980613 - A2

Class - IX

SCIENCE

Time allowed : **3 to 3½** hours | Maximum Marks : **80**

Total No. of Pages : **7**

General Instructions :

1. The question paper comprises of two sections, **A** and **B,** you are to attempt both the sections.

2. All questions are **compulsory**.

3. There is no overall choice. However, internal choice has been provided in all the three questions of five marks category. Only one option in such question is to be attempted.

4. All questions of section **A** and all questions of section **B** are to be attempted separately.

5. Question numbers **1** to **4** in section **A** are one mark questions. These are to be answered in **one word** or **one sentence**.

6. Question numbers **5** to **13** are two mark questions, to be answered in about **30 words**.

7. Question numbers **14** to **22** are three mark questions, to be answered in about **50 words**.

8. Question numbers **23** to **25** are five mark questions, to be answered in about **70 words**.

9. Question numbers **26** to **41** in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to choose one most appropriate response out of the four provided to you.

10. An additional **15** minutes time has been allotted to read this question paper only.

SECTION - A

1. Name a metal that is liquid at room temperature. **1**

2. Define Uniform acceleration **1**

3. Name two fresh initiatives taken to increase the water availability for agriculture. **1**

4. What is free fall ? **1**

5. State four characteristics of Solids. **2**

6. Among the substances given below choose the element, mixture and compound . **2**

(a) Air
(b) Lead
(c) Diamond
(d) Calcium Carbonate

7. The minute hand of a wall clock is 10 cm long. Find its displacement and the distance covered from 10 a.m to 10.30 a.m. **2**

8. Define Force and momentum. **2**

9. Distinguish between mass and weight. **2**

10. Draw velocity-time graph for : **2**

(a) An object moving with uniform velocity.
(b) An object moving with non-uniform velocity.

11. What is pasturage and has how is it related to honey production ? **2**

12. (a) Draw a labelled diagram of a neuron. **2**
(b) Give 2 differences between tendon and ligament.

13. (a) What would happen to the life of a cell if there was no golgi apparatus ? **2**
(b) Which cell organelle detoxifies poisons and drugs in liver of vertebrates ?

14. Elements are classified as metals, non metals and metalloids. Give any one property of each. Also give one examples of each . **3**

15. (a) How will you show the presence of water vapour in air ? **3**

(b) Give the full forms of (i) LPG (ii) CNG

16. What is mixed cropping ? Give one example. How it helps the farmer ? **3**

17. What do you understand by complex tissue ? Name the two types of complex permanent tissue present in plants ? Give one function of each complex tissue. **3**

18. Explain the meanings of the following desirable factors for which crop variety improvement is done. **3**

(a) Biotic and abiotic resistance

(b) Wider adaptability

(c) Desirable agronomic traits

19. State the three laws of motion. **3**

20. According to Newton's law of gravitation, the apple and the earth experience equal and opposite forces due to gravitation. But it is the apple that falls towards the earth and not vice - versa. Why ? **3**

21. A ball thrown up vertically returns to the thrower after 4 s. Find **3**

(a) the velocity with which it was thrown up.

(b) the maximum height it reaches and

(c) its position after 3 s.

22. Starting from a stationary position , Rehan paddles his bicycle to attain a velocity of **3**

6 m / s in 30 s. Then he applies brakes Such that the velocity of the bicycle comes down to 4 m / s in the next 5 s. Calculate the acceleration of the bicycle in both the cases.

23. How will you separate dyes in black ink using chromatography ? Explain it with the help of diagram. **5**

OR

Define distillation. What type of mixture can be separated by distillation ? Draw a labelled diagram of the apparatus used for fractional distillation.

24. Mathematically show that during collision of two balls total momentum of the system remains unchanged. Hence state the law of conservation of momentum. **5**

OR

(a) Derive a relation between force and momentum.

(b) Two objects of masses 100 g and 200 g are moving along the same line and direction with velocities of 2 ms^{-1} and 1 ms^{-1} respectively. They collide, and after the collision, the first object moves at a velocity of 1.67 ms^{-1}. Determine the velocity of the second object.

25. What is osmosis ? What are its types ? What happens to a cell when it is placed in hypotonic, isotonic and hypertonic solutions respectively ? State two points of differences between osmosis and diffusion. **5**

OR

Draw a well labelled diagram of an animal cell.

(a) The organelle that contains powerful digestive enzymes

(b) The organelle that has its own DNA

(c) The organelle that forms cytoplasmic framework

(d) The organelle that helps in expelling excess water in amoeba

SECTION - B

26. Sodium sulphate and barium chloride solutions are mixed in a test tube. A white precipitate is formed. What type of change is this ? **1**

(a) Physical

(b) Combination reaction

(c) Chemical

(d) None of the above

27. Which of the following is most stable ? **1**

(a) True solution

(b) Colloidal solution

(c) Suspension

(d) None of these

28. When dilute hydrochloric acid is added to granulated zinc placed in a test tube, the observation made is **1**

(a) The surface of the metal turns shining.

(b) The reaction mixture turns milky.

(c) The odour of chlorine is observed.

(d) A colourless and odourless gas evolves with bubbles .

29. When a mixture of common salt and Ammonium chloride is heated, it is observed that **1**

(a) solid common salt gets deposited on the cooler parts of the funnel while solid ammonium chloride remains in the china dish.

(b) Mixture of common salt and ammonium chloride turns into greenish crystals when allowed to cool.

(c) Ammonium chloride gets deposited on the cooler parts of the funnel and solid common salt remains in the china dish.

(d) Droplets containing both common salt and ammonium chloride appear on the upper part of the funnel while some molten mixture of common salt and ammonium chloride remains in the china dish.

30. Which is not the property of a mixture ? **1**

(a) It is a heterogeneous system

(b) It is a system of constant composition

(c) It is a system of variable composition .

(d) Its components can be separated by physical methods.

31. Mixture of sand and salt can be separated by : **1**

(a) dissolving mixture in water, filtration and then by distillation.

(b) dissolving mixture in water, then by filtration.

(c) dissolving mixture in water, filtration and then by evaporation.

(d) None of these.

32. Which of the following apparatus is required to determine the boiling point of water ? **1**

(a) Tripod stand, conical flask, thermometer, wire gauze, stand with clamp, pair of tongs.

(b) Funnel, burner, clamp and stand, test tube, thermometer, wire gauze, stand with clamp.

(c) Boiling tube, beaker, thermometer, burner, cork with one hole, stand with clamp, wire gauze.

(d) Round bottom flask, burner, thermometer, wire gauze, stand with clamp, cork with two holes, glass tube.

33. At room temperature (30°C) a student sets up an apparatus to determine the melting point of ice. He takes a beaker half filled with ice and dips a mercury thermometer in it. The correct observation is : **1**

(a) Mercury in the thermometer keeps on falling till it reads - 1°C, it remains constant thereafter.

(b) Temperature falls, reaches 0°C, then it remains constant even after the whole of the ice has melted.

(c) The temperature falls in the beginning but starts rising as soon as the ice starts melting.

(d) Temperature falls, reaches 0°C and remains constant only as long as both ice and water are present in it.

34. On burning magnesium ribbon a residue is obtained that resembles **1**

(a) Paper ash

(b) Chalk Powder

(c) Wood ash

(d) None of the above .

35. While heating Iron filings and Sulphur, keep your eyes away from vapours because : **1**

(a) Sulphur vapours may cause irritation in eyes.

(b) Sulphur vapour are harmless.

(c) Iron vapours may cause irritation in eyes.

(d) H_2S gas may cause irritation in eyes.

36. Given below are four steps for preparing a temporary mount of human cheek cells. **1**

(I) Rinsing the mouth with fresh water and disinfectant solution.

(II) Putting a drop of glycerine on the material.

(III) Adding two or three drops of methylene blue.

(IV) Take scraping from inner side of cheek and spreading it on a clean side.

Arrange them in correct sequence :

(a) IV, III, II, I

(b) IV, II, III, I

(c) I, IV, III, II

(d) I, IV, II, III

37. Which one of the following tissue has cells that are having lignified thickened walls ? **1**

(a) Parenchymatous tissue

(b) Collenchymatous tissue

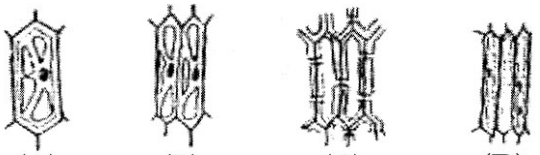
(c) Sclerenchymatous tissue

(d) Meristematic tissue

38. A sample of milk was treated with a few drops of iodine solution. The milk sample developed blue colour. This shows the presence of which impurity ? **1**

(a) water
(b) starch
(c) metanil yellow
(d) none of above

39. While observing a thin section of a plant stem, four students sketched sclerenchyma as given below. The correct diagram is **1**



(a) A
(b) B
(c) C
(d) D

40. We use glycerine in temporary mount of the material because **1**

(a) it avoids drying of the material.
(b) it provides the medium for floating the material.
(c) it increases the beauty.
(d) it increases the clarity of the material.

41. The cheaper materials which are added to superior food items for more profit is called **1**

(a) drugs
(b) adulterants
(c) Adulation
(d) Adulterate

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