

II- PERIODIC TEST : 2022-23

CLASS - X (CBSE)

SCIENCE

Time: 2 hrs.

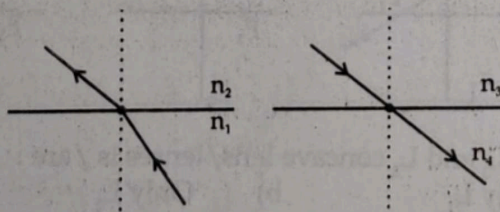
M.M.: 80

General Instructions :

- i) This questions paper comprises of four sections -A, B, C and D.
- ii) All questions are compulsory.
- iii) Section-A consists of 1 mark questions contain MCQ and case study type questions.
- iv) Section-B consists of 1 mark questions contain fill in the blank type questions.
- v) Section-C consists of 2 marks questions contain. Start type questions.
- vi) Section-D consists of 5 marks questions contain long type questions.

SECTION - A [40 Marks].

1. In which of the following vertebrate group/groups heart does not pump oxygenated blood to different parts of body? [1]
 - a) Pisces and amphibians
 - b) Amphibians and Reptiles
 - c) Amphibians only
 - d) Pisces only
2. Spinal cord originates from : [1]
 - a) cerebrum
 - b) cerebellum
 - c) medulla
 - d) pons
3. The inner lining of stomach is protected by one of the following from hydrochloric acid : [1]
 - a) Pepsin
 - b) Mucus
 - c) Salivary amylase
 - d) Bile.
4. Which of the following is not a mineral acid? [1]
 - a) Hydrochloric acid
 - b) Citric acid
 - c) Nitric acid
 - d) Sulphuric acid
5. Which of the following property is generally not shown by metals? [1]
 - a) Electrical conduction
 - b) Sonorous in nature
 - c) Dullness
 - d) Ductility
6. Which of the following is/are amphoteric : [1]
 - a) Al_2O_3
 - b) ZnO
 - c) SnO_2
 - d) All of these
7. Which of the following can make a parallel beam of light when light from a point object source is incident on it : [1]
 - a) Concave mirror as well as convex lens.
 - b) Convex mirror as well as concave lens.
 - c) Two plane mirrors placed at 90° to each other.
 - d) Concave mirror as well as concave lens.
8. Consider the given ray diagrams and select the correct relationships from the following : [1]



- a) $n_1 > n_2 ; n_3 > n_4$
- b) $n_1 < n_2 ; n_3 = n_4$
- c) $n_1 > n_2 ; n_3 = n_4$
- d) $n_1 > n_2 ; n_3 < n_4$

9. The sky appears dark to the passengers flying at very high altitudes mainly because : [1]
- Scattering of light is not enough at such heights .
 - There is no atmosphere at great heights.
 - The size of molecules is smaller than the wavelength of visible light.
 - The light gets scattered toward the earth.
10. Rays from sun converge at a point 15 cm in front of a concave mirror, where should an object be placed so that the size of its image is equal to the size of the object ? [1]
- 15 cm in front of the mirror
 - 30 cm in front of the mirror
 - between 15 cm and 30 cm in front of the mirror.
 - more than 30 cm in front of the mirror.

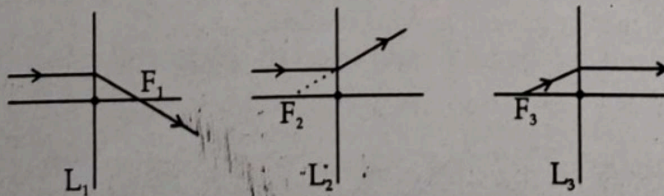
CASE STUDY BASED QUESTIONS [Q. 11 TO Q. 13].

11. Read the following and answer the questions (i) to (iii).
- Breathing in humans involves three steps. Inspiration, gaseous exchange and expiration. When we breathe in, ribs move up and flatten the diaphragm due to which the chest cavity increases. As a result air moves into the lungs. During gaseous exchange, haemoglobin binds with the oxygen and carries it along with the blood in the body. Carbon dioxide is brought to lungs by blood. During expiration, ribs move down and the diaphragm becomes dome shaped decreasing the chest cavity thus pushing the air out of lungs.
- What is the correct sequence of air passage during inhalation ? [1]
 - Nostrils → Larynx → Pharynx → Trachea → Lungs
 - Nassal Passage → Trachea → Pharynx → Larynx → Alveoli
 - Larynx → Nostrils → Pharynx → Lungs
 - Nostrils → Pharynx → Larynx → Trachea → Alveoli
 - The part where exchange of gases occurs during respiration is : [1]
 - lungs and larynx
 - Alveoli and throat
 - Alveoli and capillaries
 - Throat and lungs
 - In which organism, the cell membrane acts as the respiratory surface : [1]

a) Lizards	b) Amoeba
c) Earthworms	d) Fish

12. Read the following and answer the questions from (i) to (iii) :
- Lens is a piece of transparent glass bound by two spherical surfaces . They are of two types convex lens and concave lens. The lens formula is given by $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$. The linear magnification produced by lens is equal to the ratio of image to the object. If magnification is positive the image is virtual and erect and if magnification is negative, the image will be real and inverted.

- i) The following figures show the path of light rays through three lenses marked L_1 , L_2 and L_3 and their focal points F_1 , F_2 and F_3 respectively. [1]



out of L_1 , L_2 and L_3 concave lens/lenses is /are :

- | | |
|---------------|-------------------------|
| a) Only L_1 | b) Only L_2 |
| c) Only L_3 | d) Both L_1 and L_3 |
- ii) If an object is placed at a distance of 12 cm from the convex lens of focal length 8 cm, the image distance will be : [1]
- | | | | |
|----------|----------|----------|----------|
| a) 12 cm | b) 24 cm | c) 36 cm | d) 48 cm |
|----------|----------|----------|----------|

SECTION-D [10 Marks]

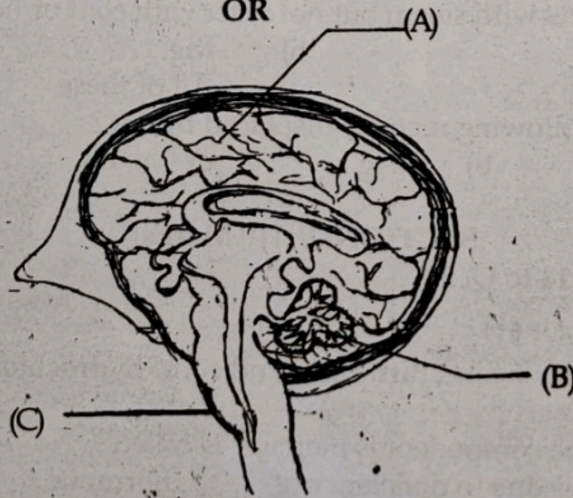
(Long answer type questions)

29. An object 5 cm in length is held 25 cm away from a converging lens of focal length 10 cm. Find the position, size and nature of the image formed. Also draw the ray diagram. [5]

OR

- a) i) What is myopia ?
ii) How it is caused and corrected ?
iii) Draw a ray diagram to show the correction.
- b) A hypermetropic person has a near point of 1 m. calculate focal length of the lens required to correct the problem. [5]
30. a) Write the events which occur during the process of photosynthesis. [5]
b) What kind of nutrition is found in Amoeba ? Show the process of nutrition in Amoeba with the help of diagram only.

OR



- a) In the given above diagram of human brain, identify the parts A, B and C. Give their functions also.
- b) Give the functions of the following plant hormone :
i) Auxin
ii) Cytokinin
