

BVN

Saksh Thapar

Name DT Class & Section IX-C Roll No. 11

## FIRST TERMINAL EXAMINATION-2014-2015

Class-IX

Subject-Science

Time Allowed : 3 Hrs.

M.M. : 90

Please Check the Total Marks

*Do not write any answers on the questions paper. Check the total marks.*

### Important Instructions :

1. Do the following questions in the respective answer sheets.
2. Section B containing MCQ to be done in their respective sheets as directed below.
3. Question numbers 34 to 36 of MCQ are of 2 marks each, hence reasoning should be given for them.

Physics: Q. nos. 2, 3, 6, 12, 13, 14, 15, 16, 22, 23, 33

Chemistry: Q. nos. 4, 7, 8, 9, 19, 20, 27, 28, 29, 32, 34, 35

Biology: Q. nos. 1, 5, 10, 11, 17, 18, 21, 24, 25, 26, 30, 31, 36

### 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 or in one sentence.
5. Question numbers 4 to 6 in Sections-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 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 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.
9. Question numbers 34 to 36 in Section-B are questions based on practical skills are two marks questions.

### SECTION-A

- B 1 ✓ How is a cartilage different from a bone ? 1
- P 2 ✓ Express 'g' in terms of 'G' for a body near the surface of earth. 1
- P 3 ✓ A book of mass 2kg is sliding with a constant velocity of 4 m/s on a frictionless horizontal table. What is the force required to keep the object moving with the same velocity ? 1
- C 4 ✓ Evaporation is known as surface phenomenon. Justify this statement. 2
- B 5 ✓ Mention the functions of the various elements of xylem. 2
- P 6 ✓ A train starting from rest and moving with a uniform acceleration attains a speed of 36 km/h in 10 minutes. Find its acceleration. 2
- C 7 ✓ (a) Name the compound formed on heating a mixture of Iron filing and sulphur. 1  
(b) If dilute HCl is added to above compound then name the gas evolved and write down its two properties. 2
- C 8 ✓ Describe an activity to show that air contains water vapours. 3
- C 9 ✓ Under what conditions centrifugation technique is used ? Write down its two applications. 3
- B 10 ✓ What would happen if there were no lysosomes in the cell ? (Give three effects) 3
- B 11 ✓ (a) Blood is called a fluid connective tissue ? State reason. 1  
(b) Name the various components of blood. 1  
(c) State the main function of blood. 1
- P 12 ✓ At the end of a race, a runner decelerates from a velocity of 9.00 m/s at a rate of 2.00 m/s<sup>2</sup>

- (a) How far does he travel in the next 5 s? 3
- (b) What is his final velocity? 3
- (c) How much time will it take to finally stop? 3

13 Communication satellites move in orbits of radius 44,400 km around the earth. Find the acceleration of such a satellite assuming that the only force acting on it is that due to the earth. Mass of the earth =  $6.3 \times 10^{24}$  kg. ( $G = 6.673 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ ) 3

14 What is the direction of frictional force at the point of contact of wheel and ground, when wheel rolls on the level ground? How is it in accordance with the Newton's third law of motion? 3

15 (i) Which is a more fundamental quantity - The mass of a body or its weight? Why? 3

(ii) Can a body has mass, but no weight. Give reasons for your answer. 3

16 Is it possible for a body to have its velocity and acceleration pointing in opposite directions? Justify giving an example. 3

17 Balwinder was a small farmer. As his field was rain fed, he could not take the risk of growing specialized crops. He used to mix the seeds of two crops and sow in the field. Kaku, his son who had passed class IX suggested to grow two or more crops simultaneously in a definite pattern. Balwinder followed and the productivity per unit area increased.

(i) Name the cropping pattern which Balwinder used earlier and the one suggested by Kaku. 3

(ii) Write two advantages of practising the pattern suggested by Kaku. 3

(iii) Write two values displayed by Kaku. 3

18 Explain the ways by which crop - production can be increased. 3

19 (a) Define evaporation. Out of nylon and cotton clothes, which will be more comfortable during summer and why? 5

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

20 ✓ Differentiate between physical and chemical change. Classify the following as physical or chemical change -

- (a) ✓ Water freezes to form ice.
- (b) ✓ Sugar is dissolved in water
- (c) ✓ Burning of paper.

5

21 ✓  
8 Answer the followings :

- (a) ✓ Name the constituents of phloem tissues.
- (b) ✓ Write the specific function of cardiac muscle.
- (c) ✓ State two differences between tendon and ligament.
- (d) ✓ Name the tissue that :

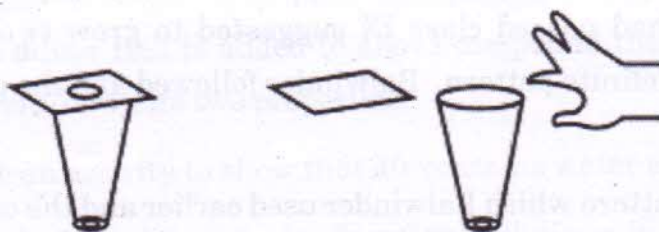
✓ (i) forms of inner lining of our respiratory tract. cc

(ii) forms the soft parts of leaf, stem, roots and fruit. P

- (e) ✓ Write one function of adipose tissues.

5

22. ✓  
R In the figure below the card is flicked with a push.



- (a) ✓ What do you observe in above case ? and why ?
- (b) ✓ State the law involved in this case.
- (c) ✓ What will be your observation if the above coin is replaced by a heavy five rupee coin. Justify your answer.

5

23 ✓  
P (a) A person weighs 110.84 N on moon, whose acceleration due to gravity is  $\frac{1}{6}$  of that earth. If the value of 'g' on earth is  $9.8 \text{ m/s}^2$ . Calculate.

- (i) ✓ 'g' on moon.

- (ii) mass of person on moon
- (iii) weight of person on earth
- (b) How does the value of 'g' vary on earth and why? 5

24. Mention the preventive and control measures used before grains are stored. List two biotic and abiotic factors each that are responsible for grain loss. 5

### SECTION-B

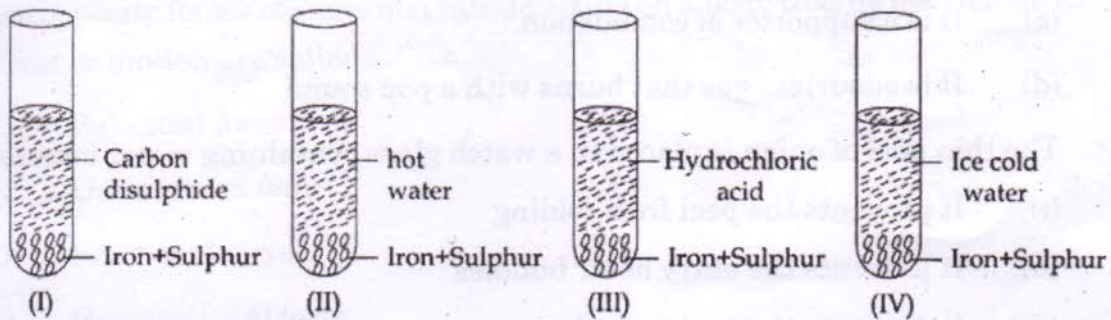
25. Glycogen is a stored form of carbohydrates found in :

- (a) cereals (b) pulses
- (c) animals (d) fruits 1

26. The test tubes A, B, C and D are taken with food samples of dal, mustard, soya chunks and rice respectively in powdered form. On adding iodine solution to each test tube the blue black colour is observed in :

- (a) Test tube A
- (b) Test tube B
- (c) Test tube C
- (d) Test tube D 1

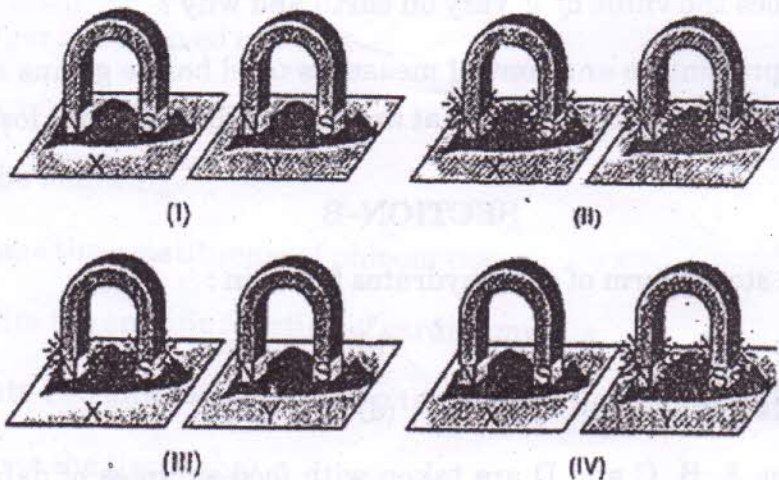
27. In which solvent as given below, sulphur of a mixture of iron filings and sulphur powder dissolves ?



- (a) I
- (b) II
- (c) III
- (d) IV 1

28

In the diagrams given below 'X' is a mixture of iron filings and sulphur and 'Y' is the product obtained by heating the mixture 'X' and crushing it to a fine powder. The correct set of observation is :



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

1

29

A colourless gas was evolved when zinc granules were added to dilute sulphuric acid. Which of the following are the characteristics of gas evolved ?

- (a) It is a pungent smelling gas that burns with a pop sound.
- (b) It is a reddish brown gas that burns with cracking sound.
- (c) It is a supporter of combustion.
- (d) It is odourless gas that burns with a pop sound.

1

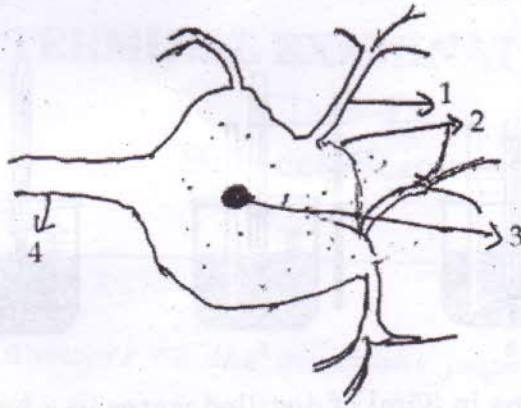
30

The thin peel of onion is placed in a watch glass containing water because :

- (i) It prevents the peel from folding
  - (ii) It prevents the entry of air bubbles
  - (iii) It prevents the peel from drying
  - (iv) It helps in better staining of the peel
- (a) (i) and (ii)
  - (b) (i) and (iii)
  - (c) (ii) and (iii)
  - (d) (i) and (iv)

1

- 31 The students were shown the slide of a nerve cell and were asked to draw its labelled diagram. The correct labelling 1, 2, 3 and 4 respectively is :

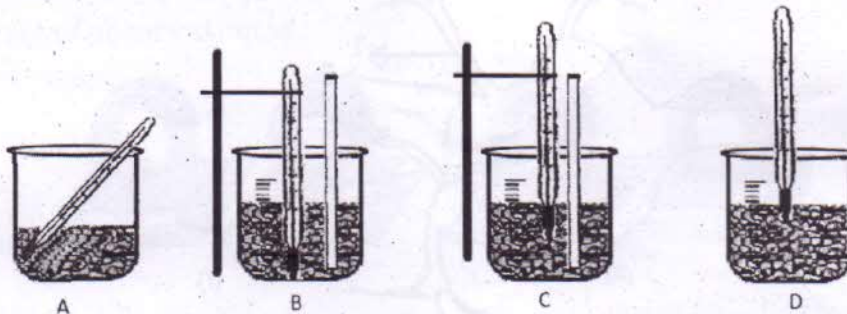


- (a) cilia, nucleus , dendrite, cyton  
(b) Axon, cytoplasm, dendrite, nucleus  
(c) Dendron , cyton, nucleus, axon  
(d) axon, nucleus, dendrite, cytoplasm 1
- 32 A mixture containing (I) Sodium Chloride; (II) Camphor and (III) Ammonium Chloride. Was heated in a china dish. The Substance left in the china dish was. :-  
(a) (I) and (II)  
(b) (II) and (III).  
(c) (I) only  
(d) (III) only. 1
- 33 Two opposite forces of same magnitude acting on a body that do not change its state of rest or motion are called :  
(a) Balanced force  
(b) Unbalanced force  
(c) Frictional force  
(d) Gravitational force 1
- 34 Dipti was asked to prepare four separate mixtures in four beakers A, B, C and D by mixing sugar, fine sand, thin paste of starch and chalk powder respectively in water and then categorise each as stable or unstable. What will be correct categorization?  
2

35

Experimental setups done by four students A, B, C and D for determining melting point of ice are shown below. Name the student whose arrangement is correct. Justify your answer in two points.

2



36

A teacher soaked 10g raisins in 35ml of distilled water in a beaker A and similar amount in beaker B. She maintained the temperature of beaker A at 20°C and beaker B at 40°C. After an hour compare the percentage of water absorbed by the raisins in beakers A and B.

2

$$\frac{10}{35} \times 100$$

$$\frac{2}{100} \times 100$$

$$22.21$$