Practice Paper - 2

Standard: 10th **Subject: Science** **Total Marks: 80** **Time: 3 hours**

Section-A

- **Answer the following questions 1 to 24 as directed: [Each question carries 1 mark]**
- **Choose the correct option from given options:**

1. How many molecules of water are there in one-unit formula of crystalline hydrated washing soda?

A. Two B. Five C. Seven D. Ten

2. Which of the following functional group is present in butanone?

A. Alcohol B. Ketone C. Aldehyde D. Carboxylic acid

3. Where is enzyme pepsin found?

A. Gastric juice B. Saliva C. Pancreatic juice D. Bile

4. Which property of metal is used in the use of school-bell?

A. Ductility B. Malleability C. Conductivity of heat D. Sonorous sound

5. Suresh has no match-box to burn a paper. What can be used at daytime to burn the paper?

A. Rectangular glass slab B. Convex mirror C. Concave mirror D. Convex lens

6. Which of the following phenomena is related to the formation of rainbow?

A. Dispersion refraction and reflection B. Refraction, dispersion and total internal reflection

C. Refraction, dispersion and internal reflection D. Dispersion, scattering and total internal reflection

- **Fill in the blanks with correct answer:**

7. The formula of functional group present in ethanal is_____ (-CHO, -COOH, - C = 0)

8. In a bar magnet the direction of the magnetic field lines is from_____ (N to S pole, S to N pole, parallel)

9. The suction force created due to _____ is the main force for the upward conduction of water in the xylem. (root pressure, transpiration, surface tension)

10. The structure formed by the fusion of sperm and ovum is called _____ (chromosome, zygote, ovary)

11. For a light ray passing through the glass prism, the angle between the incident ray and the emergent ray is known as _____ (angle of the prism, angle of deviation, angle of reflection)

12. The molecular formula of cinnabar is _____ (ZnS, HgS, CuO)

- **State whether the following statements are true or false:**

13. Silver and gold do not react with oxygen even at high temperature.

14. The more concentration of hydronium (H_3O^+) ion, the more is it pH value.

15. The somatic cells of human beings contains 23 chromosomes.

16. Red colour of light deviates maximum in dispersion of white light by a glass prism.

- **Answer the following questions as directed.**

17. What is the function of plant hormone gibberellin?

18. What is called a unisexual flower?

19. Define: Dispersion of light.

20. Find and write mis-matched pair from the following:

(A) Presence of magnetic field - Magnetic needle

(B) Presence of electric current - Galvanometer

(C) Measuring of electric current - Voltmeter

- **Match the following**

Column 'A'	Column 'B'
21. Reflex action	a. Medulla oblongata
22. Involuntary action	b. Spinal cord
	c. Forebrain

Column 'A'	Column 'B'
23. Bio-magnification	a. man-made ecosystem
24.Ecosystem	b. accumulation of chemicals
	c. a system formed by an interaction between living and non-living

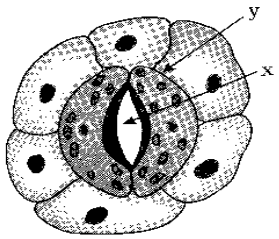
Section – B

- **Answer any nine (9) questions from the Q. nos. 25 to 37 within the word limit of 40 to 50 words approximately as directed: [Each question carries 2 marks]**

25. Why does the colour of copper sulphate solution change, when an iron nail is dipped in it?

26. Define the following terms:(i) Minerals (ii) Ores

27. Carefully observe the given diagram and answer the questions related to it:



(i) Identify label 'x' and state processes that occur through it.

(ii) Identify label 'y' and write its function.

28. Why is vegetative propagation practised for growing some types of plants?

29. What are the changes seen in girls at the time of puberty?

30. What is power of accommodation of the human eye? What is the near point and far point of the human eye?

31. What is (a) the highest, (b) the lowest total resistance that can be secured by combinations of four coils of resistances 4 Ω, 8Ω, 12 Ω, 24 Ω?

32. (i) What is a circuit diagram? (ii) Draw a labelled diagram of an electric circuit comprising a battery, electric bulb, ammeter and plug key (closed). Show the direction of the conventional current.

33. State how the strength of the magnetic field produced at the centre of a coil by a current through the circular coil can be increased.

34. What are the problems caused by the non-biodegradable wastes that we generate?

35. What is ozone? How does it affect any ecosystem?

36. What is lymph? State its functions.

37. State the characteristics of magnetic field lines.

Section – C

- **Answer any six (6) questions from the Q. nos. 38 to 46 within the limit of 60 to 80 words approximately as directed: [Each question carries 3 marks]**

38. What is called redox reaction? Explain it with suitable examples.

39. Answer the following questions:

(i) Write the electron-dot structure of sodium, oxygen and magnesium.

(ii) Represent the formation of Na_2O and MgO by electron transfer.

(iii) Which ions are present in above compounds?

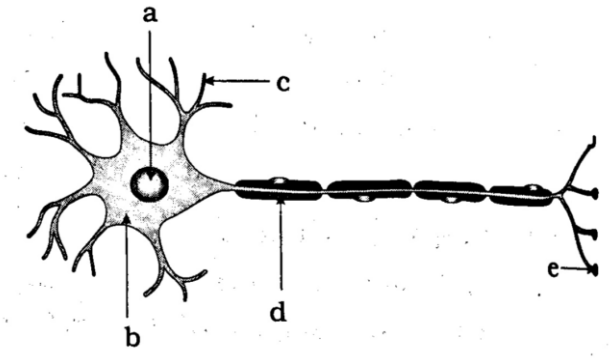
40. Give six points of differences: Metallic elements and Non-metallic elements

41. Identify the parts of a neuron in a diagram:

(i) where information is acquired,

(ii) through which information travels as an electrical impulse and

(iii) where this impulse must be converted into a chemical signal for onward transmission.



42. Answer the following questions:

(i) What is the function of human testis?

(ii) What is the role of the seminal vesicles and the prostate gland?

(iii) State the difference between male gamete and female gamete.

43. State different types of asexual reproduction and explain spore formation with diagram.

44. Draw a ray diagram showing position, nature and size of an image formed by a concave mirror when the object is placed in the following mentioned position: Between pole P and principal focus F

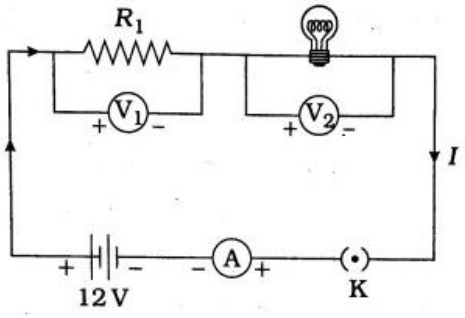
45. Answer the following question:

(a) Write the nature of an image formed by a plane mirror.

(b) Define the following reference to spherical mirror: with

(i) Centre of curvature (ii) Principal focal point (Focus)

46. An electric lamp, whose resistance is 25 ohms and a conductor of unknown resistance (R_1) are connected to a 12 V battery. If 0.4 A current pass through the circuit, find the unknown resistance and voltage (potential difference) across the electric lamp and the unknown resistance.



Section – D

- **Answer any five (5) questions from the Q. nos. 47 to 54 within the limit of 90 to 120 words approximately as directed: [Each question carries 4 marks]**

47. Write a note on pH scale.

48. Write the preparation of bleaching powder with chemical equations, also write its uses.

49. Answer the following questions:

(a) What are structural isomers? Draw structural isomers of pentane.

(b) What is substitution reaction? Explain.

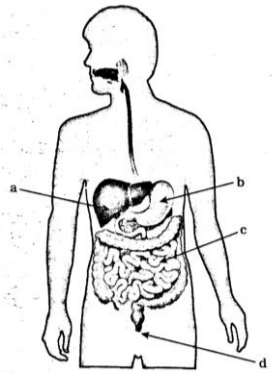
50. Draw labelled diagram of nephron. Explain how urine is produced in human.

51. From the diagram given below answer the following questions.

(i) State the names of parts a, b, c, d shown in the following diagram:

(ii) Identify 'b' and state the name of enzyme secreted in it and a medium required for its action.

(iii) Explain the digestion of food in the human stomach.



52. Presha needs spectacles of -2.0 D to correct her eye defect.

(i) Which kind of eye defect Presha has?

(ii) State the type of lens used to correct this eye defect.

(iii) State the scientific reason for occurrence of this defect in her eye.

(iv) What will be the focal length of the lens of her spectacles?

53. Answer the following questions

(a) Explain short-circuit and over loading in brief.

(b) State the precautions be taken while using electricity. (Any four)

54. What are trophic levels? Give an example of a food chain and state the different trophic levels in it.

(b) Classify the following substances into biodegradable substances and non-biodegradable substances: plastic fruit, peels, paper, glass.