Class 9 Time : 3 hrs.

9-9-2015 Summative Assessment I in SCIENCE M. Marks : 90

General Instructions :

1. The question paper comprises of four sections A, B, C and D. You are to attempt all the four sections.
2. All questions are compulsory.
3. There is no overall choice.
4. In Section D question numbers from 25 - 34 are the multiple choice questions. For each question four answers are provided. Write the correct answer in the box provided. Question numbers 35 & 36 should be answered in brief on the same sheet.
5. Marks for each question are mentioned against the question.

SECTION – A

1. Define inertia (1)

2. Starting from the statement of second law, derive F=ma. (2)

3. Derive second equation of motion graphically. (3)

4. Give reasons: (3)
   a) Boat moves backwards when we jump out of it.
   b) We tend to fall backwards if we are sitting inside a bus and it suddenly starts.
   c) A fielder lowers down his hands gradually while holding a catch.

5. a) Differentiate between g and G (any 2). (3)
   b) A body is thrown vertically upwards with an initial velocity of 100 m/s. Find
      (i) time taken to reach the maximum height.
      (ii) maximum height reached.

6. a) Differentiate between mass and weight (any 2) (3)
   b) For two planets, ratio of their radii is 1:2 and the ratio of their masses is 2:3. Find the ratio of weights of a body on these planets.

7. A car initially at rest attains a speed of 20 m/s in 5 seconds and moves with the same speed for next 20 seconds and then comes to rest for the next 10 seconds.
   (a) plot speed time graph (b) find acceleration
   (c) find retardation (d) total distance covered (5)

8. a) State and prove the law of conservation of momentum. (5)
   b) A body of mass 2kg, initially moving with a velocity of 10 m/s collides with another body of mass 5 kg at rest. After collision, velocity of first body becomes 1 m/s. Find the velocity of the second body.

Section - B

9. Define evaporation. How does the rate of evaporation depends on the speed of wind?

Explain with suitable example. (2)

10. Give reason for the following: (3)
    a) Camphor disappears if kept in air for few days.
    b) Palm feels cold, when we put some acetone or petrol on it.
    c) Rubber band can change its shape on stretching although it is a solid.

11. a) What is Tyndall effect? Why is this effect not seen in true solution?
    b) Differentiate between homogeneous and heterogeneous mixtures. (two points only)
    c) Write any two applications for centrifugation. (3)

12. a) Define the following terms:
    (i) Saturated Solution (ii) Suspension
    b) Classify the following into Compound or Mixture:
    (i) Soil (ii) Sugar (iii) Air (iv) Calcium carbonate. (3)

13. a) Name the technique used to separate the following mixtures.
    i) Different pigments from an extract of flower petals.
    ii) Mixture of alcohol and water.
    b) Observe the apparatus shown alongside and answer the following question.
    i) Name the apparatus.
    ii) State one use of the apparatus.
    iii) State the principle involved in this process

(3)

14. a) What is an emulsion? Give an example.
    b) A solution contains 50g of sugar in 350g of water. Calculate the concentration of solution in terms of mass by mass percent of the solution.
    c) Classify the following into colloids and solution:
    i) Soda Water ii) Milk iii) Blood iv) Sea Water.
    d) Identify the physical and chemical change from the following:
    i) Growth of plant ii) Breaking of glass tumbler
    iii) Burning of paper iv) Rusting of Iron. (5)

15. a) Define latent heat of vaporisation.
    b) Which gas is called dry ice? Why
    c) Convert :
    i) $25^{o}C$ to Kelvin Scale ii) 313K to Celsius Scale.
    d) Name : i) a liquid metal ii) a metalloid
    e) Write an activity to show that particles are continuously moving? (5)

Section - C

16. Justify - plasma membrane is a selectively permeable membrane. (1)

17. State one advantage of crop rotation. (1)

18. Name the tissue that : (2)
    a) Connects muscle to bone…….
    b) Transports food in plants……..
    c) Stores fat in our body……..
    d) Connects bone to bone……..

19. Differentiate between prokaryotic and eukaryotic cell. (any 3) (3)

20. Diagrammatically differentiate between three types of muscle fibres. (3)

21. State the function of :
    a) bone b) xylem c) phloem (3)

22. While walking through garden, Anil removed the tips of some flowering plants. Gardner saw him doing this and persuaded him not to do so as it is not healthy for plant growth.
    i) What happens to the plants if their tips are removed?
    ii) What are meristenis and how are they classified?
    iii) What value was displayed by the gardener? (3)

23. a) What is plasmolysis? Under what condition it takes place? Give one example for the same (5)
    b) How does an amoeba obtain its food?

24. Define :
    a) Mariculture b) Aquaculture c) Organic Farming
    d) Intercropping e) Mixed Cropping (5)

-x-x-x-x-x-

Class 9
9-9-2015 Summative Assessment I in **SCIENCE**

Name : _____ Sec._____ Roll No: _____

SECTION - D TIME : 20 min.

25. The spring balance used for measuring the minimum force required to pull a block is of range 0-1 kg wt and has total 100 divisions on its scale. Its least count is
a) 100 g wt b) 1 g wt c) 10 g wt d) 5 g wt (1)

26. For pulling a wooden block placed over a table with the help of a spring balance, which of these is not correct? (1)
a) Block should be rough b) Block should be smooth
c) Table should smooth d) Block and table both should be smooth

27. Mohit measured minimum force required to pull a wooden block to be F1 when it was placed
on a wooden table. He repeated the experiment by placing the block on glass surface and on a cardboard and measured forces to be F2 and F3 respectively. He tried to establish a relationship between the three. The correct relation would be
a) F1>F2>F3 b) F2>F1>F3 c) F3>F1>F2 d) F1=F2=F3 (1)

28. A mixture of iron fillings and sulphur is heated. The product obtained is powdered and shaken with CS_2. It is observed that:
a) Iron and Sulphur both dissolved in CS_2 b) Nothing dissolved in CS_2
c) Only Fe dissolved in CS_2 d) Only sulphur dissolved in CS (1)

29. When Magnesium ribbon is brought near the Bunsen flame, it catches fire and the colour of the flame produced would be:
a) Silvery-White b) Golden-yellow
c) Reddish-Brown d) Dazzling-White (1)

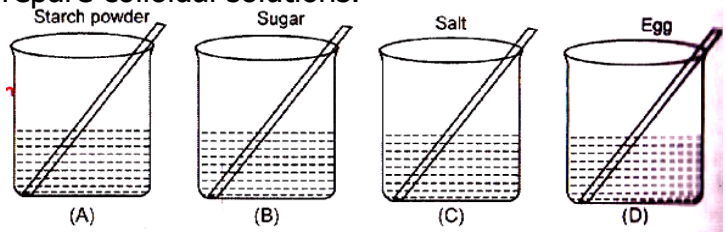
30. When dilute HCl is added to granulated Zinc placed in a test tube, the observation made is:
a) The surface of the metal turns shining
b)The reaction mixture turns milky
c) The odour of chlorine is observed
d) A colourless and odourless gas evolves with bubbles. (1)

31. What is the colour of starch extract? (1)
a) Blue b) Brown c) Colourless d) White

32. What would you call a nerve cell? (1)
a) Nephron b) Neuron c) Both of these d) None of these

33. What is the shape of human cheek cell? (1)
a) Triangular b) Rectangular c) Square d) Irregular

34. i) Four students A, B, C and D are asked to prepare colloidal solutions. The following diagrams show the preparation done by them. Name the student, who will be able to prepare colloidal solutions.



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

ii) Identify two clear and transparent solution each from the following mixtures:
(A) Milk and Water (B) Sugar and Water
(C) Chalk powder and water (D) Starch powder and Water
(E) Glucose and Water
a) A and B b) B and C c) C and D d) B and E
(2)

35. State any two precautions while taking the readings by using a spring balance. (2)

36. What is the main visible difference between an onion peel cell and a cheek cell? (2)

Q. No.	25	26	27	28	29	30	31	32	33	34
Answers										

Note : Write the answers to the questions 35 & 36 on back side of this sheet.

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