

INTERNATIONAL INDIAN SCHOOL DAMMAM

WORKSHEET 2024-25

SUBJECT- CHEMISTRY LESSON -1 CHEMICAL REACTIONS AND EQUATIONS

MCQ Type Questions

1. Magnesium ribbon is rubbed before burning because it has a coating of

- (a) basic magnesium carbonate
- (b) basic magnesium oxide
- (c) basic magnesium sulphide
- (d) basic magnesium chloride

2. In an electric cell where electrolysis is carried out, anode has:

- (a) Positive charge
- (b) Negative charge
- (c) Connected to negative terminal of the battery
- (d) None of these is correct

3. The reaction $H_2 + Cl_2 \rightarrow 2 HCl$ represents:

- (a) oxidation
- (b) reduction
- (c) decomposition
- (d) combination

4. Take about 5 ml of dil. HCl in a test tube and add a few pieces of fine granules of zinc in it. Which gas is evolved?

- (a) Chlorine
- (b) Hydrogen
- (c) HCl
- (d) Nitrogen

5. In the decomposition of lead (II) nitrate to give lead (II) oxide, nitrogen dioxide and oxygen gas, the coefficient of nitrogen dioxide (in the balanced equation)

- (a) 1
- (b) 2
- (c) 3
- (d) 4

INTERNATIONAL INDIAN SCHOOL DAMMAM

WORKSHEET

ACID, BASES AND SALTS

MULTIPLE CHOICE QUESTION

1. Equal volumes of hydrochloric acid and sodium hydroxide solutions of same concentration are mixed and the pH of the resulting solution is checked with a pH paper. What would be the colour obtained?

- (a) Red
- (b) Yellow
- (c) Yellowish green
- (d) Blue

2. Which of the following is/are true when HCl(g) is passed through water?

- (i) It does not ionise in the solution as it is a covalent compound.
 - (ii) It ionises in the solution.
 - (iii) It gives both hydrogen and hydroxyl ion in the solution.
 - (iv) It forms hydronium ion in the solution due to the combination of hydrogen ion with water molecule.
- (a) Only (i)
 - (b) Only (iii)
 - (c) (ii) and (iv)
 - (d) (iii) and (iv)

3. Which of the following statement is true for acids?

- (a) Bitter and change red litmus to blue
- (b) Sour and change red litmus to blue
- (c) Sour and change blue litmus to red
- (d) Bitter and change blue litmus to red

ASSERTION-REASON

1. Assertion (A) : The acid must always be added to water with constant stirring.

Reason (R) : Mixing of an acid with water decreases the concentration of H⁺ ions per unit volume.

2. Assertion (A) : HCl gas does not change the colour of dry blue litmus paper.

Reason (R) : HCl gas dissolves in the water present in wet litmus paper to form H⁺ ions

SHORT ANSWER TYPE QUESTION

1. When zinc metal is treated with a dilute solution of a strong acid, a gas is evolved, which is utilised in the hydrogenation of oil. Name the gas evolved. Write the chemical equation of the reaction involved and also write a test to detect the gas formed.

2. 2 mL each of conc. HCl, HNO₃, and a mixture of conc. HCl and conc. HNO₃, in the ratio of 3 : 1 were taken in test tubes labeled as A, B and C. A small piece of metal was put in each test tube. No change occurred in test tubes A and B but the metal got dissolved in test tube C. The metal could be?

3. Which gas is evolved when an acid reacts with metal carbonate, write a test to identify

METALS AND NONMETALS WORKSHEET

1. Which of the following metals can displace zinc from its salt solution? Give reason for your answer along with chemical equation.

Copper, lead, magnesium, silver

2. Name a metal/nonmetal:

(a) Which make iron hard and strong

(b) Which is alloyed with any other metal to make an amalgam.

© Which is used to galvanised iron articles.

(d) Whose articles when exposed to air form a black coating

3. The gas liberated when a metal react with acids

Hydrogen, CO₂, O₂, N₂

4. The metal which can react with very dilute HNO₃ to evolve hydrogen gas

Mg, Al, Zn, Fe

5. The metal which floats in water.

Hg, Ca, Pb, Ag

Mark the correct choice.

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true and R is not the correct explanation of A.

© A is true and R is false

(d) A is false and R is true

6. ASSERTION(A): Gas bubbles are observed when sodium carbonate is added to dil. HCl.

REASON(R) : Carbon dioxide is given off in the reaction.

7. ASSERTION(A) : When a piece of copper metal is added to dil. H₂SO₄, the solution turns blue.

REASON(R) : Copper reacts with dil. H₂SO₄, form blue copper sulphate solution

ANSWER THE FOLLOWING.

8. What are amphoteric oxides? Give an example. Write balanced chemical equations to justify your answer.

9. What is cinnabar? How is the metal extracted from cinnabar? Explain.

10. Show the formation of KCl and CaS by the transfer of electrons.

11. Differentiate between calcination and roasting. Explain with help of suitable chemical equation. How is zinc extracted from its ore?

12. How is copper extracted from its ore? Explain the various steps with chemical equations. Draw labelled diagram for electrolytic refining of copper.

I. CHOOSE THE CORRECT ANSWER

1. -CHO represents the functional group

- (a) esters (b) carboxylic acid
(c) alcohols (d) aldehydes

2. The difference in the formula and molecular mass of CH₃OH and C₂H₅OH is

- (a) CH₃ and 16 u (b) CH₂ and 14u
(c) CH₄ and 18u (d) CH₃ and 16u

3. The number of covalent bonds in C₄H₁₀ is

- (a) 10 (b) 8
(c) 13 (d) 12

4. Which of the following contain covalent bond?

- (a) MgCl₂ (b) CaF₂
(c) Al₂O₃ (d) HCl

5. Oils on treating with hydrogen in the presence of palladium or nickel catalyst form fats. It is a

- (a) addition reaction (b) substitution reaction
(c) oxidation reaction (d) displacement reaction

II. ASSERTION REASON QUESTIONS

Choose the correct option

- (a) Both A and R are true and R is the correct explanation of A
(b) A and R are true but R is not the correct explanation of A
(c) A is true and R is false
(d) A is false but R is true

1. Assertion: Ethanol is present in alcoholic drinks.
Reason: Ethanol has the formula CH₃OH.
2. Assertion: Butane exhibits isomerism.
Reason: Butane is a saturated hydrocarbon.

III. ANSWER THE FOLLOWING

1. Draw the electron dot structure of water molecule.

INTERNATIONAL INDIAN SCHOOL
WORKSHEET 2024-25 - CLASS X
TOPIC : ELECTRICITY

In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

(a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.

(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.

(c) Assertion is true but the Reason is false.

(d) The statement of the Assertion is false but the Reason is true.

1. Assertion (A) : The connecting wires are made of copper.

Reason (R) : The electrical conductivity of copper is high.

2. Assertion (A) : Tungsten metal is used for making filaments of incandescent lamps. Reason (R) : The melting point of tungsten is very low.

3. Assertion (A): In a simple battery circuit the point of lowest potential is positive terminal of the battery.

Reason (R): The current flows towards the point of the lower potential as it flows in such a circuit from the negative to the positive

4. Assertion (A) : The 200 W bulbs glows with more brightness than 100 W bulbs.

Reason (R) : A 100 watt bulb has more resistance than a 200 W bulb.

5. Assertion (A) : When a wire is stretched to three times of its length, its resistance becomes 9 times.

Reason (R) : Resistance is directly proportional to length of wire

6. Assertion (A) : Alloys are commonly used in electrical heating devices like electric iron and heater.

Reason (R): Resistivity of an alloy is generally higher than that of its constituent metals but the alloys have low melting points than their constituent metals.

Multiple choice questions

7. How many joules are there in 1KWh?

a) 360,000 b) 3,600,000 c) 36,000 d) 3.6×10^2

8. If a person has five resistors each of value 15Ω , then the maximum resistance he can obtain by connecting them is

(a) 1Ω

(b) 5Ω

(c) 10Ω

(d) 25Ω

9. What are the properties of heating element?

(a) High resistance, high melting point

(b) Low resistance, high melting point

(c) Low resistance, high melting point

(d) Low resistance, low melting point.

10. What are the properties of electric fuse?

INTERNATIONAL INDIAN SCHOOL DAMMAM

REVISION WORKSHEET

CLASS X

TOPIC : LIGHT- REFLECTION AND REFRACTION

I.MULTIPLE CHOICE QUESTIONS

1. Consider the following properties of virtual images:

- (i) cannot be projected on the screen
- (ii) are formed by both concave and convex lens
- (iii) are always erect
- (iv) are always inverted

The correct properties are:

- (A) (i) and (iv)
- (B) (i) and (ii)
- (C) (i),(ii),(iii)
- (D) (i), (ii) and (iv)

2. To determine the approximate value of the focal length of a given concave mirror, you focus the image of a distant object formed by the mirror on a screen.

The image obtained on the screen, as compared to the object is always:

- (A) Laterally inverted and diminished
- (B) Inverted and diminished
- (C) Erect and diminished
- (D) Erect and highly diminished

3. Which of the following can make a parallel beam of light when light from a point source is incident on it?

- (A) Concave mirror as well as convex lens
- (B) Convex mirror as well as concave lens
- (C) Two plane mirrors placed at 90° to each other
- (D) Concave mirror as well as concave lens

4. A child is standing in front of a magic mirror. He finds the image of his head bigger, the middle portion of his body to be of same size and that of the legs

HUMAN EYE AND THE COLOURFUL WORLD

1. Most of the refraction of the light entering our eye is done at the _____.
2. _____ helps to adjust the focal length of the eye lens.
3. The Screen of human eye is _____.
4. Myopia and hypermetropia can be corrected by _____ and _____ respectively.
5. Speed of light is more in optically _____ medium compared to optically _____ medium.
6. The band of 7 seven colours of light formed by dispersion is called a _____.
7. Twinkling of stars is due to _____.

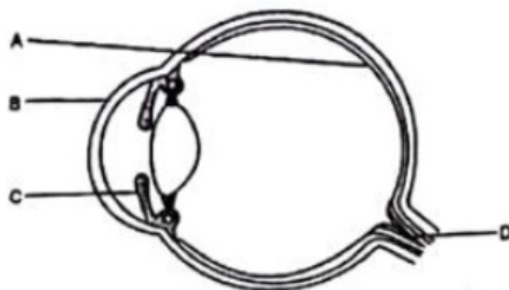
The following questions consist of two statements – Assertion (A) and Reason (R).

Answer these questions selecting the appropriate option given below:

- A. Both A and R are true and R is the correct explanation of A
 - B. Both A and R are true and R is not the correct explanation of A
 - C. A is true but R is false
 - D. A is False but R is true
8. Assertion: Sky appears blue in colour during the day time.
Reason: White light is composed of seven colours.
 9. Assertion: The near point of myopic eye is more than 25cm away.
Reason: Hypermetropia is corrected by convex lens.
 10. Assertion: The deep sea seemed to be blue in colour.
Reason: Light refracts towards the normal when it enters water from the air.
 11. Assertion: Danger signals are given red colour.
Reason: Red colour scatters the most.

Answer the following:

12. Why is a normal eye not able to see clearly the objects kept closer than 25cm? (2)
13. The far point of a myopic eye is 80cm in front of the eye. Calculate the power of the lens required to correct this defect. Also draw the figure showing the correction of myopia. (3m)
14. Write the names of the labelled parts in the figure and mention each of their function. (4m)



INTERNATIONAL INDIAN SCHOOL
WORKSHEET. 2024-25 - CLASS X
TOPIC: MAGNETIC EFFECT OF ELECTRIC CURRENT

In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

(a) Both the Assertion and the Reason are correct and the Reason is the correct explanation of the Assertion.

(b) The Assertion and the Reason are correct but the Reason is not the correct explanation of the Assertion.

(c) Assertion is true but the Reason is false.

(d) The statement of the Assertion is false but the Reason is true.

1. Assertion (A) : The strength of the magnetic field produced at the centre of a current carrying circular coil increases on increasing the number of turns of the circular coil..

Reason (R) : Magnetic field strength is directly proportional to the number of turns of the circular coil.

2. Assertion (A) : The strength of the magnetic field at the centre of a circular coil of a wire depends on the radius of the coil.

Reason (R) : The strength of the magnetic field at the centre of a circular coil of a wire depends on the number of turns of the wire in the coil.

3. Assertion (A) : A compass needle is placed near a current carrying wire. The deflection of the compass needle decreases when the magnitude of an electric current in the wire is increased.

Reason (R) : Strength of a magnetic field at a point near the conductor increases on increasing the current.

4. Assertion (A): On changing the direction of flow of current through a straight conductor, the direction of a magnetic field around the conductor is reversed.

Reason (R): The direction of magnetic field around a conductor can be given in accordance with left hand thumb rule.

Multiple choose questions:

5. The magnetic effect of current was discovered by:

(a) Maxwell (b) Fleming (c) Oersted (d) Faraday

6. The frequency of alternating current (AC) supply in India is:

(a) 0 Hz (b) 50 Hz (c) 100 Hz (d) 220Hz

7. Overloading happens because:

(a) Of connecting many appliances to a single socket

(b) Short circuits

(c) Of hike in the supply voltage

(d) Any of these

8. The force experienced by a current-carrying conductor placed in a magnetic field is the largest

when the angle between the conductor and the magnetic field is:

(a) 45° (b) 60° (c) 90° (d) 180°

9. The magnetic lines of force, inside a current carrying solenoid, are

(a) along the axis and are parallel to each other

INTERNATIONAL INDIAN SCHOOL, DAMMAM.

BIOLOGY WORKSHEET – CLASS 10

CHAPTER 5: LIFE PROCESSES - NUTRITION AND RESPIRATION

I. Fill in the blanks:

1. The processes which together perform the maintenance job are called _____.
2. Complex substances have to be broken down into simpler ones. To achieve this, organisms use bio-catalysts called _____.
3. The desert plants take up carbon dioxide at night and prepare an _____ which is acted upon by the energy absorbed by the chlorophyll during the day.
4. _____, which is also a unicellular organism, the cell has a definite shape and food is taken in at a specific spot.
5. The build-up of _____ in our muscles during sudden activity causes cramps.
6. When air is taken in and let out, the lungs always contain a _____ of air so that there is sufficient time for oxygen to be absorbed and for the carbon dioxide to be released.

II. Multiple choice questions:

7. In human beings, the respiratory pigment which has a very high affinity for oxygen.
(a) Carboxyhaemoglobin (b) Oxyhaemoglobin (c) Haemoglobin (d) Chlorophyll
8. It provide a surface where the exchange of gases can take place.
(a) Bronchi (b) Bronchioles (c) Trachea (d) Alveoli
9. The pyruvate may be converted into ethanol and carbon dioxide. This process takes place in yeast during –
(a) Fermentation (b) Respiration (c) Digestion (d) Excretion
10. The inner lining of the small intestine has numerous finger-like projections called
(a) Gall bladder (b) intestinal glands (c) Gastric glands (d) Villi

III. ASSERTION AND REASONING:

For the questions 11to 13,two statements are given-one labelled Assertion (A) and the other labelled Reason(R).Select the correct answer to these questions from the options (i) , (ii) ,(iii) and (iv)as given below:

- (i)Both A and R are true and R is the correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

11. **Assertion:** In anaerobic respiration, one of the end products is alcohol.

Reason: This is because of incomplete breakdown of glucose.

12. **Assertion:** The food coming from the stomach is acidic and has to be made alkaline.

Reason: Bile juice from the liver accomplishes this in addition to acting on fats.

13. **Assertion:** Some organisms break-down food material outside the body and then absorb it.

Reason: This parasitic nutritive strategy is used by a wide variety of organisms.

14. **Assertion:** The opening and closing of the pore is a function of the guard cells.

Reason: Guard cells are specialized plant cells in the epidermis of leaves and stems.

15. **Assertion:** Desert plants take up carbon dioxide at night and prepare an intermediate.

Reason: Other plants take up carbon dioxide during the day and prepare carbohydrates.

IV. VERY SHORT ANSWERS TYPE QUESTIONS CARRYING 1 MARK EACH

16. Which is the longest part of the alimentary canal?

17. What is the function of mucus secreted by gastric juice?

18. What is the function of rings of trachea?

19. What happens to the ribs and diaphragm when we breathe in?

20. Where does the first step of the break-down of glucose into pyruvate take place?

V. SHORT ANSWER TYPE QUESTIONS CARRYING 3 MARKS EACH

21. In single celled organisms' diffusion is sufficient to meet all their requirements of food, exchange of gases or removal of wastes but it is not in case of multicellular organisms. Explain the reason for this difference.?

22. State the role of the following in human digestive system: (i) Digestive enzymes (ii) Hydrochloric acid (iii) Villi?

23. Mention the raw materials required for photosynthesis.

24. Differentiate between Aerobic and Anaerobic respiration.

25. Differentiate between inhalation and exhalation.

VI. LONG ANSWER TYPE QUESTIONS CARRYING 5 MARKS EACH

26. (a) Draw a diagram of human respiratory system and label the following:
- (i) Part where air is filtered by fine hair and mucus
 - (ii) Part which terminates in balloon – like structures
 - (iii) Balloon – like structures where exchange of gases takes place.
 - (iv) Part which separates chest cavity from abdominal cavity.
- (b) Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms?
27. Explain the process of nutrition in Amoeba.
28. (a) List the three events that occur during the process of photosynthesis. Explain the role of stomata in this process. (b) Describe an experiment to show that “sunlight is essential for photosynthesis.”
29. (a) Draw a diagram to show open stomatal pore and label on it: (i) guard cells (ii) chloroplast
- (b) State two functions of stomata. (c) How do guard cells regulate the opening and closing of stomatal pore?
30. A variegated leaf with green and yellow patches is used for an experiment to prove that chlorophyll is required for photosynthesis. Before the experiment the green portions (A), and the pale-yellow portions (B), are observed. What will be the colour of ‘A’ just before and after the starch test? Also write the equation of photosynthesis and mark, as well as validate from which molecule the by-product is obtained.
31. Name a common nutrient that is absorbed in the small intestine and reabsorbed by the kidney tubules.

LIFE PROCESSES - TRANSPORTATION AND EXCRETION

1. Name the artery which carries deoxygenated blood.
2. Name the component of blood that helps in the formation of blood clot in the event of a wound.
3. Leaves of a healthy potted plant were coated with petroleum jelly. How will it affect the plant? State two reasons.
4. Brief on the circulation in fishes
5. Differentiate between single and double circulation found in vertebrates.

6. Name the vascular tissues in plants and state their differences?
7. Give reasons:
 - (a) Ventricles are thicker than atrium.
 - (b) Arteries are thicker than veins
 - (c) Mature RBC in humans lack nucleus and mitochondria
 - (d) Blood flow in arteries is by spurts and under pressure.
8. In mammals and birds why is it necessary to separate oxygenated and deoxygenated blood?
9. How is food transported in plants?
10. What are the differences between arteries and veins? 3
11. What is lymph? Mention its functions.
12. List the three kinds of blood vessels of human circulatory system and write their functions in tabular form.
13. Why and how does water enter continuously into the root xylem of plants?
14. Define translocation with respect to transport in plants. Why is it essential for plants? Where in plants are the following synthesized? a) Sugar b) Hormone
15. Describe double circulation in human beings. Why is it necessary? Explain with the help of a diagram.
- 16 . Define excretion.
17. Name the functional unit of kidney?
18. What is the role of glomerulus in kidney?
19. Removal of faeces from the alimentary canal is not considered excretion. Why?
20. How do unicellular organisms remove their wastes? Which of the nitrogenous waste is most soluble in water?
21. Which substances are selectively reabsorbed by the tubular part of nephron?
22. What is the role of skin, lungs and intestine in the process of excretion in man?
23. What do you mean by artificial kidney?
24. State two vital functions of kidney.
25. What are the methods used by plants to get rid of excretory products?

26. a) Draw a diagram of excretory system in human beings and label the following:

Artery, Kidney, Urinary bladder and Urethra.

b) How is the urine produced and eliminated?

27. i) Draw the structure of a nephron and label the following on it.

(a) Glomerulus (b) Bowman's capsule (c) Renal artery (d) Collecting duct

ii) What happens to glucose that enters the nephron along with filtrate?

CHAPTER: 6 - CONTROL AND CO ORDINATION

1. Name the plant hormones responsible for elongation of cells.
2. All information for our environment is detected by specialized tips of some nerve cells. Mention the name given to such tips and also mention where are they located.
3. Name the organ where growth hormones is synthesized in man.
4. Name the part of the brain which controls posture and balance of the body.
5. How do we detect the smell of an agarbatti (incense stick)?
6. Give reason to explain why endocrine glands release their secretions into the blood directly.
7. Give an example of a plant hormone that promotes growth.
8. How do auxins promote the growth of a tendril around a support?
9. Why are some patients of diabetes treated by giving injections of insulin?
10. What are the difference between endocrine and exocrine gland?
11. While watering a rose plant, a thorn pricked Rita s hand. How would she respond to this situation?
Provide the term for such type of response?
12. What is the function of receptors in our body? Think of situations where receptors do not work properly. What problems are likely to arise?
13. A boy runs on seeing a stray dog. His breathing becomes very fast and blood pressure also increases.
Name the hormone found to be high in his blood and the gland which produces it.
14. Pituitary gland is often termed as master endocrine gland why? Which is the master of master gland?

15. An old man is advised by his doctor to take less sugar in his diet. Name the disease from which the man is suffering. Mention the hormone due to imbalance of which he is suffering from this disease. Which endocrine gland secretes this hormone?
16. What is synapse? How does a message of an impulse transmit through a synapse?
17. Name the hormones that are released in human males and females when they reach puberty.
18. 'Brain and Spinal Cord are two vital organs of our body'. How is our body designed to protect them?
19. (a) Draw the structure of neuron and label cell body and axon.
(b) Name the part of neuron
(i) Where information is received. (ii) Through which information travels as an electrical impulse.
20. What is the difference between a reflex action and walking?
21. Why is it important for us to have iodized salt in our diet? Name the disease caused due to deficiency of iodine and mention its main symptom.
22. Name the hormones required for followings. Also mention the name of endocrine gland for which that is secreted (a) Conversion of glycogen into glucose (b) Stimulation of growth (c) Metabolism of carbohydrates, protein and fat
23. a) Nerve input signal travelled only up to the spinal cord and gave output signal for a response. What type of action did the body show voluntary or involuntary? (b) Draw a nerve pathway for the above action and suggest specific terms for input nerve and output nerve.
24. What are Phytohormones? Name any 4 Phytohormones and mention their functions.
25. Draw the diagram of human brain and label the parts.

CHAPTER: 7

HOW DO ORGANISMS REPRODUCE?

- 1) Describe the different methods of natural vegetative propagation.
- 2) How does plasmodium reproduce by multiple fission?
- 3) Describe budding in yeast?
- 4) Describe asexual reproduction. How do the following organisms reproduce?
a) Amoeba b) Plasmodium c) Hydra
- 5) What is the significance of vegetative propagation?

- 6) What is the significance of pollination? Describe its types.
- 7) What changes occur in girls and boys in the age group of 10-14 years?
- 8) Mention the events taking place when the ovum is fertilized in fallopian tube till it is implanted in the uterus of a human female.
- 9) Mention the methods used for the regulation of birth child.
- 10) Trace the path of sperm during ejaculation and mention the gland and their functions associated with the male reproductive system.
- 11) Distinguish between a gamete and a zygote. Explain their roles in sexual reproduction.
- 12) What is placenta? Mention its role during pregnancy.
- 13) Describe sexually transmitted diseases (STDs) and mention the ways to prevent them.
- 14) What is the role of villi on the walls of placenta?
- 15) What is semen?
- 16) Why scrotum is located outside the human body?
- 17) What is tissue culture and its importance?
- 18) Describe the human male reproductive system in detail.
- 19) Describe the human female reproductive system in detail.
- 20) Write two point of difference between sexual and asexual mode of reproduction. Describe why variation are observed in the offspring formed by sexual reproduction.
- 21) Draw a well labeled diagram of a pistil showing pollen tube growth and its entry into the ovule.
- 22) What do you mean by puberty? What is the pubertal age in human males and females? List some changes that occur at the time of puberty in male and female?
- 23) Mention the function of the following organs:
 - 1)testes
 - 2)vas deferens
 - 3)urethra
 - 4)scrotum
 - 5)penis
- 24) Describe different methods of population control in human beings in detail.

DIFFERENCES

- 1) Binary fission and multiple fission
- 2) Binary fission and budding
- 3) Binary fission and fragmentation
- 4) Tubectomy and vasectomy

DIAGRAMS

- 1) Budding in Yeast and in Hydra
- 2) Spore formation in Rhizopus.
- 3) Binary fission in Amoeba.
- 4) Fragmentation in Spirogyra.
- 5) Regeneration in Planaria
- 6) Multiple fission in Plasmodium
- 7) Male and female reproductive system.
- 8) Germination of seed
- 9) Longitudinal section of bisexual flower.

CHAPTER: 8 - HEREDITY

I.Choose the correct option from the given alternatives:

1. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. In the progeny all bore violet flowers, but almost half of them are short. This suggests that the genetic make-up of the tall parent can be depicted as:
a. TTWW b. TTww c. TtWW d. TtWw
2. The number of chromosomes present in human beings is
a. 46 b. 36 c. 45 d. 47
3. Males have this combination of sex chromosomes.
a. XX b. XY c. XYY d. XXY
4. The monohybrid cross involves
a. Cross between two individuals with two pairs of contrasting characters
b. Cross between two individuals with any numbers of contrasting characters
c. None of these d. a or b
5. The scientific name of garden pea plant is
a. Pisum sativum b. Pisum indica c. Mangifera indica d. None of these

II Very short answer type questions:

1. Define
 - a.variation
 - b. heredity
2. All the variations in a species do not have equal chances of survival. Why?
3. Name two human traits which show variation.
4. What is a gene?
5. What is DNA?
6. Why do mice whose tails were surgically removed just after birth for generations, continued to produce mice with tails?
7. What is Monohybrid cross?
8. Who is the father of genetics?
9. Why is the progeny always tall when a tall pea plant is crossed with a short pea plant?
10. Name the branch of science that deals with heredity and variation.

III. Short answer type questions

1. Why is variation beneficial for the species, but not necessarily for the individual?
2. Define variation in relation to a species
3. Why did Mendel select pea plants for conducting his experiments on inheritance?
4. What are chromosomes? Where are they located in the cell?
5. What is a sex chromosome?
6. The sex of the children is determined by what they inherit from their father and not their mother – Justify.
7. Write any two differences between acquired traits and inherited traits.
8. Why do all gametes formed in human females have an X-chromosome?
9. In human beings, statistical probability of getting either a male or female child is 50:50. Give an suitable explanation.

IV. Long answers type questions:

1. Explain how sexual reproduction gives rise to more viable variations than asexual reproduction. How does this affect the evolution of those organisms that reproduce sexually?
2. Explain Monohybrid cross in detail with the help of diagrams.

3. Explain Dihybrid cross in detail with the help of diagrams.
4. We cannot pass onto our progeny the experiences and qualifications earned during our life time – Justify the statement giving reasons and examples.
5. It is a matter of chance whether a couple will have a male or female child – Justify this statement by drawing flow chart.

CHAPTER - 13 OUR ENVIRONMENT

1. Define Bio magnification
2. Expand the term CFC & U.N.E.P.
3. Define Ozone hole
4. Which of the following is/are Biodegradable: plastic cups, cow dung, Aluminium foil, cotton.
5. Define food web
6. Define Ecosystem
7. Differentiate between Biodegradable and non-biodegradable wastes.
8. Use of Kulhads was not environment friendly idea. Why?
9. Draw an Energy Pyramid showing different trophic level.
10. What is the advantage of disposable paper cup use over plastic cups?
11. How can we help in reducing the problem of waste disposal? Give any two methods.
12. What is role of decomposer in Ecosystem?
13. Give any two ways in which non- biodegradable substance would affect the environment.
14. What are trophic levels? Give an example of a food chain and state the different trophic levels in it.
15. What will happen if we kill all the organisms in one trophic level?
16. Study the food chain given below.
 - I. Grass → Grasshopper →Frog
 - II. Wheat → Rat →Snake →HawkWhich of the two consumers frog/hawk will get more available energy and why?
17. Give two ways by which biodegradable substance can affect our environment.
18. How do you think we can contribute in controlling the ozone depletion?

19. Name the main source of energy in self-sustaining ecosystem?
20. Which of the following belong to the same trophic level: spider, crop, hawk, snail and lizard?
21. Define trophic level with an example.
22. Give some ways that we can practice to protect our environment.
23. Give reasons:
 - (a) Use of Kulhads was not environment friendly idea.
 - (b) Disposable paper cups are better than plastic cups.
24. How can we help in reducing the problem of waste disposal? Give any two methods.
25. Explain 10% law using a schematic diagram.
26. What is the role of decomposers in the ecosystem?
27. Give two examples for each
 - (a) Biodegradable and Non-biodegradable waste
 - (b) Biotic and abiotic factors
 - (c) Natural and artificial ecosystem
28. What will happen if we kill all organisms in one trophic level?
29. Vegetarian food habits help us in getting more energy. Justify
30. a) How is a food chain different from food web? Discuss with a suitable example.
b) What is the significance of food chain?
31. DDT that was sprayed in minute amount on crops was detected in high concentration in man.
Explain this phenomenon with an aquatic food chain.
32. Write a short note on ozone depletion and its effects.
33. What impact does removal of bacteria, fungi/microorganism have on our environment?
34. How can we help in reducing the waste disposal problem? Suggest any two methods.

-----XXX-----XXX-----XXX-----

- (b) perpendicular to the axis and equidistance from each other
- (c) circular and they do not intersect each other
- (d) circular at the ends but they are parallel to the axis inside the solenoid.

10. Which of the following statements is incorrect regarding magnetic field lines?

- (a) The direction of magnetic field at a point is taken to be the direction in which the north pole of a magnetic compass needle points.
- (b) Magnetic field lines are closed curves
- (c) If magnetic field lines are parallel and equidistant, they represent zero field strength
- (d) Relative strength of magnetic field is shown by the degree of closeness of the field lines.

11. Two magnetic field lines:

- (a) Intersect at the neutral point
- (b) Never intersect each other
- (c) Intersect near north-pole or south pole
- (d) Intersect at the midpoint of the magnet

Answer the following:

12. State how the magnetic field produced by a straight current carrying conductor at a point depends on

- (a) current through the conductor
- (b) distance of point from conductor.

13. What are magnetic field lines? List three characteristics of these lines.

14. Draw the magnetic field lines through and around a single loop of wire carrying electric current.

15. A current carrying conductor is placed in a magnetic field. Now answer the following.

- (i) List the factors on which the magnitude of force experienced by conductor depends.
- (ii) When is the magnitude of this force maximum?
- (iii) State the rule which helps, in finding the direction of motion of conductor.
- (iv) If initially this force was acting from right to left, how will the direction of force change if:

- (a) direction of magnetic field is reversed?
- (b) direction of current is reversed?

16. How is the type of current that we receive in domestic circuit different from the one that runs a clock?

17. Give reasons for the following:

- (a) It is dangerous to touch the live wire of the main supply rather than neutral wire.
- (b) Using fuse in a household electric circuit is important.

18. State the direction of magnetic field in the following case.

19. What is solenoid? Draw the pattern of magnetic field lines of

- (i) a current carrying solenoid and
- (ii) a bar magnet.

List two distinguishing features between the two fields.

20. (a) What is an electromagnet? List any two uses.

(b) Draw a labelled diagram to show how an electromagnet is made.

(c) State the purpose of soft iron core used in making an electromagnet.

(d) List two ways of increasing the strength of an electromagnet if the material of the electromagnet is fixed.

21. Define alternating current and direct current.

Explain why alternating current is preferred over direct current for transmission over long distances.

22. Mention and explain the function of an earth wire. Why it is necessary to earth metallic appliances?

23. (a) Name two safety measures commonly used in an electric circuit and appliances.

(b) What is meant by short circuiting?

(c) What precaution should be taken to avoid the overloading of domestic electric circuits? 24.

Draw a schematic diagram of a common domestic circuit showing provision of

(i) Earth wire, (ii) Main fuse

(iii) Electricity meter and

(iv) Distribution box.

CASE STUDY QUESTION 1

Andre Marie Ampere suggested that a magnet must exert an equal and opposite force on a current carrying conductor, which was experimentally found to be true. But we know that current is due to charges in motion. Thus, it is clear that a charge moving in a magnetic field experience a force, except when it is moving in a direction parallel to it. If the direction of motion is perpendicular to the direction of magnetic field, the magnitude of force experienced depends on the charge, velocity (v), strength of magnetic field (B), and sine of the angle between v and B and its direction can be obtained using Fleming's left hand rule.

(i) If an electron is travelling horizontally towards east. A magnetic field in vertically downward direction exerts a force on the electron along

(a) east

(b) west

(c) north

(d) south

(ii) If a charged particle is moving along a magnetic field line. The magnetic force on the particle is

(a) along its velocity

(b) opposite to its velocity

(c) perpendicular to its velocity

(d) zero

(iii) A uniform magnetic field exists in the plane of paper pointing from left to right as shown in figure. In the field an electron and a proton move as shown. The electron and proton experience

(a) forces both pointing into the plane of paper

(b) forces both pointing out of the plane of paper

(c) forces pointing into the plane of paper and out of the paper, respectively

(d) forces pointing opposite and along the direction of the magnetic field respectively

(iv) A neutron beam enters a magnetic field at right angles to it as shown in the figure. Due to magnetic field neutron beam will deflect

(a) to the left

(b) to the right (c) into the page (d) no deflection.

(v) In Fleming's left hand rule, the thumb's direction shows the

(a) current

(b) magnetic field

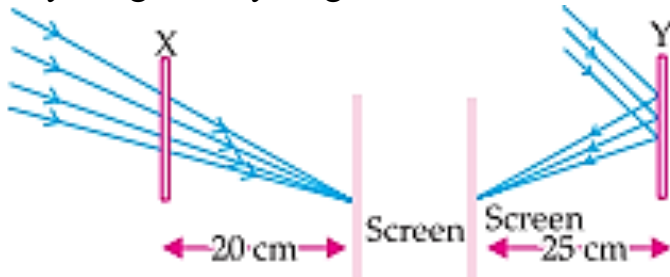
(c) motion

(d) charge

smaller. Which of the following is the order of combinations for the magic mirror from the top?

- (a) Plane, convex and concave
- (b) Convex, concave and plane
- (c) Concave, plane and convex
- (d) Convex, plane and concave

5. Study the given ray diagrams and select the correct statement from the following:



- (a) Device X is a concave mirror and device Y is a convex lens, whose focal lengths are 20 cm and 25 cm respectively.
- (b) Device X is a convex lens and device Y is a concave mirror, whose focal lengths are 20 cm and 25 cm respectively.
- (c) Device X is a concave lens and device Y is a convex mirror, whose focal lengths are 20 cm and 25 cm respectively.
- (d) Device X is a convex lens and device Y is a concave mirror, whose focal lengths are 20 cm and 25 cm respectively.

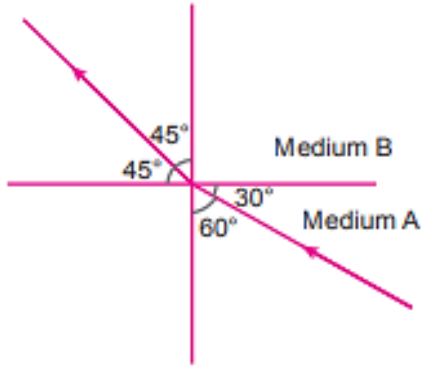
6. A ray of light passes from a medium X to another medium Y. No refraction of light occurs if the ray of light hits the boundary of medium Y at an angle of:

- (a) 120°
- (b) 90°
- (c) 45°
- (d) 0°

7. Which of the following statements is true?

- (a) A convex lens has 4 diopter power having a focal length 0.25 m
- (b) A convex lens has -4 diopter power having a focal length 0.25 m
- (c) A concave lens has 4 diopter power having a focal length 0.25 m
- (d) A concave lens has -4 diopter power having a focal length 0.25 m

8. Figure shows a ray of light as it travels from medium A to medium B. Refractive index of the medium B relative to medium A is



(a) $\frac{\sqrt{3}}{\sqrt{2}}$

(b) $\frac{\sqrt{2}}{\sqrt{3}}$

(c) $\frac{1}{\sqrt{2}}$

(d) $\sqrt{2}$

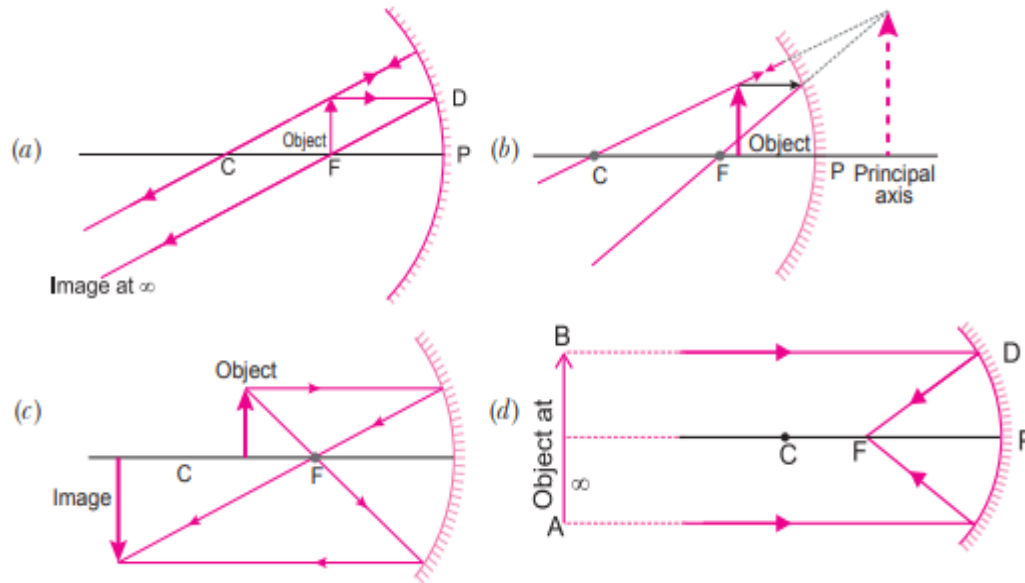
9. A spherical mirror and a thin spherical lens have each a focal length of -15 cm. The mirror and the lens are likely to be

- (a) both concave.
- (b) both convex.
- (c) the mirror is concave and the lens is convex.
- (d) the mirror is convex, but the lens is concave.

10. An optical device has been given to a student and he determines its focal length by focusing the image of the sun on a screen placed 24 cm from the device on the same side as the sun. Select the correct statement about the device

- (a) Convex mirror of focal length 12 cm
- (b) Convex lens of focal length 24 cm
- (c) Concave mirror of focal length 24 cm
- (d) Convex lens of focal length 12 cm

11. An object is placed near a concave mirror at a distance of half the radius of curvature of the concave mirror. Which ray diagram shows the incident rays, reflected rays, and the position and nature of the image formed?



12. In torches, search lights and headlights of vehicles the bulb is placed
- between the pole and the focus of the reflector
 - very near to the focus of the reflector
 - between the focus and centre of curvature of the reflector
 - at the centre of curvature of the reflector
13. An object at a distance of 30 cm from a concave mirror gets its image at the same point. The focal length of the mirror is
- 30 cm
 - 30 cm
 - 15 cm
 - +15 cm
14. You are given three media A, B and C of refractive index 1.33, 1.65 and 1.46. The medium in which the light will travel fastest is
- A
 - B
 - C
 - equal in all three media
15. A divergent lens will produce
- always real image
 - always virtual image

- (c) both real and virtual image
- (d) none of these

16. The image formed by a convex lens can be

- (a) virtual and magnified
- (b) virtual and diminished
- (c) virtual and of same size
- (d) virtual image is not formed

17. Magnifying power of a concave lens is

- (a) always > 1
- (b) always < 1
- (c) always $= 1$
- (d) can have any value

II. ASSERTION AND REASON

18. **Assertion (A)** : The emergent ray is parallel to the direction of the incident ray.

Reason (R) : The extent of bending of the ray of light at the opposite parallel faces (air-glass interface and glass-air interface) of the rectangular glass slab is equal and opposite.

a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) Assertion is false but Reason is true.

19. **Assertion (A)** : A ray of light travelling from a rarer medium to a denser medium slows down and bends away from the normal. When it travels from a denser medium to a rarer medium, it speeds up and bends towards the normal.

Reason (R) : The speed of light is higher in a rarer medium than a denser medium.

(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) Both Assertion and Reason are false.

20. **Assertion (A) :** Concave mirrors are used as make-up mirrors.

Reason (R) : When the face is held within the focus of a concave mirror, then diminished image of the face is seen in the concave mirror.

(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) Both Assertion and Reason are false.

21. **Assertion (A) :** For observing traffic at back, the driver mirror is convex mirror.

Reason (R) : A convex mirror has much larger field of view than a plane mirror.

a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) Assertion is false but Reason is true.

III. CASE STUDY QUESTIONS

Read the following and answer any four questions from (i) to (v).

22. A student focused the image of a candle flame on a white screen by placing the flame at various distances from a convex lens. He noted his observations as:

S. No.	Distance of flame from the lens (cm)	Distance of the screen from the lens (cm)
(a)	60	20
(b)	40	24
(c)	30	30
(d)	24	40
(e)	15	70

Q. 1. From the above table, find the focal length of lens without using lens formula:

- (A) 15cm (B) 30cm (C) 40cm (D) 60cm

Q. 2. Which set of observations is incorrect?

- (A) (a)
 (B) (c)
 (C) (e)
 (D) (d)

Q. 3. In which case, the size of the object and image will be same:

- (A) In (d) case
 (B) In (c) case
 (C) In (b) case
 (D) In (a) case

Q. 4. What is the change in image observed as the object is moved from infinity towards the concave lens?

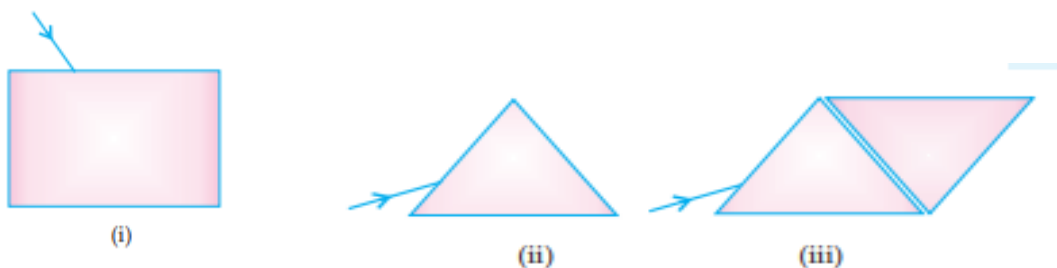
- (A) Size of image decreases
 (B) Size of image becomes highly diminished
 (C) Size of the image remains unchanged
 (D) Size of the image increases slightly

Q. 5. Which of the following statement is false for the formation of images by convex lens?

- (A) It forms real, inverted and diminished image.
- (B) It forms virtual erect and enlarged image.
- (C) It forms virtual, erect, and diminished image.
- (D) It forms real, inverted and enlarged image.

23. . Study the given diagram and answer any four questions from Q.1. to Q.5.

A very thin narrow beam of white light is made incident on three glass objects shown below. Study the nature and behaviour of the emergent beam in all the three cases.



Q. 1. Following are the possibility of two emergent beams being similar. Choose the correct answer:

- (A) (i) and (ii)
- (B) (i) and (iii)
- (C) (ii) and (iii)
- (D) No similar emergent beams

Q. 2. When light enters from air to glass, the angles of incidence and refraction in air and glass are 45° and 30° , respectively. Find the refractive index of glass.

(Given that $\sin 45^\circ = \frac{1}{\sqrt{2}}$; $\sin 30^\circ = \frac{1}{2}$)

- (A) $\sqrt{2}$
- (B) $2\sqrt{2}$
- (C) $1/(\sqrt{2})$
- (D) 1

Q. 3. The light changes its path as its medium changes. Which of the following is an incorrect statement?

- (A) Speed of light is different in different media.
- (B) Light changes its path because light only travels in straight line.
- (C) Speed of light is dependent on medium through which it is passing.
- (D) The light chooses the path with minimum time, as it changes its medium.

Q. 4. What is the unit of refractive index?

- (A) Pascal
- (B) Joule
- (C) No unit
- (D) $\mu\text{ m}$

Q. 5. Light travel fastest in:

- (A) Air
- (B) Vacuum
- (C) Glass
- (D) diamond

- (a) Low resistance, low melting point
 - (b) High resistance, high melting point.
 - (c) High resistance, low melting point
 - (d) Low resistance, high melting point
11. The energy dissipated by the heater is E . When the time of operating the heater is doubled, the energy dissipated is
- (a) doubled (b) half
 - (c) remains same (d) four times
12. There is wire of length l and cross section A . Which of the given have least resistance?
- A. Length doubled, Area halved
 - B. Length tripled, Area doubled
 - C. Length halved, Area doubled
 - D. The original wire
13. In parallel combination of electrical appliances, total electrical power
- A. Increase
 - B. Decrease
 - C. Does not change
 - D. Remain same
14. Which of the given statements is true regarding ammeter and voltmeter?
- A. Ammeter is connected in series with the required device, Voltmeter in parallel
 - B. Both ammeter and voltmeter are connected in series with required device
 - C. The voltmeter is connected in series with the device, Ammeter in parallel
 - D. They can be connected in any way
15. An electric fuse works on the:
- A. Chemical effect of current
 - B. Magnetic effect of current
 - C. Lighting effect of current
 - D. Heating effect of current
16. When a $4\ \Omega$ resistor is connected across the terminals of a $12\ \text{V}$ battery, the number of coulombs passing through the resistor per second is:
- A. 0.3
 - B. 3
 - C. 4
 - D. 12
17. Keeping the potential difference constant, the resistance of a circuit is doubled. The current will become:
- A. Double
 - B. Half
 - C. One-fourth
 - D. Four times
18. The temperature of a conductor is increased. The graph best showing the variation of its resistance is
19. If the current flowing through a fixed resistor is halved, the heat produced in it will become:
- A. Double

- B. Half
- C. One-fourth
- D. Four time

20. An electric heater is rated at 2 Kw. Electrical energy costs Rs 4 per k Wh. What is the cost of using the heater for 3 hours?

- A. Rs. 12
- B. Rs. 24
- C. Rs. 36
- D. Rs. 48

21. To get 2 Ω resistance using only 6 Ω resistors, the number of them required is

- (a) 2
- (b) 3
- (c) 4
- (d) 6

22. The least resistance obtained by using 2 Ω , 4 Ω , 1 Ω and 100 Ω is

- a) < 100 Ω (b) < 4 Ω
- (c) < 1 Ω (d) > 2 Ω

23. (i) List three factors on which the resistance of a conductor depends.

(ii) Write the SI unit of resistivity.

(iii) A wire has a resistance of 16 Ω . It is melted and drawn into a wire of half its original length. Calculate the resistance of the new wire

(iv) List the advantages of connecting electrical devices in parallel with an electrical source instead of connecting them in series

24. (a) A 6 Ω resistance wire is doubled on itself. Calculate the new resistance of the wire.

(b) Three 2 Ω resistors A, B and C are connected in such a way that the total resistance of the combination is 3 Ω . Show the arrangement of the three resistors and justify your answer.

(c) Write the mathematical expression for Joules law of heating.

25. An electric iron has a rating of 750 W; 200 V. Calculate:

- (i) the current required
- (ii) the resistance of its heating element.
- (iii) energy consumed by the iron in 2 hours

CASE STUDY QUESTION 1

If two or more resistances are connected in such a way that the same potential difference gets applied to each of them, then they are said to be connected in parallel. The current flowing through the two resistances in parallel is, however, not the same. When we have two or more resistances joined in parallel to one another, then the same current gets additional paths to flow and the overall resistance decreases.

(i) Three resistances, 2 Ω , 6 Ω and 8 Ω are connected in parallel, then the equivalent resistance is

- (a) less than 6 Ω but more than 2 Ω
- (b) less than 8 Ω but more than 6 Ω
- (c) less than 2 Ω
- (d) more than 8 Ω

(ii) (ii) A wire of resistance $12\ \Omega$ is cut into three equal pieces and then twisted their ends together, the equivalent resistance is

- (a) $3/8\ \Omega$ (b) $4/3\ \Omega$
(c) $3/4\ \Omega$ (d) $5/6\ \Omega$

(iii) Three resistances are connected as shown. The equivalent resistance between A and B is

- a) $2/3\ \Omega$ (b) $3/2\ \Omega$
(c) $4/3\ \Omega$ (d) $3/4\ \Omega$

iv) Which of the following is incorrect?

- a) $I_1 = 2I_2 = 3I_3$ (b) $I_1 = 4I_2 = 3I_3$
(c) $2I_1 = I_2 = 3I_3$ (d) $3I_1 = 2I_2 = I_3$

v) Find the current in each resistance.

- (a) 1 A (b) 2 A
(c) 3 A (d) 0.25 A

Case Study Question 2

Several resistors may be combined to form a network. The combination should have two end points to connect it with a battery or other circuit elements. When the resistances are connected in series, the current in each resistance is same but the potential difference is different in each resistor. When the resistances are connected in parallel, the voltage drop across each resistance is

same but the current is different in each resistor.

(i) The household circuits are connected in

- (a) series combination (b) parallel combination
(c) both (a) and (b) (d) none of these

(ii) The two wires of each of resistance R , initially connected in series and then in parallel. In the graph it shows the resistance in series and in parallel. Which of the following is correct?

- a) A denotes parallel combination.
(b) B denotes series combination.
(c) A denotes series combination and B denotes parallel combination.
(d) None of these.

iii) The equivalent resistance of r_1 and r_2 , when connected in series is R_1 and when they are connected in parallel is R_2 . Then the ratio is

- a) R_1/r_2 (b) $(r_1 + r_2)/r_1r_2$ (c) $(r_1 + r_2)^2 / r_1r_2$
(d) $r_1r_2/2r_1 + 2r_2$

iv) The equivalent resistance between A and B is

- a) $6\ \Omega$ (b) $9\ \Omega$
(c) $3\ \Omega$ (d) $12\ \Omega$

v) Two resistances $10\ \Omega$ and $3\ \Omega$ are connected in parallel across a battery. If there is a current of $0.2\ \text{A}$ in $10\ \Omega$ resistor, the voltage supplied by battery is

- (a) 2 V (b) 4 V
(c) 1 V (d) 8 V

2. What is an oxidizing agent? What happens when an oxidizing agent is added to propanol? Explain with the help of chemical equation.
3. Distinguish between esterification and saponification reaction with the help of chemical equations.
4. List in tabular form 3 physical 2 chemical properties on the basis of which ethanol and ethanoic acid can be differentiated.
5. Draw possible isomers of C_3H_6O and also draw their electron dot structures.

the gas, identify the type of reaction. also write the balanced chemical equation involved.

4.Name the acid present in ant sting and give its chemical formula. Also give the common method to get relief from the discomfort caused by the ant sting.

CASE BASED QUESTION

The pH is quite useful to us in a number of ways in daily life. Some of its applications are:
Control of pH of the soil : Plants need a specific pH range for proper growth. The soil may be acidic, basic or neutral depending upon the relative concentration of H^+ and OH^- . The pH of any soil can be determined by using pH paper. If the soil is too acidic, it can be corrected by adding lime to it. If the soil is too basic, it can be corrected by adding organic manure which contains acidic materials.

(i) What happens when black copper oxide placed in a beaker is treated with dilute HCl?

- (a) white (b) dark red
- (c) bluish green (d) no change

(ii) P is an aqueous solution of acid and Q is an aqueous solution of base. When these two are diluted separately , then

- (a) pH of P increases while that of Q decreases till neutralisation.
- (b) pH of P decreases while that of Q increases till neutralisation.
- c) pH of both P and Q decrease.
- (d) pH of both P and Q increase

(iii) The pH of soil X is 7.5 while that of soil Y is 4.5. Which of the two soils, should be treated with powdered chalk to adjust its pH?

- (a) X only (b) Y only
 - (c) Both X and Y (d) none of these
- (iv) Sting of ant can be cured by rubbing the affected area with soap because
- (a) it contains oxalic acid which neutralises the effect of formic acid
 - (b) it contains aluminium hydroxide which neutralises the effect of formic acid
 - (c) it contains sodium hydroxide which neutralises the effect of formic acid

WORKSHEET

MORE ABOUT SALTS

1.Which of the following salts do not have water of crystallisation?

- (i) Bleaching powder. (ii) Plaster of Paris
- (iii) Washing soda. (iv) Gypsum

2.Brine is an

- (a) aqueous solution of sodium hydroxide
- (b) aqueous solution of sodium carbonate
- (c) aqueous solution of sodium chloride
- (d) aqueous solution of sodium bicarbonate

3.Baking Powder contains :

- a) sodium carbonate
- b) sodium carbonate, tartaric acid c) sodium hydrogencarbonate , tartaric acid
- d) sodium hydrogen carbonate, acetic acid.

4. Common salt besides being used in the kitchen can also be used as the raw material for making:

(i) washing soda

(ii) plaster of paris

(iii) baking soda

(iv) slaked lime

(a)(i) and (ii). (b)(i), (ii) and (iv) (c)(i) and (iii) (d)(i), (iii) and (iv)

5. What is the common name of the compound CaOCl_2 ?

(a) Bleaching powder. (b) Baking soda

(c) Washing soda. (d) Slaked lime

Answer the following.

1. The pH of a salt used to make tasty and crispy pakoras is 14. Identify the salt and write a chemical equation for its formation.

2. What is rock salt? Mention its colour and the reason due to which it has this colour.

3. What is water of crystallization? Name and give two salts which contain water of crystallisation.

4. How is washing soda prepared from sodium carbonate? Give its chemical equation. State the type of this salt.

Name the type of hardness of water which can be removed by it.

5. How is Bleaching powder formed? Give its chemical equation. State its two uses.

6.

(a) Identify the gases evolved at the anode and cathode in chlor alkali process.

(b) Explain Why is it called so?

(c) Illustrate the reaction of the process with the help of chemical equation.

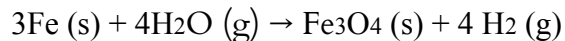
7. (a) what is the color of hydrated copper sulphate?

(b) Give the chemical name of Plaster of paris. Write an equation to show the reaction between Plaster of Paris and water.

Assertion: Salts are the products of an acid and base.

Reason: salts may be acidic or basic.

6. Which of the following statements about the given reaction are correct?



- (i) Iron metal is getting oxidised
- (ii) Water is getting reduced
- (iii) Water is acting as reducing agent
- (iv) Water is acting as oxidising agent
- (a) (i), (ii) and (iii)
- (b) (ii) and (iv)
- (c) (i), (ii) and (iv)
- (d) (ii) and (iv)

7. The reaction between lead nitrate and potassium iodide present in aqueous solution is an example of

- (a) Decomposition reaction
- (b) Displacement reaction
- (c) Double displacement reaction
- (d) Neutralization reaction

8.. A substance which oxidizes itself and reduces other is known as

- (a) Oxidizing agent
- (b) Reducing agent
- (c) Both (a) and (b)
- (d) None of these.

Direction: In the following Questions, the Assertion and Reason have been put forward. Read the statements carefully and choose the correct alternative from the following:

- (a) Both the Assertion and Reason are correct and the reason is the correct explanation of the Assertion.**
- (b) The Assertion and the reason are correct but the Reason is not the correct explanation of the Assertion.**
- (c) Assertion is true but the Reason is false.**
- (d) The statement of the Assertion is false but the reason is true.**

Assertion: AgBr is used on photographic and X-ray film

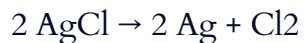
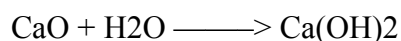
Reason: AgBr is photosensitive and changes to Ag and bromine in presence of sunlight and undergoes decomposition reaction.

Assertion: Magnesium ribbon keeps on burning in atmosphere of nitrogen.

Reason: Magnesium reacts with nitrogen to form magnesium nitride and this reaction is combination reaction.

Very Short Answer Type Questions [2 Marks]

1. Why is respiration considered an exothermic reaction? Write balanced chemical equation.
2. Identify the type of reaction(s) in the following equations.



3. In electrolysis of water, why is the volume of gas collected over one electrode double that of gas collected over the other electrode?
4. Why do we store silver chloride in dark coloured bottles?

Short Answer Type Questions [3 Marks]

- 1) Write one example for each of decomposition reaction carried out with help of
(i) Electricity (ii) Heat (iii) Light
- 2) 2g of ferrous sulphate crystals are heated in a dry boiling tube.
(i) List any two observations.
(ii) Name the type of chemical reaction taking place.
(iii) Write the chemical equation for the reaction.
3. What is a displacement reaction? Explain with an example.
4. What is a precipitation reaction? Explain with an example.
- 5 Differentiate between displacement and double displacement reaction with examples.
6. What do you observe when copper powder is heated in a china dish? Write the chemical equation.
7. Explain oxidation and reduction reaction with examples.

Long Answer Type Questions [5 Marks]

1. On heating blue coloured powder of copper (II) nitrate in a boiling tube, copper oxide (black), oxygen gas and a brown gas X is formed.
(a) Write a balanced chemical equation of the reaction
(b) Identify the brown gas x evolved.
(c) Identify the type of reaction
(d) What could be the pH range of aqueous solution of the gas x?

2. What happens when a piece of

(a) zinc metal is added to copper sulphate solution?

(b) aluminium metal is added to dilute hydrochloric acid?

(c) silver metal is added to copper sulphate solution?

Also, write the balanced chemical equation if the reaction occurs.

3. a) What is a redox reaction? Give an example.

b) Name the substance oxidized, reduced, the oxidizing agent and the reducing agent in the following reaction.



Competency Based Questions

1. A compound 'X' used for drinking, has pH = 7. Its acidified solution undergoes decomposition in presence of electricity to produce gases 'Y' and 'Z'. The volume of Y is double than Z. Y is highly combustible whereas Z is supporter of combustion. Identify X, Y & Z and write the chemical reactions involved

2. A student took 2-3 g of a substance X in a glass beaker & poured water over it slowly. He observed bubbles along with hissing noise. The beaker becomes quite hot. Identify X. What type of reaction is it?