PERIODIC TEST –I (2023-24)
SCIENCE

CLASS : X

Time :1 ½ hour M.M.40

READ THE INSTRUCTIONS CAREFULLY:

- All the questions in the paper are compulsory.
- This paper has FOUR sections-A,B,C and D
- Section A consists of objective type questions.
- Section B and C consists of subjective type questions
- Section D consists of two competency based questions

There is no choice in the question paper all questions are compulsory.

SECTION A

Choose the correct option

1. When a light ray pass through a glass slab it deviates from its original path. What causes the ray to deviate from its original path? 1
   a) Change in the amount of light
   b) Change in the direction of the wind flow
   c) Change in the temperature of the air
   d) Change in the density of the medium

2. Magnesium ribbon is rubbed with sand paper before making it it burn.The reason of rubbing the ribbon is to? 1
   a) Remove moisture condensed over the surface of the ribbon ‘
   b) Generate heat due to exothermic reaction
   c) Remove magnesium oxide formed over the surface of magnesium
   d) Mix silicon from sand paper (silicon di oxide) with magnesium for lowering ignition temperature of the ribbon

3. What is the importance of urinary bladder in excretory system 1
   a) It produces urine
   b) It filters wasted from the blood
   c) It stores the urine till urination
   d) It carries urine from kidney to the outside

4. A compound X is used in white washing and is obtained by heating limestone in the absence of air. Identify X. 1
   a) $CaOCl_2$
   b) $Ca(OH)_2$
   c) CaO
   d) $CaCO_3$

5. In many plants waste products are stored in? 1

a) Chloroplast
b) Mitochondria
c) Cellular vacuoles
d) Cytoplasm

6. Real image formed by single convex lens is always 1
   a) On the same side of the lens as the object
   b) Inverted
   c) Erect
   d) Smaller than the object

7. The power of a convex lens is 4.0.The focal length of the lens will be 1
   a) 0.5m
   b) 0.25 m
   c) 2.5m
   d) 0.05m

8. The reason for thick walls in arteries 1
   (a) To carry large amount of blood
   (b) To allow easy exchange of gases with cells
   (c) To ensure blood flows in only one direction
   (d) To sustain the high pressure blood from the heart

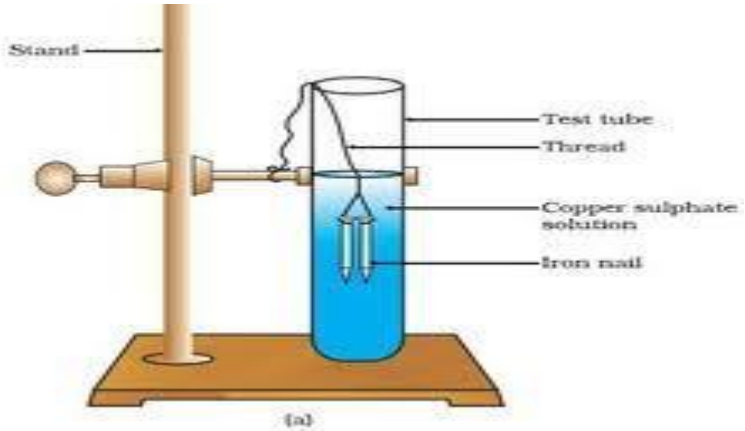
SECTION B

Short answer type questions

9. Draw a ray diagram to show image formation in a concave mirror when the object is kept beyond C. 2

10. What are various ways in which glucose is oxidized to provide energy to an organism?Draw a flow chart representing the same. 2

11. 2



Rishabh took a test tube containing copper sulphate solution and suspended iron nails from a thread inside the solution as shown in the figure.He left the

mixture undisturbed sometime.He observes a reddish brown coating on the iron nail.

a) What is the reddish brown coating on the iron nail?
b) What is the initial color of copper sulphate solution?
c) Does the color of the solution undergoes a change?
d) Is the reaction reversible or irreversible?

12. (a)Manish took some fruit juice and added some yeast to it then placed this mixture in a test tube fitted with one holed cork and fitted a bent glass tube and then he dipped the free end of the glass tube into lime water. Name the process and identify the products. 3

(b) list any two differences between aerobic and anaerobic respiration

13. Write the balanced chemical equation for the following: 3
    (a) Thermal decomposition of iron sulphate
    (b) Double displacement reaction between sodium sulphate and barium chloride
    (c) Heating of copper in presence of oxygen

SECTION C

Long answer type questions

14. A concave lens has a focal length of 15 cm.At what distance should the object from the lens should be placed so that it forms an image at 10 cm from the lens?Also find the magnification produced by the lens and the nature of the image formed. 4
What will be the size of the image if the object is 5 cm in size?

15. Draw a well labeled diagram to show electrolysis of water. 4
Write the balanced chemical equation for the same.
Specify which gases are collected at cathode and anode.

16. Give one word for the following 4
    i. The enzyme present in saliva
    ii. The energy currency of the cell
    iii. The part of excretory system which releases the urine to the outside
    iv. The product formed in case of anaerobic respiration in yeast
    v. The largest artery in human body
    vi. The rings which are present around trachea are made of
    vii. The type of circulation in fishes
    viii. The acid produced in stomach

SECTION D

Competency based questions

Answer the following questions on the basis of the information given below

17. Heterotrophic nutrition is the mode of nutrition in which organisms obtain ready made organic food from outside sources.The organisms that depend on outside sources for obtaining organic nutrients are called heterotrophs. Heterotrophic nutrition is of three types –holozoic,parasitic and saprotrophic. 4

(a) Give examples of organisms having parasitic nutrition.

(b) Enlist the 6 steps of nutrition in amoeba.

18. Mirrors form different types of images depending on the position of the object in front of the mirror. In case the image is formed inside the mirror and not formed on a screen it is known as erect and virtual. If the image formed is outside the mirror and obtained on a screen and upside down then it is known as real and inverted image.
Two examples of spherical mirror are concave mirror and convex mirror.

i When an object is placed at the centre of curvature of a concave mirror the image formed 1

(a) Larger than the object

(b) Smaller than the object

(c) Same size as that of the object

(d) Highly enlarged

ii A convex mirror has wider field of view because 1

(a) The image formed is much smaller than the object and images can be formed.

(b) The image formed is much formed in much close the mirror

(c) Both (a) and (b)

(d) None of these

iii If the radius of curvature of a concave mirror is 14 cm.Calculate the focal length of the mirror 1

(a) 14 cm

(b) -14cm

(c) 7 cm

(d) -7cm

iv If the magnification of a mirror is +1 then it is 1

(a) Plane mirror

(b) Convex mirror

(c) Concave mirror

(d) None of these