

I- PERIODIC TEST : 2021-22

CLASS - X (CBSE)

Time : 2 hrs.

SCIENCE

M.M.: 50

General Instructions: (i) This question paper comprises of four Sections- A, B, C and D.

You are to attempt all the sections.

(ii) All questions are compulsory.

(iii) Section -A consists of 1 mark questions, Section-B 2 marks questions, Section-C 3 marks questions and Section -D 5 marks questions.

SECTION-A

- Q.1. A ray of light strikes a plane mirror at an angle of 40 to the mirror surface . what will be the angle of reflection ? 1
- Q.2. Magnification produced by a mirror is -1. Name the mirror ? 1
- Q.3. A concave mirror has a focal length of 25 cm. At what distance should a person hold his face from this concave mirror so that it may act as a shaving mirror ? 1
- Q.4. Name the gas which is reddish brown in colour and acidic in nature ? 1
- Q.5. What is the colour of ferrous sulphate solution ? 1
- Q.6. What is the pH of a neutral solution ? 1
- Q.7. What is common for cuscuta, ticks and leeches ? 1
- Q.8. Why do the walls of trachea not collapse when there is less air in it ? 1

For questions number 9 and 10, two statements are given - one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below :

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

Q.9. **Assertion :** When iron is placed in aqueous solution of copper sulphate, the blue colour of copper sulphate solution fades. [1]

Reason : More reactive iron displaces copper from its salt solution.

Q.10. **Assertion :** In plants there is no need of specialized respiratory organs. [1]

Reason : Plants do not have great demand of gaseous exchange.

Answer question no. 11 - 13 contains two sub-parts each. You are expected to answer all these questions.

Q.11. Read the following and answer questions from 11 (i) and (ii).

A solution of white coloured substance is used for white washing. This substance reacts vigorously with water.

(i) The white coloured substance is : [1]

- (a) CaO (b) MgO (c) NaOH (d) Fe₂O₃

(ii) The solution formed is : [1]

- (a) Ca(OH)₂ (b) Mg(OH)₂ (c) CaCO₃ (d) None of these

Q.12. Read the following and answer questions from 12 (i) and 12 (ii). 1

Molecular oxygen is the most efficient electron acceptor for respiration, due to its high affinity for electrons. However, some organisms have evolved to use other final electron acceptors and as such can perform respiration without oxygen.

(i) Lack of oxygen in muscles often leads to cramps among cricketers. These results due to : [1]

- (a) Conversion of pyruvate to ethanol
- (b) Conversion of pyruvate to glucose
- (c) Conversion of glucose to pyruvate
- (d) Conversion of pyruvate to lactic acid

- (ii) End product of anaerobic respiration in Yeast is : [1]
(a) Ethanol (b) Carbon dioxide
(c) Both a & b (d) None of these

Q.13. Read the following and answer questions from 13 (i) and 13 (ii).

Two big mirrors A and B are fitted side by side on a wall, A man is standing at such a distance from the wall that he can see the erect image of his face in both the mirrors. When the man starts walking towards the mirrors, he finds that the size of his face in mirror A goes on increasing but that in mirror B remains the same.

- (i) Name the mirrors : [1]
(a) Mirror A is concave and mirror B is convex
(b) Mirror A is plane and mirror B is concave
(c) Mirror A is concave and mirror B is plane
(d) Mirror A is convex and mirror B is concave
- (ii) The value of focal length of a plane mirror is : [1]
(a) Unit length (b) Zero
(c) Infinity (d) None of these

SECTION B

- Q.14. (i) State Snell's law. Write its mathematical expression. [2]
(ii) What is the cause of Refraction ?
- Q.15. A concave mirror produces three times enlarged virtual image of an object placed at 10 cm in front of it. Where is the image located ? [2]
- Q.16. Define the term Rancidity. How can it be prevented ? [2]
- Q.17. Explain the statement "Bile does not contain any enzyme but it is essential for digestion". [2]
- Q.18. Write two methods used by plants to get rid of excretory products. [2]

SECTION - C

- Q.19. Why does dry HCl gas not change the colour of the dry litmus paper ? [3]
- Q.20. Write the functions of following in the human alimentary canal : [3]
(a) Saliva (b) HCl in stomach (c) Pepsin
- Q.21. What kind of an image is produced if an object is in front of convex mirror at any distance ? [3]
Draw a ray diagram to show the image formed by a convex mirror when the object is at C. [3]

SECTION-D

- Q.22. An object of height 1.5 m is placed at a distance of 15 cm from a concave mirror of focal length 30 cm so that a virtual image is formed. Calculate position, nature and size of the image. Draw a ray diagram to show the image formation in the above case. [5]
- Q.23. Why do HCl, HNO₃ etc. show acidic character in aqueous solutions while solution of compounds like glucose does not show acidic character ? [5]
- Q.24. (i) Define excretion. [5]
(ii) Name the basic filtration unit present in the kidney.
(iii) Draw excretory system in human beings and label the following organs of excretory system which performs following functions :
- (a) Forms urine
(b) Is a long tube which collects urine from kidney
(c) Store urine until it is passed out.

#####