Practice Paper - 1

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. Which of the following type of medicines are used for the treatment of indigestion?

A. Antibiotic   B. Antioxidant   C. Antacid   D. Antiseptic

2. Which of the following compounds have -OH functional group?

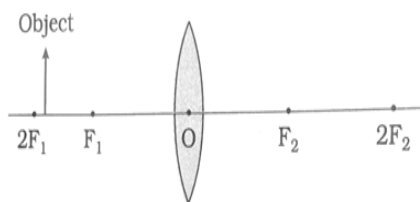A. Butanone   B. Butanol   C. Butanoic acid   D. Butanal

3. Which of the following has the longest small intestine?

A. Tiger   B. Human   C. Cow   D. Rat

4. Write the unit of current.

A. Coulomb   B. Ampere   C Volt   D Ohm

5. In the following figure, if the object is located at 2F, where will the image be located?

A. Beyond $2F_2$ B. At $2F_2$ C. Between F_2 and $2F_2$ D. Infinity

6. For normal vision, the near point is at distance.

A. 25 cm   B. 25 m   C. 2.5 cm   D. infinite

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

7. Butanone is a four-carbon compound with _____ functional group. (ketone, aldehyde, ester)

8. According to Joule's law, heat energy produced in a resistor is directly proportional to square of _____ (resistance, electric current, power)

9. The diaphragm is part of _____ system. (digestion, respiration, excretion)

10. Traits from parents are inherited in offspring with help of _____. (cell, gene, ribosome)

11. A candle is placed at a distance 20 cm from a plane mirror; then the distance between the candle and its image would be _____. (20 cm, 40 cm, 10 cm)

12. Active metals like sodium and potassium are kept immersed in _____to keep them safe. (water, kerosene, alcohol)

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

13. Magnesium is less reactive than sodium.

14. In humans, sex determination takes place when fertilisation occurs.

15. The wavelength of red colour of light is about 1.8 times than that of blue colour of light.

16. Cl_2O_7 is a basic oxide.

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

17. Which hormones are responsible for the development of beard and moustache at puberty in boys?

18. What is heredity?

19. What is angle of prism?

20. Name the scientist in whose honour the SI unit of electric current is named.

• **Match the following**

Column 'A'	Column 'B'
21. Auxin	a. Induces cell division.
22. Abscisic acid	b. Helps in growth of growth.
	c. Inhibits plant growth.

Column 'A'	Column 'B'
23. Second trophic level	a. Secondary consumers
24. Third trophic level	b. Primary consumers
	c. Tertiary consumers

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]**
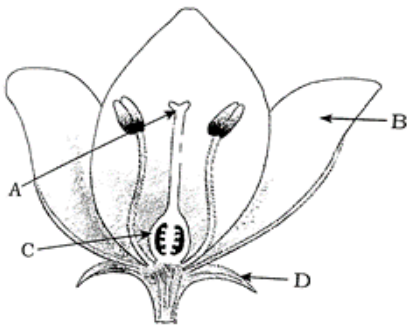
25. Why is nitrogen gas filled with oil and fatty foods?

26. Give scientific reason: Sodium, potassium and lithium are kept immersed in kerosene.

27. Give differences: Atrium and Ventricle

28. Find and write the parts A, B, C, D of the figure given below from those given in bracket:

(Petal, Sepal, Stigma, Ovary)

29. In a programme a doctor gave guidance to students on sex education. He explained that many bacterial and viral infections can be transmitted by sexual act. These diseases are gonorrhoea, syphilis, HIV-AIDS, warts. In this programme he also explained the different contraceptive methods such as mechanical barrier, hormonal balance and surgical to control population. These methods include condoms, loops, Copper-T, blocking of fallopian tube in female and blocking of vas deferens in male. From the above discussion, answer the following questions:

(a) Classify the infections that can spread by bacteria and viruses.

(b) Write the mechanical barrier contraceptive methods for unwanted pregnancies.

30. Explain Tyndall effect with example.

31. An electric bulb used in your home has a rating of 100W and a refrigerator has a rating of 500W. If these devices are operated for 12 hours/day, then what would be the expense to run them for 10 days at the rate of ₹ 6 per kWh?

32. When an electric heater draws a current of 4A from source the potential difference between two and 60 V, how much current will the heater have if the electric potential difference is increased to 120 V?
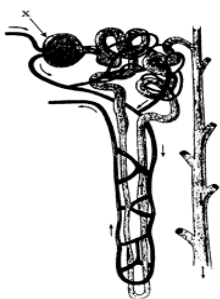
33. Name and state the rule used to fund the direction of the force acting on the straight current-carrying conductor placed in a magnetic field.

34. Give scientific reason: It is necessary to prevent the uncontrolled use of pesticides and other chemicals.

35. Explain the types of waste on the basis of degradation

36. (i) Which structure is shown in figure? Which nitrogenous wastes are removed from blood by this structure?

(ii)Identify the part denoted by X and mention it, shape and function.

37. Write a short note on Fuse.

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. Convert the following statements into chemical equations and then balance them:

(a) Hydrogen gas combines with nitrogen gas to form ammonia.

(b) Hydrogen sulphide gas burns (Combustion) in air to give sulphur dioxide and water.

(c) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.

39. What is an alloy? State the uses of alloys. State the mixture of metals in the following alloys:

(i) Stainless steel (ii) Brass

40. Explain extraction of metals low in the reactivity series.

41. For a particular situation which hormone prepares the human body for either fighting or running away from the situation? State the effect of this hormone in the animal body.

42. Explain structure of male reproductive system with diagram.

43. What is fission? Explain different types of fission.

44. A convex lens forms a real and inverted image of a needle at a distance of 50cm from it. Where is the needle placed in front of the convex lens if the image is equal to the size of the object? Also, find the power of the lens.
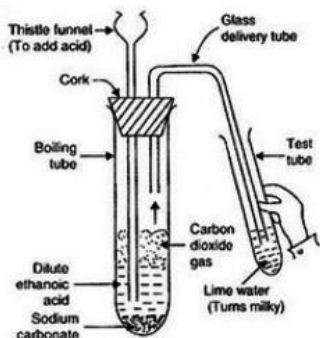
45. Write a short note on Power of the lens.

46. Draw an electric circuit, in which three cells each of 2V, a resistance of 4 Ω, a resistance of 8 Ω and a resistance of 12 Ω and a key are connected in a series. To measure the electric current passing through the circuit an ammeter and voltmeter to measure potential difference between two ends of resistance 12 are connected. What would be observation of ammeter and voltmeter?

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. Chirag arranges the apparatus in laboratory, as shown in the diagram to check the property of metal carbonate. Gas produced in this experiment in test tube B makes lime water milky while passing through it.

(i) Write the chemical name of reactants that Chirag took.

(ii) Write the balanced chemical reaction of the above experiment.

(iii) Write the chemical name of precipitate produced while passing of gas evolved in this experiment through lime water.

(iv) What will happen if excess proportion CO_2 gas is passed through the solution of calcium hydroxide?

48. Describe the reaction of zinc granules with dilute sulphuric acid with a diagram. Also write the equation for the reaction of zinc with sodium hydroxide.

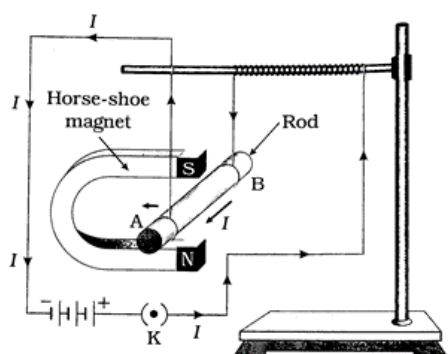**49.** Answer the following questions:

(i) Explain esterification reaction with a chemical equation and write its uses.

(ii) Write the properties of ethanoic acid.

50. Draw schematic sectional view (diagram) of the human heart and also describe the circulation of blood in heart.

51. What is photosynthesis? Enlist the events that take place in process, giving the equation of photosynthesis.

52. Explain the defect of presbyopia.

53. What will be the effect in the displacement of a current-carrying rod AB placed in a magnetic field as shown in the figure in the following case?

(i) The current through the rod AB increases.

(ii) A stronger horse-shoe magnet is used.

(iii)What happens when the length of rod AB is increased?

(iv) When will the displacement of rod AB be maximum?

54. Answer the following questions:

(a)Explain the formation of ozone with an equation.

(b) What will be your role in 'Swatchh Bharat Abhiyan' to reduce the problem of waste disposal?