**SCIENCE**

**SAMPLE PAPER - 2**

***Time allowed: 3 hours Maximum Marks: 90***

***General Instructions:***

1. ***The question paper consists of 2 sections – section A and Section B. you are to attempt all the questions***
2. ***All questions are compulsory.***
3. ***There is no overall choice. However internal choices have been provided in three questions of 2/3 marks category and all the six questions of five marks each.***
4. ***All question of section A and section B are to be attempted separately.***
5. ***Questions 1 to 4 in section A and questions 28 and29 section B are multiple choice question and carry 1 mark each.***
6. ***Question 5 to 10 in section A and questions 30 to 32 in section B are very short answer type questions and carry 1 mark each.***
7. ***Question 11-16 in section A and question 33-35 are short answer type questions and carry 2 marks each.***
8. ***Questions 17-23 in section A and question 36 and 37 in section B are also short answer type question and carry 3 marks each.***
9. ***Question 24-27 in section A and question 38 and 39 in section B are long answer type question and carry 5 marks each…***

 **Section A**

1. The image formed by lens is a virtual, erect and magnified image. The position of the object, is between of the object is between the:
2. O and F points of the concave lens used
3. O and F points of the convex lens used
4. F and 2F points of the concave lens used
5. F and 2F points of the convex lens used (1)
6. The stars appear to us be moving from east to west. This is due to the :
7. Rotation of the earth, on its axis, from east to west
8. Rotation of the earth, on its axis from west to east
9. Revolution of the earth around the sun
10. Movement of the stars around some Celestial point (1)
11. Brass:
12. Is an alloy of Copper + tin
13. Is an alloy of Iron +carbon
14. Is an alloy of Copper + zinc
15. Is a pure metal (1)
16. Which one of the following is used for making toothbrushes , combs etc.
17. Rayon c) nylon
18. PVC d) Teflon (1)
19. Refractive index of medium A is the 1.5 while that of medium B is 2.25. in which of these two media, light propagates with a lower speed ? (1)
20. Define the term “principal axis of a spherical lens” (1)
21. Name the two stars present in orion constellation. (1)
22. Name any two metals which occur in their elemental or native state. (1)
23. Suggest one possible way to reduce the use of plastic. (1)
24. How are polythene bags and wrappers harmful to stray animals ? (1)
25. Name the part of the eye that :
26. Is responsible for the characteristic colour of the human eye
27. Controls the amount of light entering the eye
28. Hold the eye lens in its position
29. Is a delicate membrane having an enormous number of ‘ photorecepters’ (2)
30. Name the light sensitive cells on the retina that do not get activated in the dimly lit room .state the main function of these cells. Name the colours to which these cells are generally sensitive.
31. Give reasons for the following : (2)
32. The moon is observed to have a ‘silvery glow’.
33. The moon’s apparent size appears to ‘wax’ and ‘wane’. (2)
34. Write any two changes which will occur when magnesium ribbon is dipped in copper-sulphate solution.

**OR**

Write any two uses each of Aluminium and Graphite (2)

1. Name the synthetic fibre:
2. Used for making conveyor belt
3. Used for making surgical products
4. That resembles wool
5. Used for making parachutes (2)
6. Write any two ways to check pollution by industrial waste. (2)
7. a) a ray travelling in one transparent medium usually changes its direction when it goes in other transparent medium. Name the phenomenon and state its main cause.
8. Show on a diagram the change in the direction of propagation of a ray of light when it goes from an optically rarer to an optically denser medium.
9. Name the optical device that is usually used to show the phenomenon of ‘dispersion of light’. Write the acronym that gives, in correct order, the colours present in the white light.

 (3)

1. A person finds it difficult to read a book
2. Write the two names of the defect of eye he is suffering from.
3. State the two likely causes of this defect.
4. How can this defect be corrected ?

 **OR**

1. Who developed the ‘Braille system’ and when ?
2. How many dot patterns are there in Braille system ?
3. The dot patterns of Braille system are raised slightly when embossed on Braille sheets. Why? (3)
4. The effect of a given sound lasts on the human ear for about 0.1 sec. use this fact, along with a knowledge of the speed of sound (\_ 300 m/s), to estimate the minimum distance of the reflecting object for getting a clear and distinct echo. (3)
5. A) There may be many ‘explosion’ and noises taking place in the outer space but we do not hear them. Why?

b) people, living near railway tracks, can know well in advance about an approaching train. How? (3)

1. A) Name the (1) bright disc of sun whose temperature is about 6000K (2) hottest planet B) name two terrestrial and two jovian planets. (3)
2. Sheena’s father is a goldsmith. One day she saw that her father was hammering a piece of gold to turn it into sheet. While doing so, he accidentally hit the diamond nearby. She noticed, as the hammer strike the diamond, it broke into pieces. On watching so, next day she asked her teacher about it. Her teacher replied that, “diamond is a non metal”.
3. Despite the fact that diamond is the hardest known substance still it broke into pieces by just one strike of hammer. Why?
4. Name any other two metals, which can be converted into sheet.
5. Enlist any two values shown by Sheena? (3)
6. Give reasons :
7. It is harmful to discharge domestic sewage into rivers or waters bodies.
8. It is safe to drink potable water only.
9. boiling is commonly used to purity water. (3)
10. A) state the rules which govern the propagation of a ray of light when it goes from one transparent medium to another.

B) draw a diagram showing the path of a ray of light when it goes from air into a rectangular glass slab and then back to air. Mark the incident ray and the emergent ray on your diagram.

 **OR**

1. Complete the following diagram and write the nature of image …
2. You are given four spherical lenses. two convex lenses of focal length 40 cm and 100 cm respectively and two concave lenses of focal length 40and 100 cm respectively. Out of thse four lenses which one is best suitable as a magnifying glass and why ? (5)
3. a) define (i) frequency (ii) amplitude

b) a male voice has a frequency of 1.5 KHz and a female voice has a frequency of 1.75 KHz. Which one has higher pitch?

c) a honey bee completes 6000 oscillations of wing in 2 min. find its frequency.

 **OR**

1. name the part responsible for the production of sound in (i) humans (ii) birds.
2. Explain briefly the mechanism of production of high pitch and low pitch sound by the human beings.
3. What is the cause of producing characteristic sound when a mosquito flies (5).
4. A) give reasons :-
5. Phosphorus is stored under water
6. Metallic pans have wooden handle.
7. Bells are made up of metals.

B) with the help of an activity explain that metals react with oxygen to form basic oxides

 **OR**

1. How an ore is different from a mineral?
2. Compare the reactivity of sodium and iron towards water.
3. Complete the following equation :
4. Fe (s) + 2HCl (aq) =
5. Zn (s) + H2SO4 (aq) =
6. Mg (s) + H2O (l) + (heat) = (5)
7. a) what type of arrangements of monomers is found in thermoplastic and thermosetting plastics ? also give one examples of each type.

b) give reasons:-

(i) melamine is coated on the uniforms of firemen .

(ii) bakeline is used for making electrical switches.

 **OR**

1. write any three differences between thermoplastic and thermosetting plastics.
2. Write any four characteristic of synthetic plastics. (5)

 **SECTION-B**

1. Which one of the following crop is dependent on western monsoon ?
2. Wheat c) barely
3. Gram d) paddy (1)
4. Acne and pimples are common among adolescents due to increased activity of :
5. Pituitary gland c) Sebaceous gland
6. Sweat gland d) Thyroid gland (1)
7. Name the implement used for:
8. Ploughing
9. Crushing the crumbs (1)
10. Why budding in hydra is considered as asexual reproduction ? (1)
11. A seminar was conducted by “health and Wellness” club for students of class VIII in our school on “ personal hygiene”. Enlist any two hygienic measures that help children to stay healthy. (1)
12. a) what are pesticides?
13. what are pests?
14. why is minimum use of pesticides advised? (2)
15. Give one characteristic only found in mammals and differentiate them from amphibians? (2)
16. In human female reproductive system label only the parts where—
17. Production of egg takes place
18. Sperm fuses with an egg
19. Hormone produce that control production of ovum
20. Attachment of growing embryo takes place (2)
21. Answer the following :-
22. Define Hybridization.
23. Name the high yielding dwarf varieties of wheat introduced in india during green revolution.
24. Define Emasculation.

**OR**

1. Give two examples of leguminous plants .
2. Name one bacterium which is present in root nodules of leguminous plants.
3. In which form nitrogen is used by the plants? (3)
4. Nakul who was a graduate from Punjab Agriculture University was visiting his native village. He observed that his father was storing freshly harvested crops without proper sun drying. Nakul suggested him to sun dry the crop first and store it.
5. What could be the reasons for sun drying?
6. Name two government agencies for large scale storage of grains.
7. What values are exhibited by nakul ? (3)
8. Answer the following :
9. Define Metamorphosis.
10. What are the changes found in tadpole after Metamorphosis ?

**OR**

1. name the larval stage found in case of frog and silkmoth.
2. Give one term for the developmental changes that occur in case of frog .
3. Enlist any three developmental changes in the structure and habits of frog occurring during the life cycle. (5)
4. Answer the following :-
5. Name the term for onset of menstrual cycle in human female.
6. How human male is different from female on the basis of the sex chromosomes?
7. Do you think that is it right to blame the mother for the sex of the child? Give reasons for your answer.

**OR**

1. We know that endocrine glands are ductless in nature. Then how their hormones reach to the specific parts where they have to perform their function ?
2. Name the glands responsible for :-
3. Growth and development of the body
4. Maintaining the blood sugar level of the body ‘
5. Respond during stressful condition
6. Regulate the metabolic rate of the body (5)