

BOSTON PUBLIC SCHOOL

CLASS-X

SUBJECT-SCIENCE (086)

WORKSHEET (2024-25)

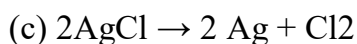
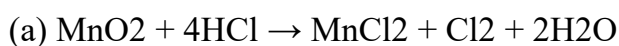
CHEMICAL REACTIONS AND EQUATIONS

1. What happens when the milk is left at room temperature during summer?
2. Write a chemical equation when magnesium is burnt in air to give magnesium oxide.
3. A substance undergoes chemical reactions to produce simple products, what type of reaction is this?
4. Why do copper vessels lose their shine when exposed to air?
5. Which gas is produced by the action of dilute hydrochloric acid on zinc granules?
6. $\text{Fe}_2\text{O}_3 + \text{Al} \rightarrow \text{Al}_2\text{O}_3 + \text{Fe}$

The above reaction is an example of which type of reaction?

7. Name the type of reaction in which energy is absorbed.
8. Why does the colour of copper sulphate solution change when an iron nail is dipped into it?
9. Give an example of decomposition reaction which proceeds by absorbing electric energy.
10. Why do we balance the chemical equation?
11. Write down the observations which indicate the occurrence of a chemical reaction.
12. Why is respiration considered as an exothermic reaction?
13. Transfer the following statements into chemical equations and then balance them:
 - (a) Hydrogen gas combines with nitrogen to form ammonia.
 - (b) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.
14. Identify the substances that are oxidised and the substances reduced in the following reactions:
 - (a) $\text{Na} + \text{O}_2 \rightarrow \text{Na}_2\text{O}$
 - (b) $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
15. What happens when silver chloride is exposed to sunlight? Give one practical application of this reaction. Write the equation also.
16. Why is the bag used for potato chips flushed with nitrogen gas?
17. Write down the balanced chemical equations for the following reactions:
 - (a) Zinc carbonate \rightarrow Zinc oxide + Carbon dioxide
 - (b) Aluminium + Chlorine \rightarrow Aluminium chloride
 - (c) Magnesium + water \rightarrow magnesium hydroxide + hydrogen

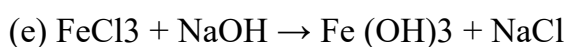
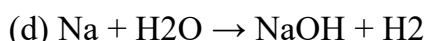
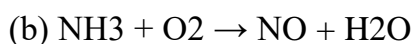
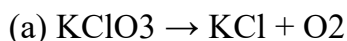
18. Choose combination, displacement and double displacement reactions out of the given reactions:



19. What happens when CO_2 is passed through slaked lime? Write the balanced chemical equation.

Write the type of reaction that has occurred.

20. Balance the following chemical equations and identify the type of reaction they represent.



21. Define various types of chemical reactions. Write one chemical equation for each type.

ACID BASES AND SALTS

22. What is the common name of the compound $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$?

23. Name the substance which on treatment with chlorine yields bleaching powder.

24. Name the sodium compound which is used for softening hard water.

25. The substance X commonly used in the kitchen for making tasty crispy pakoras and also it is added for faster cooking. It is produced using sodium chloride as one of the raw materials. It is a mild non corrosive basic salt.

i. Write the chemical name of the substance 'X'.

ii. Write equation for formation of substance 'X'.

iii. Write balanced chemical equation when 'X' is heated during cooking.

26. 'X' which is also an ingredient in antacids is used for making 'Y', which is a mixture of 'Y' and a mild edible acid such as tartaric acid.

i. Identify the chemicals

ii. Also write uses of 'X' and 'Y'

27. What does $10\text{H}_2\text{O}$ signify in $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$? Does it make Na_2CO_3 wet?

28. Copper sulphate crystals which seem to be dry contain water of crystallisation. When we heat the crystals, this water is removed and the salt turns white. If you moisten the crystals again with water, you will find that blue colour of crystals reappears.

i. What is water of crystallisation?

ii. How many water molecules are present in one formula unit of copper sulphate?

iii. Write chemical formula for hydrated copper sulphate.

iv. Name any two other substances having water of crystallisation.

29. What happens when Plaster of Paris reacts with water? Also give chemical equation.

30. Write uses of Plaster of Paris.

31. Why only half a molecule of water is shown to be attached as water of crystallisation in Plaster of Paris?

METALS AND NON-METALS

32. Metals generally occur in solid state. Name and write symbol of a metal that exists in liquid state at room temperature.

33. Alloys are used in electrical heating devices rather than pure metals. Give one reason.

34. No chemical reaction takes place when granules of a solid, *A*, are mixed with the powder of another solid, *B*. However when the mixture is heated, a reaction takes place between its components. One of the products, *C*, is a metal and settles down in the molten state while the other product, *D*, floats over it. It was observed that the reaction is highly exothermic.

I. Based on the given information make an assumption about *A* and *B* and write a chemical equation for the chemical reaction indicating the conditions of reaction, physical state of reactants and products and the thermal status of reaction.

II. Mention any two types of reactions under which above chemical reaction can be classified.

35. Explain how the following metals are obtained from their compounds by the reduction process :

I. Metal *M* which is in the middle of the reactivity series.

II. Metal *N* which is high up in the reactivity series.

Give one example of each type.

36. What is meant by refining of metals? Name the most widely used method of refining impure metals produced by various reduction processes. Describe with the help of a labelled diagram how this method may be used for refining of copper.?

37. Four metals *A*, *B*, *C* and *D* are, in turn, added to the following solutions one by one. The observations made are tabulated below: Metal Iron (I) Sulphate Copper (I) Sulphate Zinc Sulphate Silver Nitrate

A No reaction Displacement – –

B Displacement – No reaction –

C No reaction No reaction No reaction Displacement

D No reaction No reaction No reaction No reaction

Answer the following questions based on above information.

I. Which is the most active metal and why?

II. What would be observed if *B* is added to a solution of copper (II) sulphate and why?

III. Arrange the metals A, B, C and D in order of increasing reactivity.

IV. Container of which metal can be used to store both zinc sulphate solution and silver nitrate solution.

V. Which of the above solutions can be easily stored in a container made up of any of these metals?

38. a) What is reactivity series? How does the reactivity series of metals help in predicting the relative activities of various metals?

b) Suggest different chemical processes used for obtaining a metal from its oxides for metals in the middle of the reactivity series and metals towards the top of the reactivity series. Support your answer with one example each.

CARBON AND ITS COMPOUNDS

39. An element of group 14 has two common allotropes, A and B. A is very hard and is bad conductor of electricity while B is soft to touch and good conductor of electricity. Identify the element and its allotropes.

40. Identify the following-

(i) An allotrope of carbon which has a two-dimensional layered structure consisting of flat hexagonal rings.

(ii) An allotrope of carbon which looks like a soccer ball.

(iii) An allotrope of carbon which contains both single and double bonds.

41. A hydrocarbon molecule contains 3 carbon atoms. What would be its molecular formula in case it is (i) an alkane (ii) an alkene (iii) an alkyne?

42. A hydrocarbon molecule has 4 carbon atoms. What would be its molecular formula in case it is (i) an alkane (ii) an alkene (iii) an alkyne?

43. Allotropes of carbon have same chemical properties. Give reason.

44. How many non-bonded electrons are there in?

a) Ammonia b) Methane c) Nitrogen

45. Alkenes and alkynes are unsaturated. What does it mean?

46. List any two properties of homologous series.

47. Compare the catenation ability of Carbon and Silicon.

48. Atom of an element contains 5 electrons in the valence shell. This element exists as diatomic molecules, and is a major component of air.

(a) Identify the element.

(b) Show the bond formation between two atoms of this element.

(c) What is the nature of bond formed between the 2 atoms?

49. An element X found in nature in solid form has 4 electrons in valence shell of its atom. Its allotrope Y has properties that allow it to be used as a dry lubricant, as also as a part of pencil lead.
- Identify the element.
 - What is this allotrope Y?
 - Write any 1 other use of this allotrope other than those mentioned here.
 - Predict the ability of this allotrope to conduct electricity. Give reason.
 - Name two other allotropes of this element other than Y.
50. Two elements A and B have the property C by which they can combine with more atoms of their same type. Element A is a component of the gas D that is a respiratory byproduct, while element B is the second most abundant element in the crust.
- Identify the elements A and B.
 - What is the property C?
 - Identify the gas D.
 - Among A and B, which one shows the property C to a greater extent? Why?
51. A and B are two organic compounds with the same molecular formula C_5H_{10} . Write their names and structural formulae in case
- A is a cyclic compound.
 - B is a straight chain compound.
 - Among A and B, which one will have only single bonds?
 - Will it be A or B that has both single and double bonds?
52. In the electron dot structure of hydrogen molecules, each individual atom is not satisfying the octet. Justify.
53. How many saturated hydrocarbons can be made using three carbon atoms? And hydrogen atoms? Name them.
54. Carbon cannot make ionic compounds. Why?
55. Give the general formula of alkanes. Write the name, structural formula and physical state of the compound containing:
- 3-carbon atoms
 - 8-carbon atoms.
56. Why does carbon form compounds mainly by covalent bonding?
57. List the common physical properties of carbon compounds.
58. Compare the structures of diamond and graphite.
59. Write the general IUPAC names of alcohol, carboxylic acid, aldehyde and ketone.
60. Draw the electron dot structure of ethyne and also draw its structural formula.
61. Draw the electron dot structure of O_2 and N_2 molecules

62. Define homologous series of organic compounds. List its two characteristics. Write the name and formula of the first member of the series of alkenes.
63. Why homologous series of carbon compounds are so called? Write chemical formula of two consecutive members of a homologous series and state the part of these compounds that determines their
- (i) Physical properties, and (ii) chemical properties.
64. (a) State two characteristic features of carbon which when put together give rise to a large number of carbon compounds.
- (b) Catenation is the ability of an atom to form bonds with other atoms of the Same element. It is exhibited by both carbon and silicon. Compare the ability Of catenation of the two elements. Give reasons.
65. a) How can you prove that butene and propane are not in a given homologous Series?
- a) Name the first four homologues of alkene series?
- b) How many covalent bonds are there in propene?

CHAPTER: LIGHT-REFLECTION AND REFRACTION

66. What is light? What is its nature?
67. What is the speed of light in vacuum?
68. What is a mirror?
69. What is the focal length of a plane mirror?
70. Differentiate between real and virtual image.
71. What type of image is formed on a cinema screen?
72. A concave mirror is a part of sphere of radius 40 cm. What is the focal length of the mirror?
73. Radius of curvature of a mirror is 20 cm. What type of mirror is it?
74. Magnification of a mirror is $+2/3$. What type of mirror is it?
75. Magnification of a mirror is -1 . What type of mirror is it? What is the position of object and image? Give the nature of image.
76. Name the type of mirror used:-
- (i) as a reflector in search light (iii) by the dentist
- (ii) as side view mirror in vehicles. (iv) as a shaving mirror
77. Wherever you may stand in front of mirror, your image is always erect & same sized, what type of mirror is it?
78. (a) A ray of light strikes the mirror at an angle of 20degree. What is the angle of reflection?
- (b) Give the angle of incidence and reflection for normal incidence.

79. A candle is kept in front of plane mirror at distance of 15 cm. What is distance between candle & its image?
80. Radius of curvature of a mirror is +24cm. Name the kind of mirror and give the characteristics of the image formed by it.
81. Define refraction.
82. State the laws of refraction.
83. How does the lateral displacement depend upon:-
(a) Thickness of the glass slab. (b) Angle of incidence
84. What is the lateral displacement when a ray of light falls normally on a glass slab?
85. Refractive index of water with respect to air is 1.33, what is refractive index of air with respect to water?
86. Under what condition, the angle of refraction will be equal to the angle of incidence?
87. Refractive index of glass is 1.65, what is the speed of light in glass?
88. If refractive indices of alcohol & water are 1.36 and 1.33 respectively, which of the two is optically denser?
89. A 1cm high object is placed at a distance of 2F from a convex lens, what is the height of the image formed?
90. Focal length of a lens is 25 cms. What is its power?
91. Where should an object be placed for using a convex lens as magnifying glass?
92. Power of a lens is 0.4 D. what is its focal length?
93. Why does a stick, partly immersed in water, appear to be bent? Explain with a diagram.
94. A small electric lamp is placed at the focus of a convex lens. What is the nature of the beam of light produced by the lens?
95. Light travels from rarer medium 1 to denser medium 2. Angle of incidence & refraction are 45degree & 30degree resp.
(i) Calculate the refractive index of second medium with respect to the first.
(ii) Calculate the refractive index of the first medium with respect to the second.
96. Find the position, nature and size of the image of an object 3 cm high placed at a distance of 9 cm from a concave mirror of focal length 18 cm.
97. An object 4 cm high is placed 40 cm in from of a concave mirror of focal length 20 cm. find the distance from the mirror, at which a screen be placed to obtain a sharp image.
98. A convex lens has focal length of 30 cm. at what distance should object be placed from the lens so that it forms an image at 60 cm on other side of the lens? Find the magnification produced by the lens.

99. An arrow 2.5cm high is placed at a distance of 25 cm from a diverging mirror of focal length 20 cm. find the nature, position and size of the image formed.
100. The image formed by a convex mirror of focal length 30 cm is a quarter of the object, what is the distance of object from the mirror?
101. An erect image 3 times the size of the object is obtained with a concave mirror of radius of curvature 36 cm. calculates the position of the object.
102. A concave lens has focal length of 15 cm. at what distance should an object be placed from the lens so that it forms an image at 10 cm from the lens? Find the magnification of the lens.
103. A 2 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 10 cm. the distance of the object from the lens is 15 cm. find the nature, position and size of the image.
104. The image obtained with a convex lens is erect and its length is 4 times the length of the object. If the focal length of the lens is 20 cm, calculate the object and image distance.
105. A concave lens of focal length 25 cm and a convex lens of focal length 20 cm are placed in contact with each other. What is the power of this combination? What is the focal length of the combination?
106. Find the focal length and nature of lens which should be placed in contact with a lens of focal length 10 cm so that the power of the combination becomes 5 dioptre.

HUMAN EYE AND COLOURFUL WORLD

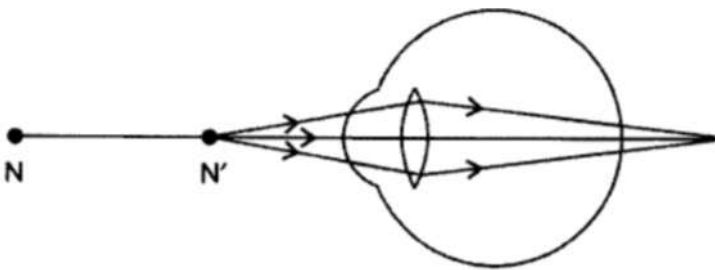
107. What is short sight? How can it be corrected?
108. A person having a myopic eye used the concave lens of focal length 50cm. What is the power of the lens?
109. Define “least distance of distinct vision”.
110. How does the eye adjust itself to deal with light of varying intensity?
When is a person said to have developed cataract in his eye? How is the vision of a person having cataract restored?
111. What are the common defects of vision that can be corrected by the use of suitable eyeglasses or spectacles?
112. Explain presbyopia
113. A person uses convex lens spectacles. What vision defect does he have?
Draw a diagram
- (i) to show the defective eye
 - (ii) to show the correction with the lens.
114. Explain the angle of prism.

115. A 14-year old student is not able to see clearly the questions written on the blackboard placed at a distance of 5 m from him.

- (a) Name the defect of vision he is suffering from.
- (b) With the help of labelled ray diagrams show how this defect can be corrected.
- (c) Name the type of lens used to correct this defect.

116. Study the diagram given below and answer the questions that follow it:

- a) Which defect of vision is represented in this case? Give reason for your answer.
- (b) What could be the two causes of this defect?
- (c) With the help of a diagram show how this defect can be corrected by the use of a suitable lens.



117. Draw a ray diagram to show the refraction of light through a glass prism. Mark on it (a) the incident ray, (b) the emergent ray and (c) the angle of deviation.

118. What is myopia (near-sightedness)? Draw a ray diagram to show how it can be corrected using a lens.

119. What is hypermetropia (far-sightedness)? Draw a ray diagram to show how this defect can be corrected using a lens.

ELECTRICITY

120. Why is a series arrangement not used for connecting domestic electrical appliances in a circuit?

121. Out of 60 W and 40 W lamps, which one has a higher electrical resistance when in use?

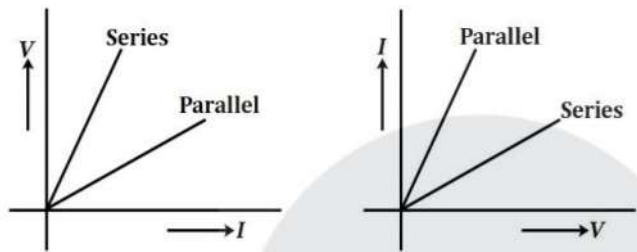
122. Draw a schematic diagram of an electric circuit consisting of a battery of two cells each of 1.5 V, 5 Ω, 10 Ω and 15 Ω resistors and a plug key, all connected in series.

4. What is an electric circuit? Distinguish between an open and a closed circuit.

123. Calculate the resistance of an electric bulb which allows a 10 A current when connected to a 220 V power source.

124. Two students perform the experiments on series and parallel combinations of two given resistors R_1 and R_2 and plot the following

$V - I$ graphs



Which of the graphs is (are) correctly labelled in terms of the words 'series' and 'parallel' Justify your answer. Justify your answer.

125. Two lamps, one rated 60 W at 220 V and the other 40 W at 220 V , are connected in parallel to the electric supply at 220 V .

A. Draw a circuit diagram to show the connections

B. Calculate the current drawn from the electric supply.

C. Calculate the total energy consumed by the two lamps together when they operate for one hour.

126. A. Distinguish between the terms 'overloading' and 'short-circuiting' as used in domestic circuits.

B. Why are the coils of electric toasters made of an alloy rather than a pure metal?

127. A. Define the term 'volt'.

B. State the relation between work, charge and potential difference for an electric circuit. Calculate the potential difference between the two terminals of a battery if 100 joules of work is required to transfer 20 coulombs of charge from one terminal of the battery to the other.

128. Derive the expression for the heat produced due to a current ' I ' flowing for a time interval ' t ' through a resistor ' R ' having a potential difference ' V ' across its ends. With which name is the relation known? How much heat will an instrument of 12 W produce in one minute if it is connected to a battery of 12 V ?

OR

Explain with the help of a labelled circuit diagram how you will find the resistance of a combination of three resistors, of resistance R_1 , R_2 and R_3 , joined in parallel. Also mention how you will connect the ammeter and the voltmeter in the circuit when measuring the current in the circuit and the potential difference across one of the three resistors of the combination.

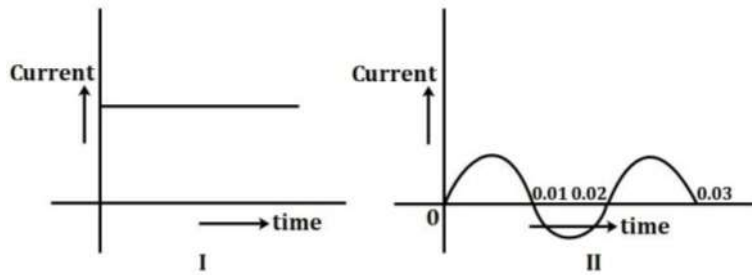
129. In a household electric circuit different appliances are connected in parallel to one another.

Give two reasons.

An electrician puts a fuse of rating 5 A in that part of domestic electrical circuit in which an electrical heater of rating 1.5 kW , 220 V is operating.

What is likely to happen in this case and why? What is likely to happen in this case and why? What change, if any, needs to be made?

130. You are given following current-time graphs from two different sources:



I. Name the type of current in two cases.

II. Identify any one source for each type of these currents.

III. What is the frequency of current in case II in India?

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

MAGNETIC EFFECT OF ELECTRIC CURRENT

131. State the rule that is used to find the direction of field acting at a point near a current carrying straight conductor.

132. Distinguish between Permanent magnet and Temporary magnet

133. What are the factors on which the magnetic field due to a current carrying solenoid depends?

134. Write any 3 methods of demagnetising a permanent magnet?

135. What is an electromagnet? How does it differ from a permanent magnet? State three factors on which the strength of an electromagnet depends.

136. A proton is moving with velocity 10^4 m/s parallel to the magnetic field of intensity 5T. Find the force on the proton

137. Mention the angle between a current carrying conductor and magnetic field for which the force experienced by the current carrying conductor in the magnetic field is the largest.

138. Explain the function of a fuse in a domestic electric circuit? An electric oven having a power rating of 2000 W, 220 V is used in an electric circuit having a fuse of 5A rating. What is likely to happen when the oven is switched on? Explain

139. Write one difference between direct current and alternating current. Which one of the two is mostly produced at power stations in our country? Name one device which provides alternating current. State one important advantage of using alternating current.

140. Can two magnetic lines of force intersect each other? Give reasons in support of your answer.

LIFE PROCESSES

141. Write the dental formula for milk teeth.
142. Where is bile made and stored?
143. How are fats digested in our bodies? Where does this process take place?
144. What is the role of saliva in the digestion of food?
145. Amoeba does not have stomach. Then how does it gain its nutrition?
146. Name the glands that are associated with digestive system of man.
147. Explain the process of digestion of food in mouth, stomach and small intestine.
148. Draw a diagram of human alimentary canal and label on it:
 1. Oesophagus
 2. Gallbladder
 3. Liver
 4. Pancreases
149. Explain the statement: Bile does not contain any enzyme but it is essential for digestion.
150. What is the function of liver in human body?
151. Write the steps involved in nutrition in amoeba.
152. Why is right kidney slightly lower in position compared to the left kidney?
153. Why do aquatic organisms have a higher requirement of osmoregulation?
154. What are the various nitrogenous waste products?
155. What is the advantage of presence of two kidneys in man?
156. Draw a neat and labeled diagram of human excretory system. Describe in brief the function of kidneys, ureters, urinary bladder and urethra.
157. List two vital functions of the kidney.
158. What happens to glucose that enters the nephron along with filtrate?
159. Name the process used in working of artificial kidney and explain it.
160. What is osmoregulation? How does it take place in humans?
161. Write a short note on photosynthesis.
162. Why is diffusion insufficient to meet the oxygen requirements of multi cellular organisms like humans?
163. What are the different ways in which glucose is oxidized to provide energy in various organisms?
164. Chloroplasts are called as energy convertors, why?
165. What are the necessary conditions for autotrophic nutrition and what are its by-products?
166. What is the effect of light and temperature on photosynthesis?

167. Name the green dot like structures in same cells observed by a student when a leaf peel was viewed under a microscope. What is this green colour due to?
168. List the three events that occur during the process of photosynthesis. Explain the role of stomata in this process.
169. Describe an experiment to show that “Sunlight is essential for photosynthesis”.
170. State the basic difference between the process of respiration and photosynthesis.
171. Draw the internal structure of chloroplast and label it.

CONTROL AND COORDINATION

172. How does chemical coordination occur in plants?
173. What is meant by tropism? Explain with one example.
174. What is meant by nastic movements in plants? Give one example.
175. How do auxins promote the growth of a tendril around a support?
176. What is the difference between the manner in which movement takes place in a sensitive plant and the movement in our legs?
177. What are hormones? Name the hormone secreted by thyroid and state its functions.
178. Describe an experiment to demonstrate that roots bend in the direction of water stimulus.
179. What are nastic and curvature movements? Give one example of each.
180. What is phototropism? How does it occur in plants? Describe an activity to demonstrate phototropism.
181. Mention role of each of the following plant hormones:
- Auxin
 - Abscisic acid
182. Give the functions of medulla and cerebrum.
183. What is the difference between a reflex action and walking?
184. What happens at the synapse between two neurons?
185. How do we detect the smell of an agarbatti (incense stick) ?
186. What is the role of the brain in reflex action?
187. Draw the structure of a neuron and explain its function.
188. How is the spinal cord protected in the human body?
189. What is reflex action? Describe the steps involved in reflex action.
190. Draw the structure of neuron and label it

191. Write in one sentence:

- Nucleus
- Dendrite
- Cell body
- Axon
- Synapse

192. Name the part of neuron:

- Where information is acquired
- Through which information travels as an electrical impulse.

HEREDITY

193. What are genes? Where are they located in our body?

194. How do Mendel's experiments show that traits may be dominant or recessive?

195. A man with blood group A marries a woman with blood group O and their daughter has blood group O. Is this information enough to tell you which of the traits – blood group A or O – is dominant? Why or why not?

196. A study found that children with light-coloured eyes are likely to have parents with light-coloured eyes. On this basis, can we say anything about whether the light eye colour trait is dominant or recessive? Why or why not?

197. 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 ?

198. "The sex of a new born child is a matter of chance and none of the parents may be considered responsible for it". Justify this statement.

199. Explain how equal genetic contribution of male and female parent is ensured in the progeny.

200. Give one example each of characters that are inherited and the ones that are acquired in humans. Mention the difference between inherited and the acquired characters.

201. In an experiment, tall pea plant (TT) is bred with dwarf pea plant (Tt). What will be the height of progeny?

202. Name the Mendel's law of inheritance.

HOW DO ORGANISMS REPRODUCE

- 203.** Write any two differences between binary fission and multiple fission in tabular form as observed in cells of organisms.
- 204.** Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration ?
- 205.** Name any two plants which are propagated by cutting method.
- 206.** Name organisms which reproduce by spore formation.
- 207.** Write down the different methods of asexual reproduction.
- 208.** Why are budding, fragmentation and regeneration, all considered as asexual type of reproduction?
- 209.** How does reproduction help in providing stability to populations of species?
- 210.** Explain the process of regeneration in planaria.
- 211.** Explain why variations are observed in the offspring of sexually reproducing organisms.
- 212.** Select the correct statements for the process of budding in yeast:-
1. A bud arises from a particular region of a parent body
 2. A parent cell divides into two daughter cells, here the parental identity is lost
 3. Before detaching from the parent body, a bud may form another bud
 4. A bud when attaches from the parent body grows into a new individual
- I, II, III
 - II, III, IV
 - III, IV, I
 - IV, I, II
- 213.** With the help of suitable diagrams, explain the various steps of budding in hydra.
- 214.** What is binary fission in organisms? With the help of suitable diagrams, describe the mode of reproduction in amoeba.
- 215.** What are the reproductive organs in a flower?
- 216.** Explain the term 'fertilization'.
- 218.** Explain the terms 'self-pollination' and 'cross-pollination'?
- 219.** What is meant by 'unisexual flowers' and 'bisexual flowers'? Give two examples of each.
- 220.** What changes take place in the flower after fertilization which leads to the formation of seeds?
- 222.** "The chromosome number of the sexually reproducing parents and their offspring is the same"
Justify this statement.
- 223.** Draw a diagram of the longitudinal section of a flower and label it.

224. What is double fertilization in plants?

225. Draw a diagram to illustrate fertilization in flowering plant and label the following:

- **Pollen grains**
- **Egg**

226. List the reproductive parts of a flower. The process of fertilization is termed as double fertilization in animals, why?

OUR ENVIRONMENT

227. Why are some substances biodegradable and some non-biodegradable?

228. What are trophic levels? Give an example of a food chain and state the different trophic levels in it.

229. What is biological magnification? Will the levels of this magnification be different at different levels of the ecosystem?

230. What are the problems caused by the non-biodegradable wastes that we generate?

231. Why is damage to the ozone layer a cause for concern? What steps are being taken to limit this damage?

232. List the biotic and abiotic components of an ecosystem.

233. What is an ecosystem? List its two main components.

234. Give an example to illustrate that indiscriminate use of pesticides may result in degradation of the environment.

235. What will happen if we kill all the organisms in one trophic level?

236. Why are bacteria and fungi are called decomposes?

237. How is the increasing demand for energy adversely affecting our environment?