BVN

Name ABHISHEK DUTTA Class & Section IX-B Roll No. 2

SUMMATIVE ASSESSMENT–I—2016-17

CLASS–IX

SUBJECT–SCIENCE

Time : 3 Hours **M.M. : 90**

Please Check the Total Marks

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. *All questions of Section A and all questions of Section B are to be attempted separately.*
4. *Question numbers 1 to 3 in Section A are one mark questions. These are to be answered in one word in one sentence.*
5. *Question numbers 4 to 6 in Section-A are two marks questions. These are to be answered in about 30 words each.*
6. *Question numbers 7 to 18 in Section A are three marks questions. These are to to be answered in about 50 words each.*
7. *Question numbers 19 to 24 in Section A are five marks questions. These are to be answered in about 70 words each.*
8. *Question numbers 25 to 33 in Section B are multiple lchoice 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.*
9. *Question numbers 34 to 36 in Section B are questions based on practical skills. Each question is of two marks.*
10. *Attempt the following questions in separate answer sheets :*
    Physics : 2, 3, 6, 12, 13, 14, 15, 16, 22, 23, 33
    Biology : 1, 5, 10, 11, 17, 18, 21, 24, 25, 26, 30, 31, 35
    Chemistry : 4, 7, 8, 9, 19, 20, 27, 28, 29, 32, 34, 36
11. *Tie the answer sheets together in the order of Physics, Chemistry, Biology while submitting.*

Section-A

1. Name the phenomenon that results in the swelling of human red blood cells when they are placed in hypotonic salt/sugar solution. (1)

2. Mention the nature of motion of a body if its velocity-time graph is a straight line parallel to time axis. (1)

3. What is the momentum of a body of mass 5 kg moving with a velocity of 0.20 m/s. (1)

4. What is meant by aqueous and non-aqueous solution ? Give one example each. (2)

5. When observed under microscope, small pores are seen in the epidermis of the leaf. What are these pores called ? Write two functions of these pores. (2)

6. A stone and the earth attract each other with an equal and opposite force. Why then we see only the stone falling towards the earth but not the earth rising towards the stone ? (2)

7. While diluting the aqueous solution of salt, a student by mistake added ethanol (Boiling point → 78°C). Which technique can be used to recover it ? Explain. (3)

8. What do you observe when ice cubes are put in a beaker containing water ? Give reason for your observation. (3)

9. Explain any three factors which affect the rate of evaporation. (3)

10. Classify the organisms on the basis of the number of cells. Give two examples each. (3)

11. Establish the relationship between the structure, function and location in each case : (3)

    (a) Bone

    (b) Areolar tissue

    (c) Striated muscle

12. A certain force exerted for 1.2 s raises the speed of an object from 1.8 m/s to 4.2 m/s. Find its acceleration. If mass of the object is 5.5 kg, calculate the force applied. (3)

13. Give reasons :

(i) A piece of paper takes much longer to fall than a stone through the same distance, when both are dropped simultaneously from roof.

(ii) The mass is constant everywhere whereas the weight keeps changing.

(iii) The value of 'g' keeps changing as we move away from the earth whereas value of 'G' remains constant all over the universe. (3)

14. From a station 'X' a train starts from rest and attains a speed of 54 km/h in 10 s. Find the distance covered by the train. (3)

15. If the mass of a planet is double the mass of earth and if the radius of the planet is half the radius of earth. Calculate the value of 'g' of the planet. (3)

16. Define uniform acceleration and non-uniform acceleration. Give an example of each. (3)

17. To get a better yield, Jaikishan increased the use of pesticides and fertilizers. Though in the initial years he got higher yield and profits but the production decreased after that. He was much worried. His friend Mahesh persuaded him to abandon this practice and start using organic manure.

(i) Why are fertilizers used in a field ?

(ii) State the possible reason for the decline in yield ?

(iii) List two values shown by Mahesh. (3)

18. State three major factors that are needed for good production from polutry birds. (3)

19. Differentiate between physical and chemical change in three points. Classify the following as physical or chemical change–

(a) Water freezes to form ice

(b) Sugar is dissolved in water

(c) Burning of paper

(d) Rusing of iron (5)

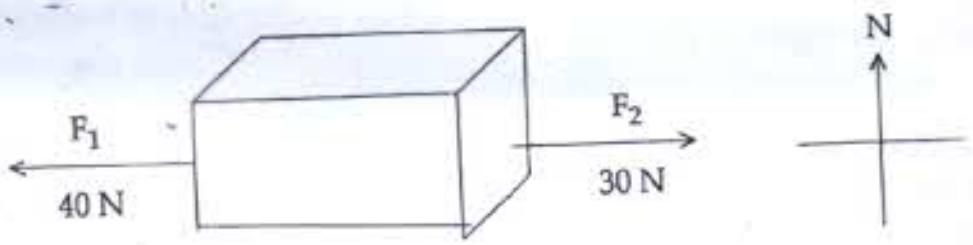
20. (a) Define evaporation. Out of nylon and cotton clothes, which will be more comfortable during summer and why ?

(b) Is evaporation and boiling the same ? If not then why ? (5)

21. (a) Define tissues. What is the importance of tissues in multicellular organisms?

(b) Are plants and animals made of same types of tissues ? If no, then write three points of difference. (5)

22. With the help of an example explain the term balanced force. Consider two forces F_1 and F_2 acting on an object as shown in the figure.



(a) What is the magnitude of the net force acting on the object ?

(b) What is the direction of the net force acting on the object ?

(c) If the mass of the object is 10 kg, find the acceleration produced in the object. (5)

23. (a) Differentiate between acceleration due to gravity and universal gravitational constant (any two). Derive a relation between 'g' and 'G'.

(b) State universal law of Gravitation. (5)

24. (i) Mention the major groups of activities for improving crop yields.

(ii) Why there is a need for sustainable practices in agriculture and animal husbandry ? What steps should be followed in this regard ? (5)

Section-B

25. The reagent with which metanil yellow dissolved in water gives pink colour is :

(a) conc. hydrochloric acid

(b) conc. sulphuric acid

(c) conc. nitric acid

(d) conc. sodium hydroxide (1)

26. In an experiment to test the presence of starch in a sample of food the wrong step is : (1)

(a) Take foodstuff like potato or rice

(b) Crush food in boiling water

(c) Add iodine powder in test tube

(d) Pour mixture in the test tube

27. When a mixture of iron filings and sulphur is heated strongly the colour of the mixture changes from : (1)

(a) black to yellow

(b) yellow to black

(c) greyish yellow to black

(d) black to brown

28. By using magnetic separation method, which of the following mixture can be separated ? (1)

(a) Salt and naphthalene

(b) Sulphur and Iron sulphide

(c) Rice and dal

(d) Sulphur powder and iron filings

29. When solutions of barium chloride and sodium sulphate are mixed, a white precipitate is formed approximately in : (1)

(a) 30 minutes

(b) an hour

(c) a few seconds

(d) a few seconds only on heating

30. While preparing temorary mount the reagent used to stain animal cell is : (1)

(a) Methyl orange

(b) Safranin

(c) Iodine

(d) Methylene blue

31. The striped muscle fibres are : (1)

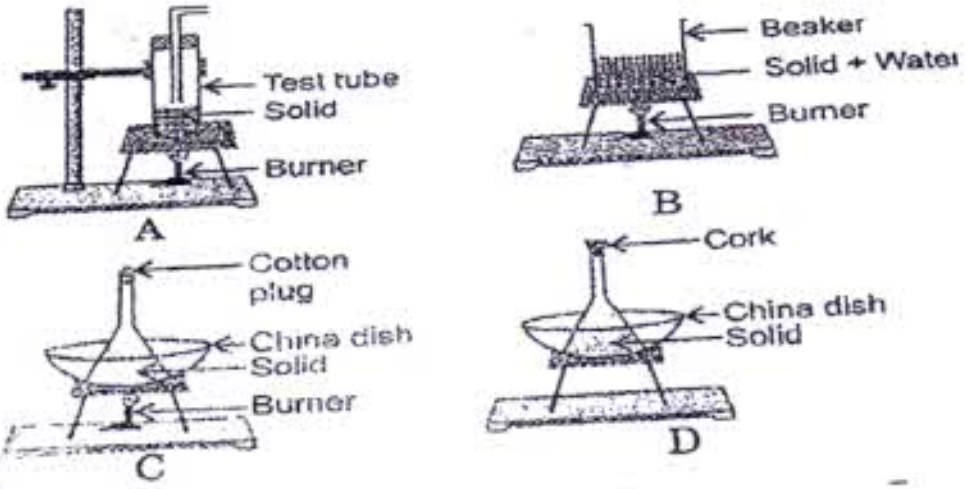
(a) Spindle shaped and uninucleate

(b) Cylindrical without nuclei

(c) Cylindrical with striations and many nuclei

(d) Cylindrical and uninucleate

32. Out of A, B, C and D the correct set up of apparatus for sublimation is :



(a) A

(b) B

(c) C

(d) D

33. If you are performing the experiment to find the relationship between weight and friction, the string connecting the wooden block to the spring balance should be : (1)

(a) at an angle of 45° with the table

(b) at an angle of 60° with the table

(c) at an angle of 0° with the table, horizontal and parallel

(d) at an angle of 90° with the table, vertical

34. A substance 'X' was taken and was added to distilled water. On stirring thoroughly the aqueous solution was left to stand for sometime. It was observed that its particles began to settle at the bottom. By this information what do you infer about the solution ? What would happen if a beam of light is passed through this solution ? (2)

35. In the experiment 'To determine the mass percentage of water imbibed by raisins', the raisins absorb water when kept in water for 5-6 hours. Why does water absorption take place ? What is this phenomenon called ? (2)

36. Graph for change of ice to steam is shown below. Observe the change of state from ice to water and water to steam and write two inferences that can be drawn from this graph about these change of state. (2)