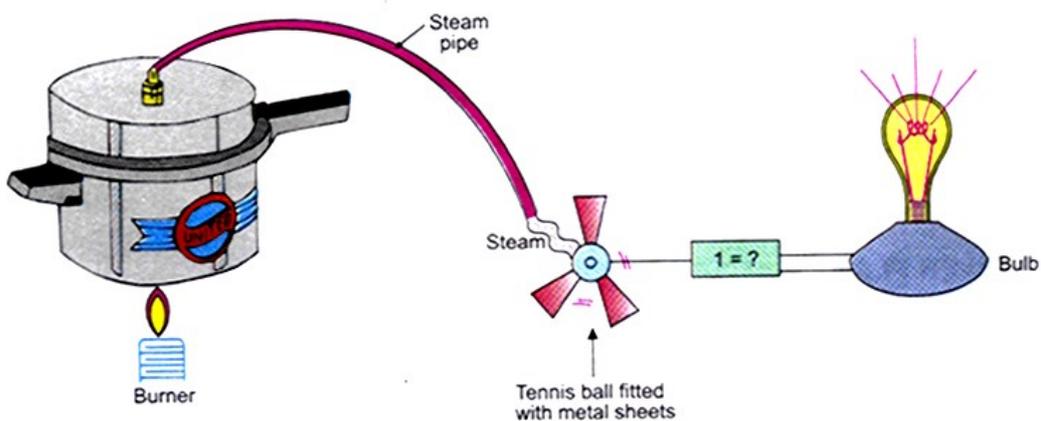
Which of the above observations of the student is incorrect and why?

(2)

SOURCES OF ENERGY

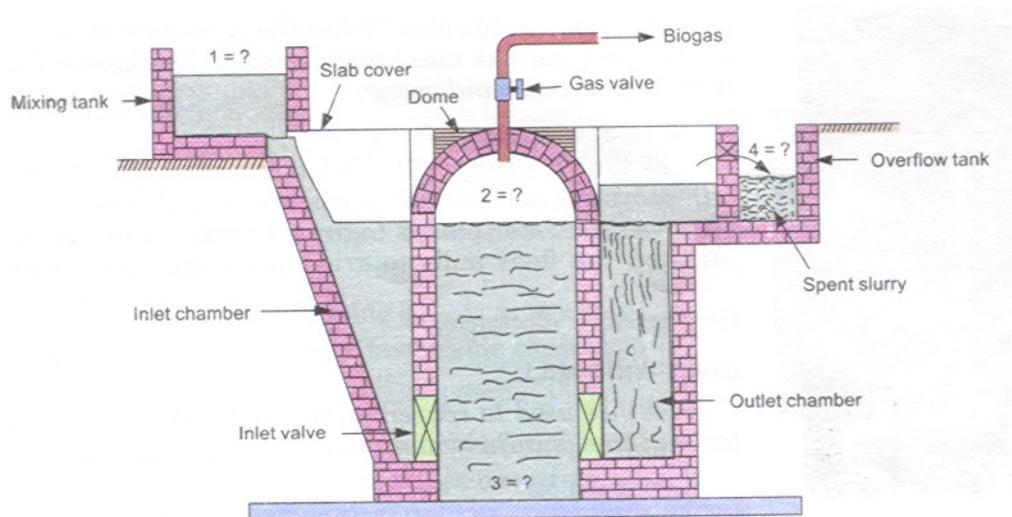
CHAPTER 14

1. Following model demonstrates the process of thermo electric production.



- a. Identify and label the device marked as 1.
- b. Why does the tennis ball fitted with metal sheets rotate?
- c. Name the device, which depends on the principle demonstrated by this model.
- d. Which form of energy is converted into electric energy? (2)

2. A diagram shown below is a biogas plant.



- a. Identify the parts indicated by question marks and labeled 1,2,3 and 4 in the diagram. (2)

3. A student says

- a. he uses water with a difference in temperature of 20 degree
- b. The water is used to boil a liquid

Name the form of energy and the volatile liquid used. (1)

4. A car is parked in the sun with its windows shut, the temperature inside the car is found to be very high, explain. What do you think will occur if the car was covered with a white cloth? (2)

5. How is the construction of dams connected to the green house effect? (2)

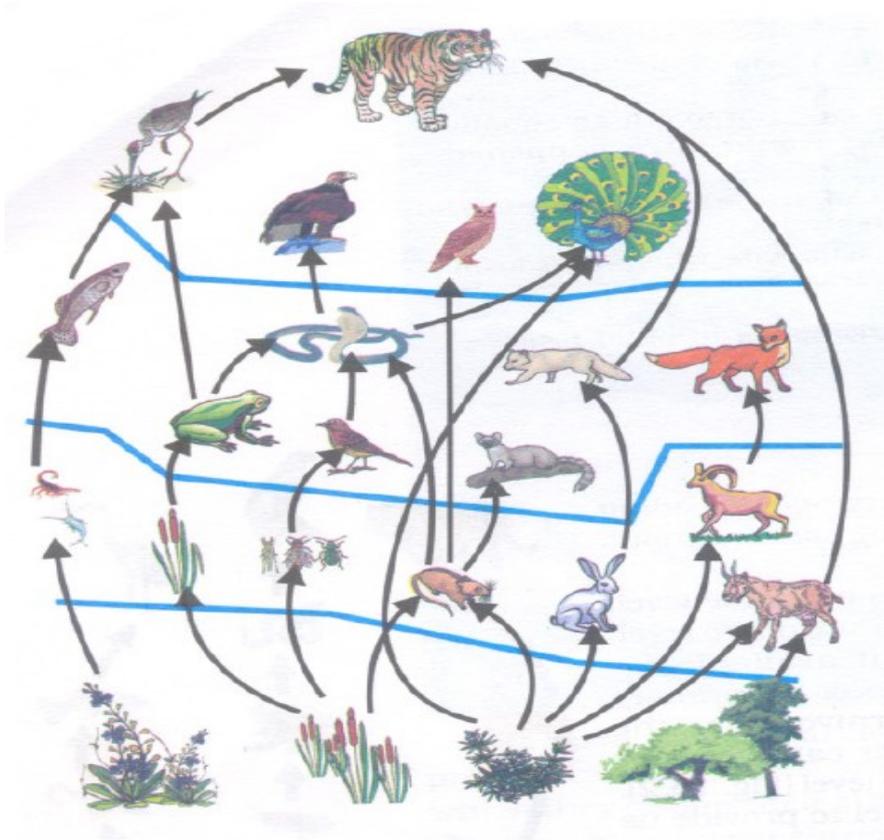
6. In a region having hundreds of industries where oxides of carbon, nitrogen and sulphur are released in the atmosphere, it rains heavily. Will the water bodies be affected? Give reason. (2)
7. Two students construct solar furnaces, one uses a concave mirror while the other uses a convex mirror, who do you think will have a better model of a furnace? Why? (2)
8. A student uses lamp- black for the black surface in the solar cooker. Is he at advantage or disadvantage or both? (2)
9. A house has a lot of rectangular setups with glass cover and black surfaces. On opening the tap one gets water at a temperature more than the normal Temperature, what is the array. (2)
10. A group of activists are protesting against the construction of a dam due to ecological reasons .Give two such reasons and an example of such a problem in India in recent times. (2)

OUR ENVIRONMENT

CHAPTER 15

1. What will happen if there are producers and consumers and no decomposers in a ecosystem? (1)
2. If cloth bags and plastic bags are provided to you. Which would you prefer and why? (2)
3. What was the disadvantage of using disposable cups made of clay? (1)
4. Why do we keep small aquatic plants in an aquarium? (1)
5. Why the aquarium needs regular cleaning? (2)
6. Why there is greater a number of individuals at the lower trophic level of an ecosystem? (2)

7. Study the food web given below



- a. Write any two food chains from the web above.
- b. Which of the food chains are advantageous in terms of energy?
- c. Why should a food chain not have more than five steps? (5)

MANAGEMENT OF NATURAL RESOURCES

CHAPTER 16

1. What is considered as eco –religion? (1)
2. How did 'Chipko Andolan' ultimately benefit the local population? (2)
3. What are 'Biodiversity hot spots'? What is the measure of biodiversity in an area?
How is it being affected? (2)

4. Why do you think there should be equitable distribution of resources? What forces would be working against an equitable distribution of our resources? (2)
5. Why do we need to resort to water harvesting when we can collect rain water and use it? (2)

HINTS

Chapter 1

1. Anaerobic respiration
2. High humidity
4. Oxidation
6. choona
7. Galvanisation
9. Electrolysis
10. Tarnishing of metal
11. Compounds in the air
12. Decomposition and precipitation

Chapter 2

1. Eno fruit salt.
2. Setting of bones
6. Exothermic reaction
7. Formation of ions
8. Indicator
10. Toothpaste
11. Anode in the dry cell

Chapter 3

1. used as an ingredient in food.
3. Bleaching agent

4. Testing purity of gold
7. Opposite poles attract

Chapter 4

2. Addition reaction
6. Photochemical reaction

Chapter 9

2. c. Calculate ratios out of every 16 plants.
11. Ova are similar and sperms are different.
- 17&18. Genes are dominant and recessive

Chapter 10

1. Optical density.
2. $1 \text{ nm} = 10^{-9} \text{ m}$.
10. light intensity
14. amusement park

Chapter 11

1. ciliary muscle.
4. Least distance of distinct vision
8. atmospheric refraction
10. dispersion of light

Chapter 12

$$2 \quad .R = \rho L/A$$

5. Calculate the area of the wire and use the resistivity formula.
8. in the first case I should be constant and in the second case V should be constant.
10. Electro magnetic waves.

Chapter 13

3. Field lines have a definite direction.
4. Fleming's rule
5. Magnetic flux.
12. force experienced in a magnetic field

Chapter 14

3.renewable ,non conventional resource.

4.Infra red rays.

5.forests are submerged.