



विद्या सर्वार्थ साधिका

ANANDALAYA
PERIODIC TEST -1
Class :X

Subject: Science
Date :19-07-2022

MM :40
Time: 2 Hrs

General Instructions:

1. There are 17 questions in this question paper. All questions are compulsory.
2. This question paper has four sections:Section A, Section B, Section C and Section D.
3. Section A - Q. No. 1 to 5 are objective type questions and carry 1 mark each.
4. Section B - Q. No. 6 to 10 are short answer questions and carry 2 marks each.
5. Section C - Q. No. 11 to 15 are also short answer questions and carry 3 marks each.
6. Section D - Q. No. 16 and 17 are long answer questions and carry 5 marks each.
7. There is no overall choice. However, an internal choice has been provided in one question of three marks and one question of five marks. You have to attempt only one of the choices in such questions.

SECTION A

1. A light ray strikes a reflecting surface perpendicularly. What will be the angle of reflection? (1)
2. Write a balanced chemical equation for the chemical decomposition of copper carbonate. (1)
3. What kind of reaction takes place when sodium chloride solution is mixed with silver nitrate solution? (1)
4. Two statements are given- one labelled Assertion and the other labelled Reason. Select the correct answer to the following questions from the codes (A), (B), (C) and (D) as given below. (1)
Assertion: The wall of the stomach is provided with gastric glands that secrete acid.
Reason: The protein in the food requires acidic medium for its digestion.
(A) Both assertion and the reason are true and the 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 the reason is false.
(D) Assertion false but the reason is true.
5. The process by which Amoeba obtains its food is _____ (1)
(A) Phagocytosis (B) Pinocytosis (C) Endocytosis (D) Exocytosis

SECTION B

6. (a) Define magnification. (2)
(b) A real image of size 5 cm is formed when an object of 2 cm is placed in front of a concave mirror. What is the magnification of the image formed?
7. An object is placed in front of a convex mirror of radius of curvature 20 cm. (2)
(a) What is the focal length of the convex mirror?
(b) What is the nature and size of the image formed?
8. Manganese dioxide when reacts with hydrochloric acid forms Manganese chloride, water and chlorine. (2)
(a) Express the above reaction in the form of a balanced chemical equation.
(b) Identify (i) reducing agent, (ii) oxidising agent

9. In a patient, gall bladder was surgically removed due to gall bladder stone. How does this affect the digestion of food specifically? Which process will be hampered in this situation? (2)
10. Atharva was performing an experiment to test the presence of starch. After exposing a potted plant to sunlight for 4 hrs, he selected a leaf from the plant. He boiled it in water and then in alcohol, before performing an iodine test. (2)
- (a) Why did he boil the leaf in water and then in iodine solution?
- (b) What precaution should have been taken by him while performing this experiment?

SECTION C

11. (a) Write the mirror formula? (3)
- (b) What are the signs of focal lengths of concave mirror and convex mirror?
- (c) Where an object should be placed in front of a concave mirror to get a real image of the size of the object?

OR

- (a) State Snell's law
- (b) The speed of light in glass is 2×10^8 m/s. What is the refractive index of glass with respect to air?
- (c) A light ray passes from optically denser to optically rarer medium with an angle of incidence 30° . What can you say about the angle of refraction?
12. (a) What is the colour of ferrous sulphate crystals? How does the colour change after heating? (3)
- (b) Name the products formed on strongly heating ferrous sulphate crystals. What type of chemical reaction occurs in this change?
13. When the powder of a common metal is heated in an open china dish, its colour turns black. However, when hydrogen is passed over the hot black substance so formed, it regains its original colour. Based on the above information answer the following questions: (3)
- (a) What type of chemical reaction takes place in each of the two given steps?
- (b) Name the metal initially taken in the powder form. Write balanced chemical equations for both reactions.
14. Explain how it can be said that the reaction between magnesium and oxygen is four reactions in one: a combustion reaction, a combination reaction, a redox reaction and an exothermic reaction. (3)
15. Given below are three statements. Give scientific explanations for each one. (3)
- (a) Even though most of the plants are green, we select the plants to be kept indoors.
- (b) Dentition in human is said to be heterodont.
- (c) The lining of human stomach has mucus glands along with gastric glands.

SECTION D

16. We wish to obtain an erect image of an object, using a concave mirror of focal length 15 cm. (5)
- (a) What should be the range of distance of the object from the mirror?
- (b) What is the nature of the image? Is the image larger or smaller than the object?
- (c) Draw a ray diagram to show the image formation in this case.
17. Draw the human alimentary canal starting from stomach to duodenum, showing the major digestive glands associated with it. Explain the process of fat digestion in duodenum. (5)

OR

Describe the process of digestion of carbohydrate that occurs in the mouth and duodenum.