CBSE SAMPLE PAPER – 05 (Unsolved)
SUMMATIVE ASSESSMENT – I
Class-IX (SCIENCE)

Time: 3 Hrs **MM: 90**

General Instructions

(i) The question paper comprises of two Sections, A and B. You are to attempt both the sections.
(ii) All questions are compulsory.
(iii) Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence.
(iv) Question numbers 4 to 6 in Sections-A are two marks questions. These are to be answered in about 30 words each.
(v) Question numbers 7 to 18 in Section-A are three marks questions. These are to be answered in about 50 words each.
(vi) Question numbers 19 to 24 in Section-A are five marks questions. These are to be answered in about 70 words each.
(vii) Question numbers 25 to 33 in Section-B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
(viii) Question numbers 34 to 36 in Section-B are two marks questions are to be answered in about 30 words each based on practical skills.

Section – A

1. Name the main substance of which the cell wall is composed of.
2. What is the direction of velocity of an object moving along a circular path?
3. State the role of photoperiod in crop production.
4. State two factors which determine the rate of diffusion of a liquid in another liquid.
5. Two objects A and B of same masses and velocities v and 3v respectively are in motion.
   a. Which object of larger momentum?
   b. Give reason to support your answers.
6. Name the following tissues-
   a. The connective tissue which connect two bones.
   b. The tissue which is present in the veins of leaves.
   c. The connective tissue found between the skin and muscles.
   d. Forms the lining of the kidney tubules.
7. List two differences between a pure substance and a mixture. Give one example of each.
8. You are provided with mixture of camphor, common salt and soil. Using various techniques how you will separate the components of this mixture. Write various steps involved.

9. Mention three different ways in which crop plants can be attacked by insect pests. Also suggest one control measure and two preventive measures against pests.
10. (a) Enumerate the changes that take place inside the matter during the change of states.
    (b) When a solid melts, its temperature remains the same. Give reason.
11. (a) Write two points of difference between nuclear region of a bacterial cell and nuclear region of an animal cell.
    (b) Which structure present in the nuclear region of a living cell bear genes ?
12. Write three distinguishing features between cells of meristematic and permanent plant tissues.
13. Define uniform and non-uniform motion. Write one example for each.
14. A swimmer is able to swim in a forward direction in a swimming pool only when he is pushing the water in the backward direction. Give reason for the above mentioned statement and justify the same.
15. An auto driver moving with a speed of 36 km/h sees a child standing in the middle of the road. He applies break and brings his vehicle to rest in 5 seconds just in time to save the child. If the total mass of the auto and the driver be 450 kg then calculate the force of brakes.
16. Two bodies 'P' and 'Q' having masses $m1$ and $m2$, when separated by a distance $d1$ exert a force 'F' on each other. What happens when
    (a) Masses of both the objects are doubled.
    (b) Distance between the two bodies is reduced to half.
    (c) The space between the two objects has no air and it is complete vacuum.
17. A stone is dropped from a height of 10 m on an unknown planet having g = 20 m/s^2. Calculate the speed of the stone when it hits the surface of the planet. Also calculate the time it takes to fall through this height
18. Identify the animal tissues from the given descriptions and also mention their location in the human body.
    Tissue 'A' - cells are filled with fat globules and the tissue acts as an insulator.
    Tissue 'B' – has cylindrical branched cells and the tissue shows rhythmic contraction and relaxation thought life.
19. (a) What do the terms 'macronutrients' and 'micro-nutrients' signify ?

(b) Briefly describe the formation of vermicompost and green manure.

(c) List two advantages of using manure for nutrient management.

20. Ajay, an illiterate farmer does not understand the difference between manure and fertilizers. Help him to differentiate between the two, in terms of their composition.

(a) Justify the use of manure highlighting two of its advantages.

(b) Mention one drawback of excessive use of fertilizers.

21. Define the following terms:

(i) Rigidity (ii) Compressibility and (iii) Density

Compare any two states of matter on the basis of above defined properties.

22. (a) List any three characteristic of colloid.

(b) Name the two components of a colloid.

(c) Identify colloid from the following mixtures :

Muddy water, sugar in water, ink, blood, soda water, foam.

23. (a) State one similarity and one difference between evaporation and boiling.

(b) Account for the following:

i) We wear cotton clothes in summer.

ii) A wet handkerchief is placed on the forehead of a person suffering from high fever.

iii) Wet clothes dry slowly during rainy season.

24. a. Derive the following equations considering uniform acceleration: $s = ut + \frac{1}{2} at^2$.

b. What is average velocity? How it differ from average speed?

Section B

25. At room temperature a student sets up the 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:

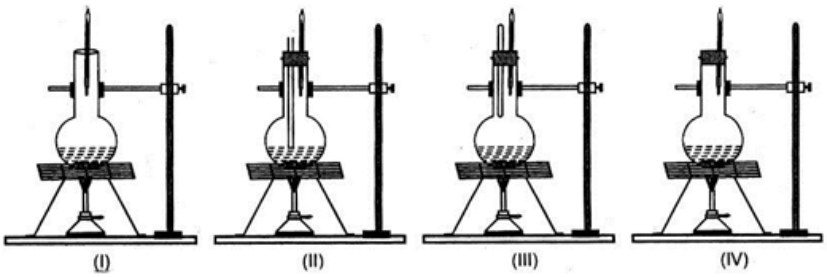
(a) Mercury in the thermometer keeps on falling till it reads □1□ C, it remains constant thereafter.

(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.

26. Four students A, B, C and D made the arrangement I, II, III and IV for determination of boiling point of water. The correct set up is



(a) I (b) II (c) III (d) IV

27. Matanil yellow is

(a) a dye (b) yellow grain similar to arhar dal

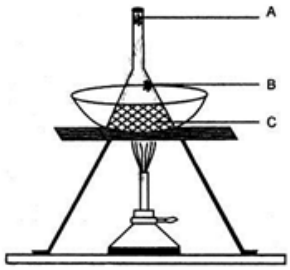
(c) a nutritional supplement (d) another type of dal.

28. Which of the following chemicals gives a blue-black colour with starch?

(a) Fluorine (b) Chlorine

(c) Iodine (d) Bromine

28. The correct labeling of the diagram shown below is:-



a) A – cotton plug, B – impure NH_4Cl, C-mixture of NH_4Cl and common salt

b) A NH_4Cl vapours, B- pure NH_4Cl , C- mixture of NH_4Cl and common salt

c) A – cotton plug, B – pure NH_4Cl, C- mixture of NH_4Cl and common salt

d) A – NH_4Cl vapours, B – impure NH_4Cl, c- mixture of NH_4Cl and common salt.

29. Light and dark bands can be seen in case of:

(a) Straited muscles (b) Smooth muscles

(c) Both cardiac and smooth muscles (d) Both striated and smooth muscles.

30. According to Newton's third law of motion, action and reaction

(a) Act on same body.

(b) Act on two different bodies but in same direction.

(c) Act on two different bodies but in opposite direction.

(d) Does not have effect on either of the bodies.

31. Which of the following is not found in the check cell?

(a) Cytoplasm

(b) Cell membrane

(c) Nucleus

(d) Cell wall

32. The given slide was identified as Parenchyma tissue by a student. The cell must

(a) thick cell wall.

(b) be non-nucleated.

(c) have thickened corners

(d) have thin walls with inner cellular space.

33. A nail of iron is placed in a beaker containing copper sulphate solution. The next day, the iron nail will:

(a) remain as it is.

(b) have green deposition

(c) have blue desposition

(d) have reddish brown deposition.

34. In an experiment to determine the melting point of ice in laboratory, what form of ice should be used? When should the reading of thermometer be noted?

35. Anil and Sunil were travelling in their car when suddenly the car stopped. When they checked they found that the battery was dead. Anil panicked but Sunil asked him to push the car. It hardly started, but continuous push over sometime accelerated the car.

(a) Which law of motion governs the above activity? State it.

(b) With whom would you like to identify yourself and why?

36. Which of the following cannot pass through filter paper?

True solution, colloidal solution, suspension.

Which of them form transparent solution?