

PREFACE

As we know CBSE has introduced CCE scheme last year. This Support Material is designed keeping the requirements of CCE in mind.

This Support Material consists of two parts Term I and Term II. The support material comprises of Gist of the Lesson, Mind Map of the lesson, Formative Assessments HOTS and Summative Assessments.

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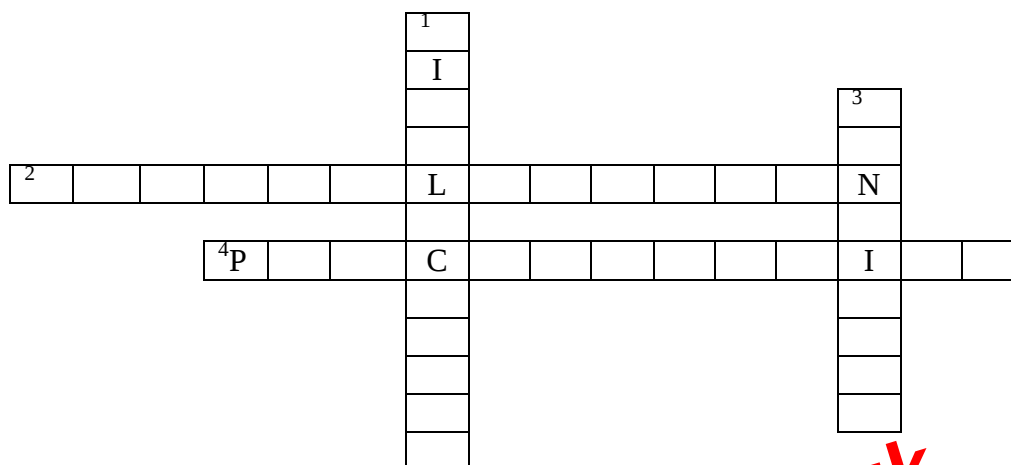
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2. ↓ Down

1. Phenomenon in which iron vessels get damaged on adding copper sulphate solution (12)
3. Phenomenon in which food material starts to smell badly on keeping (9)

⇒ Across

2. A reaction between acids and bases (14)
4. A process in which one of the products become insoluble (13)



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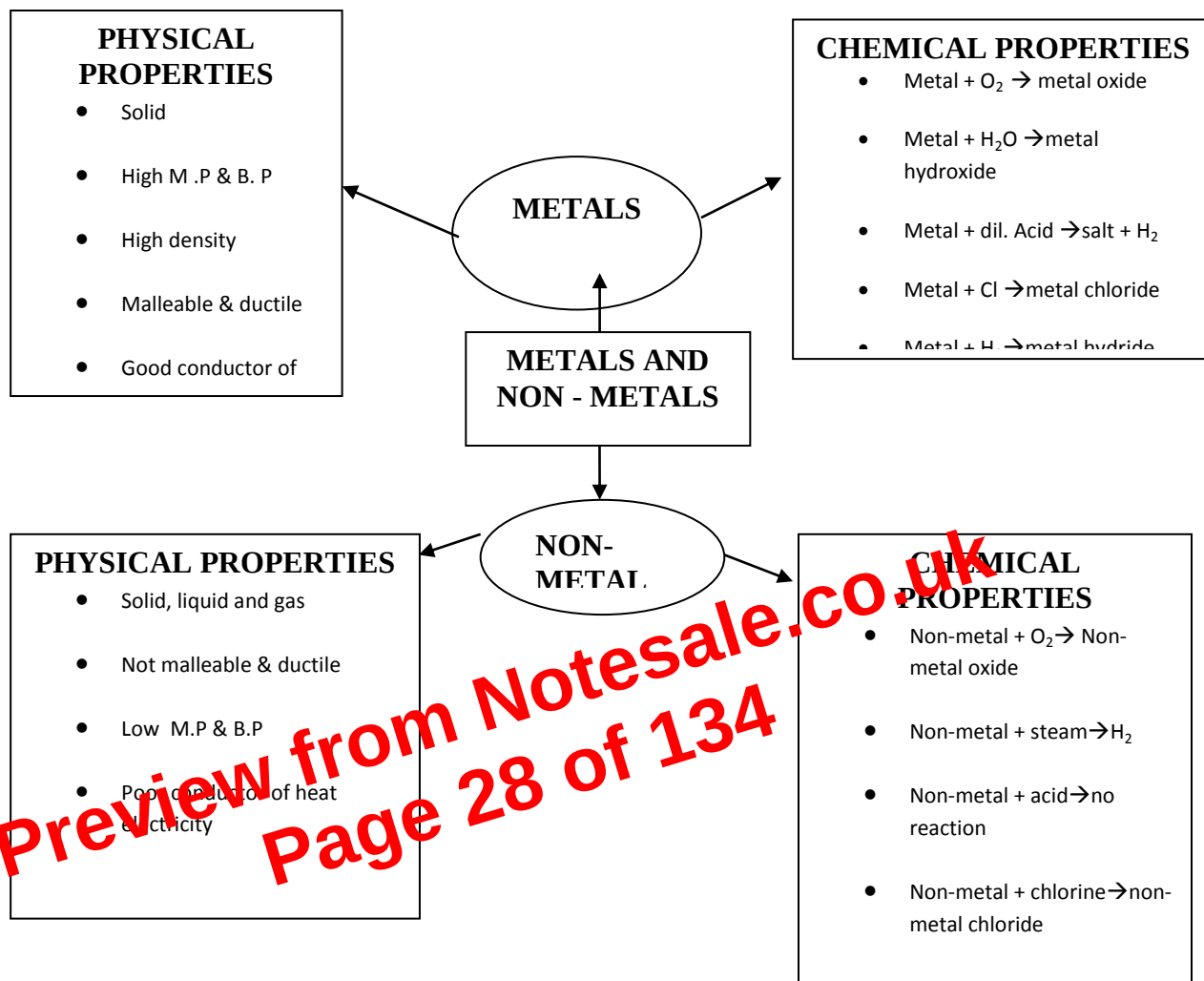
CHAPTER- 2
ACIDS, BASES AND SALTS
GIST OF THE LESSON

- 1) Acids are sour in taste, turn blue litmus red, and dissolve in water to release H^+ ions e.g. HCl , H_2SO_4 , HNO_3 etc.
- 2) Bases are bitter in taste, have soapy touch, turn red litmus blue and give hydroxide ions in solution.
e.g. $NaOH$, KOH etc.
- 3) A salt is a compound which is formed by neutralization reaction between an acid and base.
e.g. sodium chloride.

3) **Indicators** – Indicators are substances which indicate the acidic or basic nature of the solution by their colour change.

The colour of some acid – base indicators in acidic and basic medium are given below

MIND MAP



METALS AND NON – METALS
FORMATIVE ASSESSMENT I
Q.PAPER

MARKS-30

TIME- 70 MINUTES

Instructions:

- Questions : 1 to 5 – 1 Mark each
- Questions : 6 to 9 – 2 Marks each
- Questions : 10 to 13 – 3 Marks each
- Question 14 – 5 Marks

- 1) Which metal other than mercury is liquid at room temperature?
- 2) Why the item made of silver turns black when exposed to air?
- 3) Which non – metal is lustrous?
- 4) What is an amalgam?
- 5) What is the nature of oxides of metal?
- 6) Give reasons for the following:
 - a) Na, K and Ca metals form hydrides by combination with hydrogen gas, but most other metals do not.
 - b) Metals conduct electricity.
- 7) Write the equations for the reactions of:
 - a) Iron with steam.
 - b) Calcium and potassium with water.
- 8) What is activity series? How does it help us in predicting the relative reactivities of various metals?
- 9) What is the difference between sodium atom and sodium ion?
- 10)
 - a) Write electron dot structure for sodium and oxygen.
 - b) Show the formation of Na_2O by electron transfer.
 - c) What are the ions present in these compounds?
- 11) Write three properties of ionic compounds.
- 12) Explain how a metal low in the activity series can be extracted. Write suitable example.

PUZZLES

1. ⇒ **Across**

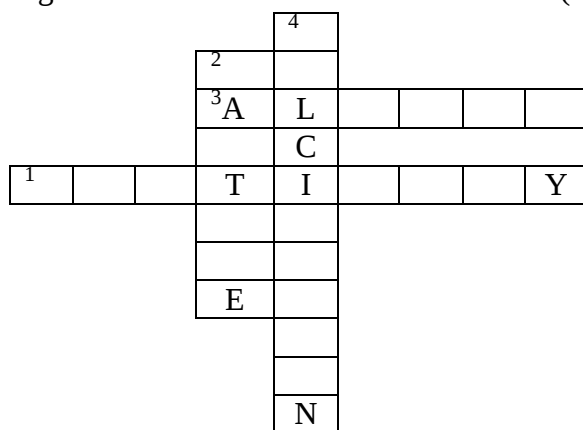
1. Property of metals to give long wires. (9)

3. Solid solution of metal (6)

⇓ **Down**

2. Three dimensional networks of ionic compounds (7).

3. Process of heating concentrated ores in the absence of air (11)



2. ⇒ **Across**

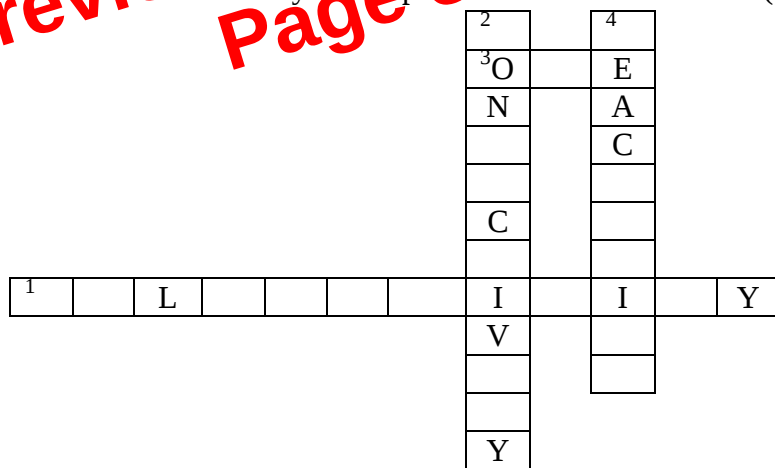
1. Property of metals to give sheets. (12)

4. Refined naturally occurring inorganic solid from which metal is extracted economically(3)

⇓ **Down**

2. Property of metals to allow passage of heat or electricity (12).

3. A series determined by electropositive character of metals (10)



CHAPTER 6 -LIFE PROCESSES

- Alimentary canal-
Mouth → Oesophagus → Stomach → Small intestine → Large intestine
 - Important gland/juices
- (Refer to figure 6.6 page no.97 of N.C.E.R.T Text book)

Organ	Gland	Enzyme/Juice	Function
Mouth	Salivary glands	Salivary Amylase	Converts starch into sugar
Stomach	Gastric glands	Gastric juice- (i) Hydrochloric acid → (ii) Pepsin → (iii) Mucus →	(a) Kills harmful bacteria that enters with the food. (b) Makes the medium alkaline for the action of Pepsin Digests proteins Protects the inner lining of the stomach from the corrosive action of Hydrochloric acid.
Small intestine	1) Liver 2) Pancreas	(i) Bile juice → (ii) Pancreatic Juice ▪ Amylase → ▪ Trypsin → ▪ Lipase →	(a) Makes the medium acidic for the action of Pancreatic enzymes. (b) Breaks down large fat molecules into smaller globules so that enzymes can act upon them. Converts Carbohydrates to glucose Converts Proteins to Amino acids Converts Fats into Fatty acids & Glycerol

- Peristaltic movements- Rhythmic contraction of muscles of the lining of Alimentary canal to push the food forward.
 - Sphincter muscle- Helps in the exit of food from the stomach.
 - Villi- Small finger like projections on the walls of-
 - (v) Small intestine- To increase the surface area for the absorption of food.
 - (vi) Large intestine- For absorption of water.
- ❖ **Respiration-** The process by which digested food is broken down with the help of Oxygen to release energy.
- Types of respiration- (i) Aerobic respiration (ii) Anaerobic respiration

Aerobic respiration	Anaerobic respiration
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Q1. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds?

Ans. The mammals and birds are warm-blooded animals which have high energy needs because they constantly require energy to maintain their body temperature. It is necessary to separate oxygenated blood and deoxygenated blood in mammals and birds because such a separation allows a highly efficient supply of oxygen to the body cells which is required for producing a lot of energy needed by them.

Q2. How is small intestine designed to absorb digested food?

Ans. The inner surface of small intestine has millions of tiny, finger like projections called Villi. The presence of villi gives the inner walls of the small intestine a very large surface area. The large inner surface area of small intestine helps in the rapid absorption of the digested food.

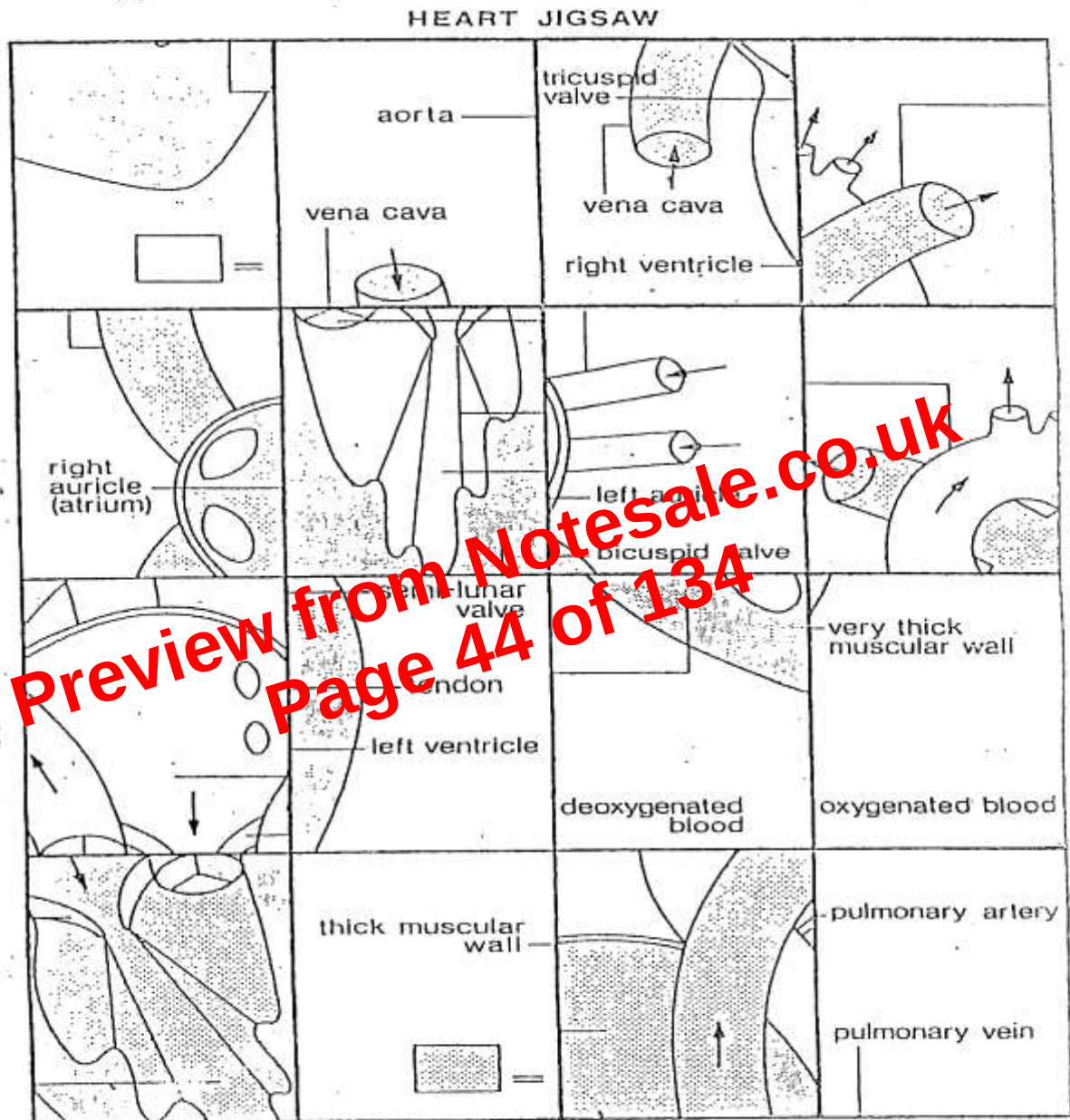
LIFE PROCESSES **ORAL QUESTIONS**

1. Do plants also need oxygen?
2. How does food pass through alimentary canal?
3. What regulates the exit of food from the stomach into small intestine?
4. In which part of the alimentary canal food is completely digested/absorbed?
5. In which cell organelle breakdown of pyruvate takes place using oxygen?
6. Which structures stop backward flow of blood in atria and ventricles?
7. The filtered urine is collected in which part of nephron?
8. Which part of the plant excretes some waste substances into the soil?
9. Name the process used to remove urea from the blood.
10. The process by which evaporation of water from the plants mainly through the stomata.

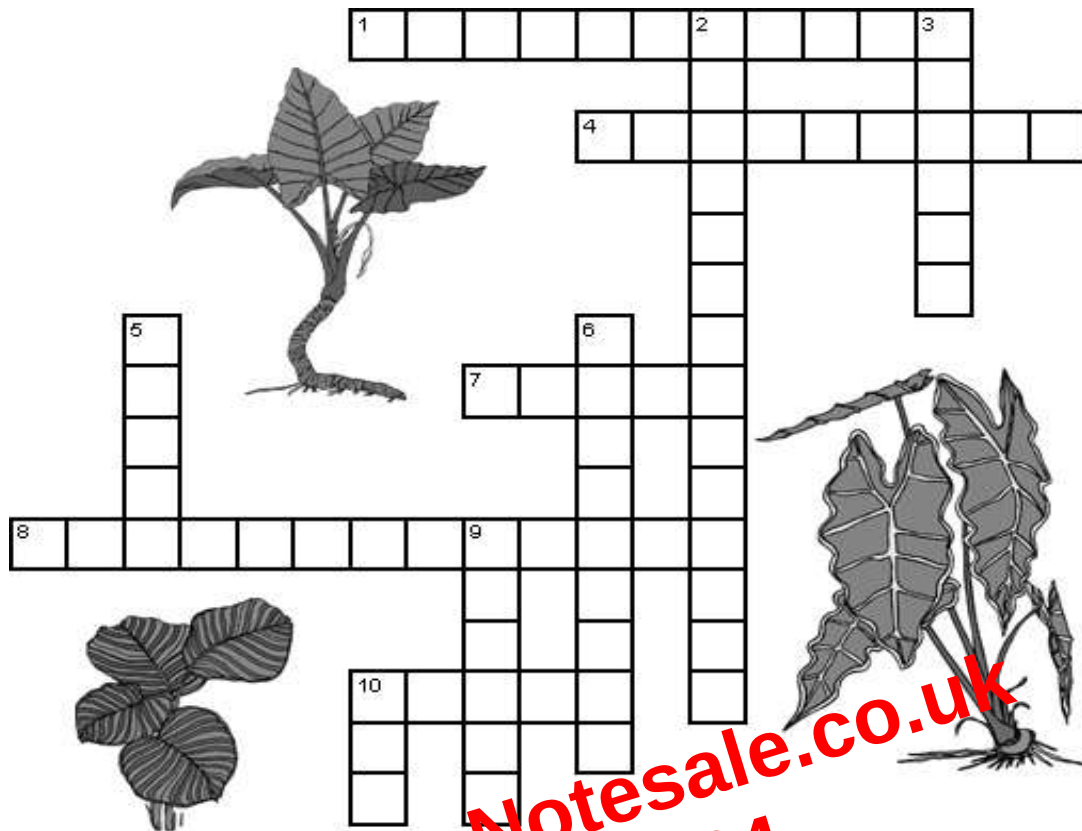
QUIZ

1. Digestion of starch in humans takes from which organ?
2. Absorption of energy takes place in sunlight by the pigment.
3. Is chloroplast a non-living structure?
4. What is the function of amylase?

- To understand the structure of heart the students can the following jig-saw puzzle.



Photosynthesis – Crossword puzzle



Across

- 1 A plant pigment that absorbs sunlight. (11)
- 4 The links between the energy that carnivores get from eating to the energy captured by photosynthesis. (4,5)
- 7 Chlorophyll absorbs every color of sunlight except this. (5)
- 8 A compound needed for photosynthesis. (6,7)
- 10 The product of photosynthesis. (5)

Down

- 2 The process by which plants and some bacteria use the energy from sunlight to produce sugar. (14)
- 3 Part of the plant where photosynthesis generally occurs. (6)
- 5 A compound needed for photosynthesis. (5)
- 6 An animal that eats plants. (9)
- 9 A by-product of photosynthesis. (6)
- 10 Number of molecules of oxygen produced along with one molecule of sugar. (3)

CHAPTER 7 – CONTROL & COORDINATION

KEY CONCEPTS & GIST OF THE LESSON

- ❖ Coordination-The working together of various organs of the body of an organism in a proper manner to produce appropriate reaction to a stimulus is called coordination.
- ❖ Stimulus- The changes in the environment to which an organism responds and reacts is called Stimulus
- ❖ Control & coordination in animals- takes place by (i) Nervous system & (ii) Endocrine system

- ❖ Nervous system

Stimulus → Receptor organ → Sensory nerve → Brain/Spinal cord

↓
Response ← Effector organ ← Motor nerve

- ❖ Endocrine system

Stimulus → Endocrine organ → Secrete hormone → Hormone in blood

↓
Response ← Target organ

- ❖ Parts of the Nervous system – (i) Brain (ii) Spinal cord (iii) Nerves (Neurons)

- ❖ A Neuron is the structural & functional unit of Nervous system

- ❖ Parts of a neuron- (i) Dendrites (ii) Cell body (iii) Axon

- ❖ Synapse- space/junction between two adjacent nerves is called Synapse.

- ❖ Passing of information takes place –(i) By Electric impulse (inside the neuron) and (ii) In the form of chemicals (At synapse)

- ❖ Reflex action- Spontaneous, involuntary and automatic response to a stimulus to protect us from harmful situations. Eg. On touching a hot object unknowingly we instantly withdraw our hand.

- ❖ Reflex arc- The pathway of the reflex action is called Reflex arc.

Stimulus → Receptor organ → Sensory nerve → Spinal cord →→Effector organ→ Response
Refer to figure 7.2 page no. 117 of N.C.E.R.T Text book)

- ❖ Nervous system- (1) Central Nervous system (CNS) (2) Peripheral Nervous system (PNS)

(i) Brain
(ii) Spinal cord

(i) Autonomic Nervous system
(ii) Voluntary Nervous system

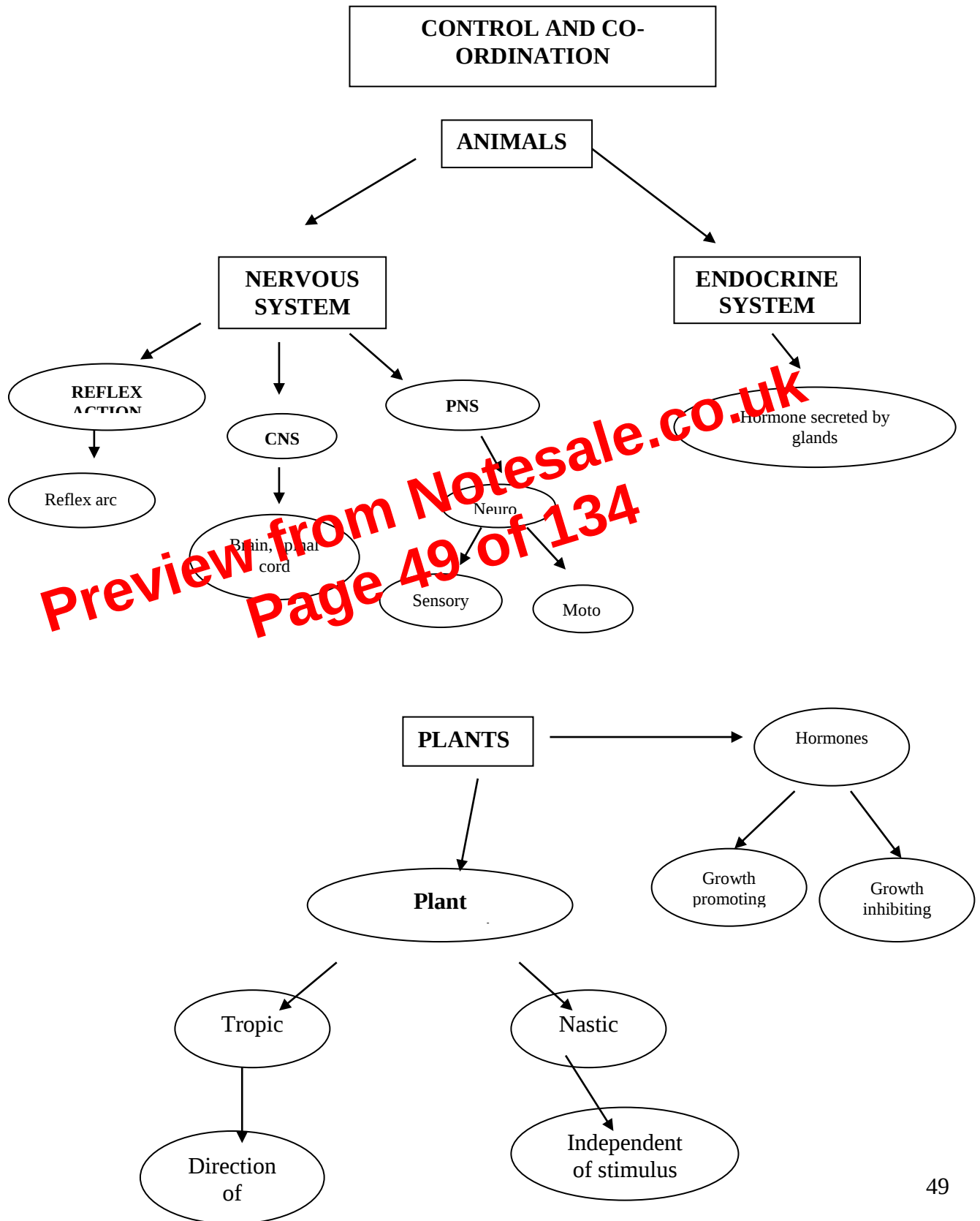
- ❖ Brain (i) Centre of coordination of all activities (ii) Thinking is involved (iii) Complex process

- ❖ Parts of brain- Refer to figure 7.3 page no. 118 of N.C.E.R.T Text book

❖ Important activities-

1. To compare taste of sugar and food with open & blocked nostrils.
2. To demonstrate the response of a plant to the direction of light.
3. To demonstrate hydrotropism.

MIND MAP



CONTROL AND CO - ORDINATION
FORMATIVE ASSESSMENT I
Q. PAPER

MARKS-30

TIME- 70 MINUTES

Instructions:

- Questions : 1 to 5 – 1 Mark each
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- Question 14 – 5 Marks

1. Which endocrine gland is unpaired?
2. Which part of the brain controlled posture and balance of the body?
3. Where in a neuron, conversions of electrical signal to a chemical signal occur?
4. Which gland secretes digestive enzyme as well as hormones?
5. We suddenly withdraw our hand when a pin pricks. Name the type of response involved in this action.
6. What is a tropic movement? Explain with an example.
7. What will happen if intake of iodine in our diet is low?
8. Draw the structure of neuron and label the following on it:
 - a. Nucleus
 - b. Dendrite
 - c. Cell body
 - d. Axon
9. Why are some patients of diabetes treated by giving injections of insulin?
10. Why is the flow of signals in a synapse from axonal end of one neuron but not the reverse?
11. What are reflex actions? Explain reflex arc.
12. What are the major parts of the brains? Mention the functions of each.
13. How does chemical co – ordination take place in animals?
14.
 - a. Name the various plant hormones.
 - b. Give physiological effects of hormones on plant growth and development.

HOTS QUESTIONS (SOLVED / UNSOLVED)

GIST OF THE LESSON

- 1. Positive and negative charges:** The charge acquired by a glass rod when rubbed with silk is called positive charge and the charge acquired by an ebonite rod when rubbed with wool is called negative charge.
- 2. Coulomb:** It is the S.I. unit of charge. One coulomb is defined as that amount of charge which repels an equal and similar charge with a force of $9 \times 10^9 \text{ N}$ when placed in vacuum at a distance of 1 meter from it. Charge on an electron = -1.6×10^{-19} coulomb.
- 3. Static and current electricities:** Static electricity deals with the electric charges at rest while the current electricity deals with the electric charges in motion.
- 4. Conductor:** A substance which allows passage of electric charges through it easily is called a 'conductor'. A conductor offers very low resistance to the flow of current. For example copper, silver, aluminium etc.
- 5. Insulator:** A substance that has infinitely high resistance does not allow electric current to flow through it. It is called an 'insulator'. For example rubber, glass, plastic, ebonite etc.
- 6. Electric current:** The flow of electric charges across a cross-section of a conductor constitutes an electric current. It is defined as the rate of flow of the electric charge through any section of a conductor. Electric current = Charge/Time or $I = Q/t$
Electric current is a scalar quantity.
- 7. Ampere:** It is the S.I. unit of current. If one coulomb of charge flows through any section of a conductor in one second, then current through it is said to be one ampere.
 $1 \text{ ampere} = 1 \text{ coulomb}/1 \text{ second}$ or $1 \text{ A} = 1\text{C}/1\text{s} = 1\text{Cs}^{-1}$
 $1 \text{ milliampere} = 1 \text{ mA} = 10^{-3} \text{ A}$
 $1 \text{ microampere} = 1\mu\text{A} = 10^{-6} \text{ A}$
- 8. Electric circuit:** The closed path along which electric current flows is called an 'electric circuit'.
- 9. Conventional current:** Conventionally, the direction of motion of positive charges is taken as the direction of current. The direction of conventional current is opposite to that of the negatively charged electrons.
- 10. Electric field:** It is the region around a charged body within which its influence can be experienced.
- 11. Electrostatic potential:** Electrostatic potential at any point in an electric field is defined as the amount of work done in bringing a unit positive charge from infinity to that point. Its unit is volt. Positive charges move from higher to lower potential regions. Electrons, being negatively charged, move from lower to higher potential regions.

MAGNETIC EFFECTS OF ELECTRIC CURRENT

KEY CONCEPTS & GIST OF THE LESSON

- ❖ Magnet: (i) is an object that attracts objects made of iron, cobalt & nickel.
(ii) Comes to rest in North-South direction, when suspended freely.
- ❖ Magnets are used: (i) In radio & stereo speakers, (ii) In refrigerator doors, (iii) on audio & video cassettes players, (iv) On hard discs & floppies of computers & (v) in children's toys.
- ❖ Magnetic field: The area around a magnet where a magnetic force is experienced is called a magnetic field. It is a quantity that has both direction & magnitude.
- ❖ Magnetic field lines: Magnetic field is represented by field lines. They are lines drawn in a Magnetic field along which a North magnetic pole moves. Magnetic field lines are called as Magnetic lines of force.
(Refer to figure 13.3 & 13.4 page no. 225 of N.C.E.R.T Text book)
- ❖ Properties of Magnetic field lines:
 - (i) They do not intersect each other.
 - (ii) It is taken by convention that magnetic field lines emerge from North pole and merge at the South pole. Inside the magnet, their direction is from South pole to North pole. Therefore magnetic field lines are closed curves.
- ❖ Magnetic field lines due to a current through a straight conductor (wire)- consist of series of concentric circles whose direction is given by the Right hand thumb rule.
- ❖ Right hand thumb rule: If a current carrying straight conductor is held in your right hand such that the thumb points towards the direction of current, then the wrapped fingers show the direction of magnetic field lines.
(Refer to figure 13.7 page no. 228 of N.C.E.R.T Text book)
- ❖ Magnetic field lines due to a current through a circular loop
(Refer to figure 13.8, page no. 228 of N.C.E.R.T Text book)
- ❖ The strength of the magnetic field at the centre of the loop(coil) depends on:
 - (i) The radius of the coil- The strength of the magnetic field is inversely proportional to the radius of the coil. If the radius increases, the magnetic strength at the centre decreases.
 - (ii) The number of turns in the coil: As the number of turns in the coil increase, the magnetic strength at the centre increases, because the current in each circular turn is having the same direction, thus the field due to each turn adds up.
 - (iii) The strength of the current flowing in the coil: as the strength of the current increases, the strength of the magnetic fields also increases.
- ❖ Solenoid: (Refer to figure 13.10, page no. 229 of N.C.E.R.T Text book)
- ❖ (i) A coil of many turns of insulated copper wire wrapped in the shape of a cylinder is called a Solenoid.
(ii) Magnetic field produced by a Solenoid is similar to a bar magnet.
(iii) The strength of magnetic field is proportional to the number of turns & magnitude of current.

5. Name the SI unit of magnetic field.
6. What is the principle of an electric motor?
7. A generator converts energy from one form to another. What is this energy conversion?
8. Which wire (live, neutral or earth) goes through the switch?
9. Are different appliances connected in series or parallel in a house?
10. What is the colour convention for live, neutral and earth wires?

PUZZLE

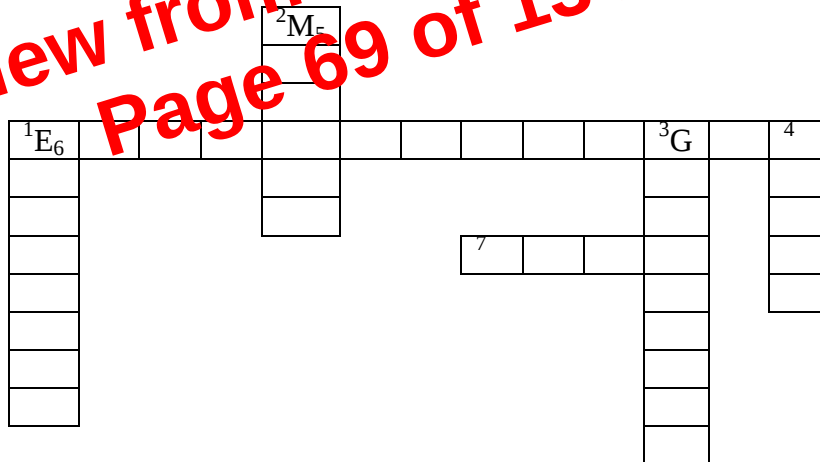
⇒ **Across**

1. A method preventing electric shock due to touching of live wire with the metallic body of an appliance.
2. A device to convert electrical energy into mechanical energy.
3. A device to convert mechanical energy into electrical energy.
4. SI unit of magnetic field.

⇓ **Down**

5. A material having attractive and directive properties.
6. A temporary magnet.
7. A device to protect a circuit from overloading.

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- b. Why has sodium chloride, a high melting point?
- c. Name the anode and the cathode used in electrolytic refining of impure copper metal.
14. What are the functions of
- Gibberellins
 - Cytokinins
 - Absorbic acid
15. Define 'nerve impulse' which structure in a neuron helps to conduct a nerve impulse.
16. State three advantages associated with using solar cells to produce electricity.
- 17.
- State Ohm's law.
 - Draw the circuit diagram of Ohm's law.
 - What is the nature of graph in terms of relation between V and I .
18. a. An electric bulb is rated as 50W, 220V. Calculate the energy consumed by the bulb in 20 minutes. Express your answer in commercial units of electricity.
- b. Distinguish between Overloading and Short Circuiting in a domestic circuit.
- c. Why is it essential to earth electrical appliances having metallic body?
19. What are the environmental consequences of the increasing demand for energy? What steps would you suggest to reduce energy consumption?
20. Name the hormone that-
- is produced by thyroid gland
 - Prepares the body for action
 - Controls the amount of sugar in blood
 - Brings about changes in boys at puberty

MIND MAP



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Brisk effervescence was observed in test tubes

a) i & ii b) ii & iii c) i & iv d) ii & iii

2. Which of the following solution of acetic acid in water can be used as vinegar used in pickles?

a) 5-10% b. 10-15% c.20-130% d.100%

3.The suffix used for naming an aldehyde is

a..ol b.al c.One d..ene

4.When acetic acid reacts with ethyl alcohol ,we add conc. H_2SO_4 ,its acts as.....and the process is called.....

a)Oxidizing agent, saponification. b). Dehydrating agent, esterification c). reducing agent ,esterification.d).Acid & esterification.

5.2ml of ethanoic acid was taken in each of the three test tubes.A,B and C,and 2ml.4ml and 8ml water was added to them ,respectively .A clear solution is obtained in:

a. Test tube A only.

b.Test tubes A & B only.

c.Test tubes B and C only.

d. All the test tubes.

6.2 ml of acetic acid was added in drops to 5ml of water it was noticed that:

a.The acid formed a separate layer on the top of water.

b.Water formed a separate layer on the top of the acid.

c.A clear and homogenous solution was formed.

d.A pink and clear solution was formed.

7.A few drops of ethanoic acid was added to solid sodium carbonate. The observation made was that

a. A hissing sound was evolved

b. Brown fumes evolved.

c. Brisk effervescence occurred.

d. A pungent smelling gas evolved.

8.Acetic acid , when dissolved in water, it dissociates into ions reversibly because it is a :

A. Weak acid B. strong acid. C. weak base. D. strong base.

9.Which of the following hydrocarbon can show isomerism?

a. C_2H_4

b. C_2H_6

c. C_3H_8

d. C_4H_{10}

10.Combustion of hydrocarbon is generally accompanied by evolution of

a. Heat

b. Light

c. both heat and light

d. Electric current.

PUZZLE :

1.Compounds containing double and triple bonds.

2.A compound which is basic constituent of many cough syrups.

3.Very dilute solution of ethanoic acid.

4.A sweet smelling substance formed by the reaction of alcohol and carboxylic acids.

5 Gas released when sodium metal is dropped in ethanol.

- 6.The functional group present in methanol.
- 7.IUPAC name of alkene containing 3 carbon atoms.
- 8.The number of single covalent compounds present in pentane.
- 9.First member of homologous series alkyne.
10. Simplest ketone.
- 11.Self linking property of carbon.
- 12.Product formed by dehydration of ethanol in conc. Sulphuric acid.
- 13.Alcohol whose intake in small quantities can be lethal.
- 14.Number of single covalent bonds in ammonia.
- 15.Type of reactions shown by alkanes.

Activity :

- 1.To Study the saponification reaction for the preparation of soap in the laboratory using any vegetable oils.
- 2.Prepare soaps of different colours and fragrances.

CARBON AND ITS COMPOUNDS

- 3..Testing the hardness of water.
- 4..Collect information about artificial ripening of fruits by ethylene.

PROJECTS :

To prepare models of methane, ethane, ethyne and benzene molecules using thermocols, ball and match sticks.

TOPICS FOR DEBATE:

- 1.Role of esters in everyday life.
2. Condemning the use of alcohol as a social practice.
- 3.Use of biodegradable synthetic for cleansing purpose.

TOPIC 2: PERIODIC CLASSIFICATION OF ELEMENTS

Gist of the lesson:

Classification of elements:the arrangement of element in such manner that element with similar properties are grouped together while elements with dissimilar properties are separated .

Early attempt to classify elements:

DOBEREINER'S TRIADS:

He arranged the elements with similar properties in a group of three known as triad in such a manner that the atomic mass of the middle element was approximately the average of the other two elements

LIMITATIONS:

FORMATIVE ASSESSMENT –IV

QUIZ

- A. Decomposers are also called _____
- B. Producers prepare their _____
- C. Ozone layer is destroyed by _____
- D. Ecology is the study of the interaction of _____ with each other and their surroundings.

SEMINAR

- A. Mendel's work
- B. Sex determination in organisms
- C. Role play
- D. Student in act as Aristotle ,Darwin,Lemark and Mendel and present the work done by these great people.

GROUP DISCUSSION

If Mendel had met

Projects: 1. Save Tiger..... Children collect information about the Tigers from various national Parks and Wild life sanctuaries. Perform the stage shows to develop the awareness about the forests and wild life.

- 3. To collect information on artificial selection carried out in some crops and animals . Visit to Veterinary college.
- 4. Visit to an agricultural research Institute to understand the various techniques involved in Hybridisation.
- 5. 1.Conducting a survey on
 - A. Evolution of wisdom teeth in parents.
 - B. Free and attached earlobes.
 - C. Rolling of tongue.
 - D. Finger prints.

FORMATIVE ASSESSMENT –III

Give reason for the following:

- 1) Red light is used for danger signal
- 2) Cause of Color blindness.
- 3) Sky appears black in Moon.
- 4) Rainbow is seen on a rainy day in the presence of sunlight.
- 4) A person with a myopia eye cannot see objects beyond a distance of 1.5m. What would be the power of corrective lens? Which type of lens is used?
- 5) What do you understand by myopia? Write two causes of it?
- 6) What do you mean by far point and near point of eye?
- 7) What is presbyopia? State the cause of it and how is it corrected?
- 8) Explain: 1) why does sky look blue on a clear day
 2) Twinkling of stars.
- 9) What is hypermetropia? State two causes of hypermetropia with help of ray diagrams show:
 1) The eye defect hyperopia.

HOTS

1. Why does it takes sometimes to see in a dim room when you enter the room from bright sunlight outside?

ANS: In the bright iris causes the pupil to become smaller so that only a small portion of light enters the eye and rods of the retina are also adjusted in the same way. but when a person enters in to dim light each iris takes sometimes to increase the diameter of the pupil so that more amount of light can enter the eyes to see the objects clearly and rods of the retina also takes some time to adjust –themselves to get the picture of the object in the dim light.

2. Can we see a rainbow on the moon?

ANS: No, since there is no atmosphere on the moon.

3. Does a beam of light give a spectrum on passing through a hollow prism?

ANS: No, this is because dispersion of light cannot occur through a hollow prism containing air.

FORMATIVE ASSESSMENT –IV

QUIZ: A

1. Name the place where image is formed in the eye?
2. Name the muscular diaphragm that controls the size of the pupil.
3. What is the cause of dispersion of light?
4. Give the cause of cataract of eye.

- (c) Name the gas evolved when this compound acts on solid carbonate. How would you identify this gas.
- Q.11(a) Explain the terms (i) Implantation (ii) Placenta
 (b) What is the average duration of human pregnancy?
 (c) What happens when the egg is not fertilized?
- Q.12(a) A spherical mirror A forms an erect image of an object, a spherical mirror B forms erect as well as inverted image of an object. Name the types of the spherical mirror A and B.
 (b) What is the relation between the focal length and radius of curvature of a spherical mirror?
 If the radius of a curvature of a spherical Mirror is 25 cm, what is the focal length?
- Q.13 An organic compound 'A' is an essential constituent of wine and beer. Oxidation of 'A' yields An organic acid 'B' which is present in vinegar. Name the compounds 'A' and 'B' and write their structural formula. What happens when 'A' and 'B' react in the presence of an acid Catalyst? Write the chemical equation for the reaction.
- Q.14 which of the following are homologous and which are the analogous? Give reasons
1. Trunk of the elephant and hand of a chimpanzee
 2. Wing of a bird and wing of a bat.
 3. Scales of fishes and shell of molluscs.
- Q.15 It is desired to obtain an erect image of an object, using an concave mirror of focal length 20cm.
 (i) What should be the range of the distance of object from the mirror?
 (ii) Will the image be bigger or smaller than the object?
 (iii) Draw a ray diagram to show the image formation in this case.
- Q.16 (a) Why does carbon form largest number of compounds?
 (b) Why are some of these called saturated and other unsaturated compounds?
 (c) Which of these is more reactive?
- Q.17 Write three advantages of constructing dams across the rivers?
- Q.18 (a) State two effects produced by scattering of light by the atmosphere?
 (b) Why are 'danger' lights red in colour?
 (c) What would the sky look like if the earth had no atmosphere?
- Q.19 The electronic configuration of these elements X, Y and Z are given below?
- | | |
|---|-------|
| X | 2 |
| Y | 2,6 |
| Z | 2,8,2 |
- i) Which element belongs to second period ?
 ii) Which element belongs to second group?
 iii) Which element belongs to 18th group ?
- Q.20 (a) What are the main reasons why human beings are over-exploiting the forests?
 (b) What are the effects of damages?
 (c) Name the different measures taken up for the conservation of forests?
- Q.21: (a) Why do we classify elements ?
 b) What were the two criteria used by Mendeleev in creating his periodic table?
 c) In Mendeleev's periodic table, why was there no mention of noble gases like helium, neon and argon?
 d) Why did Mendeleev leave some gaps in his periodic table?