

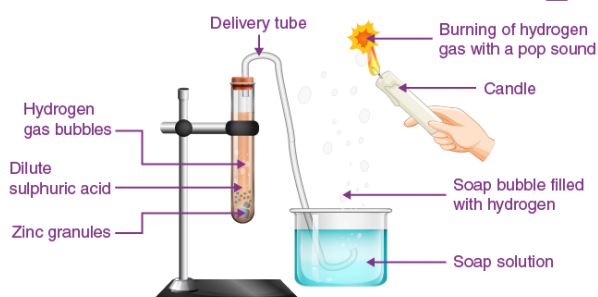
BCM SCHOOL BASANT AVENUE DUGRI ROAD, LUDHIANA

SCIENCE ASSIGNMENT (2023 – 2024)

CLASS – X

(BIO/CHEMISTRY)

1. During the extraction of metals, electrolytic refining is used to obtain pure metals.
 - (a) Which material will be used as anode and cathode for refining silver metal in this process?
 - (b) Suggest a suitable electrolyte also.
 - (c) Where do we get pure silver in this electrolytic cell after passing an electric current?
2. A non-metal X exists in two different forms, Y and Z. Y is the hardest natural substance, whereas Z is a good conductor of electricity. Identify X, Y and Z.
3. In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happen if following changes are made?



- (a) In place of zinc granules, the same amount of zinc dust is taken in the test tube
 - (b) Instead of dilute sulphuric acid, dilute hydrochloric acid is taken
 - (c) In place of zinc, copper turnings are taken
 - (d) Sodium hydroxide is taken in place of dilute sulphuric acid and the tube is heated.
4. A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by light emission. If the burning ribbon is now placed in an atmosphere of nitrogen, it continues to burn and forms a compound Y.
 - (a) Write the chemical formulae of X and Y.

(b) Write a balanced chemical equation when X is dissolved in water.

5. How do Plasmodium and Leishmania reproduce? Write one difference in their mode of reproduction.

6. Write one main difference between asexual and sexual mode of reproduction. Which species is likely to have comparatively better chances of survival – the one reproducing asexually or the one reproducing sexually? Give reason to justify your answer.

7. Germination starts with the rapid intake of water by the seed through its micropyle. The first visible indication of germination is the swelling of the seed with a resultant increase in weight. It is also accompanied by the softening of the seed coat. Absorption of water causes a number of physiological changes in the seed. Germinating seeds exhibit increased respiratory activity. The embryo produces enzymes which convert the food materials stored in the cotyledons into soluble form usable by the growing embryo. Once the food is made available, cell division activity starts in the growing embryo. The growth of the embryonic tissue ruptures the seed coat.

(i) Which of the following is not connected with the germination of seed.

- (a) It swells
- (b) The seed coat softened
- (c) It exhibits photosynthesis
- (d) It exhibits respiration

(ii) Which among the following are true

- (i) Radicle develops into root
- (ii) Radicle develops into shoot
- (iii) Plumule develops into root
- (iv) Plumule develops into shoot

- (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (i) and (iv)
- (d) (ii) and (iv)

(iii) Which of the following is a part of seed.

- (a) Embryo
- (b) Radicle
- (c) Plumule
- (d) All of the above

(iv) The condition needed for the germination of the seed

- (a) Moisture
- (b) Temperature
- (c) Both (A) and (b)
- (d) None of the above