

BVN

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SUMMATIVE ASSESSMENT – I (2015-2016)

Class-IX
Subject-Science

Time Allowed : 3 Hrs.

M.M. : 90

Please check the total marks

Do not write any answer on the question paper.

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. 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

Chemistry :- 4,7,8,9,19,20,27,28,29,32,34,35

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

11) Tie the answer sheets together in the order of physics , chemistry ,biology while submitting

SECTION-A

- 1 Identify the phenomenon by which the cell contents shrink away from the cell wall. 1
- 2 Name the scientist who for the first time found the value of (G), the universal gravitation constant? 1
- 3 While playing football the goalkeeper didn't get sufficient time to stop a fast ball shot towards him. Why did he hurt his hand while doing so? 1
- 4 Compare physical and chemical changes in the form of a table. 2

- 5 ✓ *stratified* How is ~~striated~~ squamous epithelial tissue different from squamous epithelial tissue? 2
- 6 ✓ The tip of second's hand of a clock takes 60 s to move once on the circular dial of the clock. If the radius of the dial of the clock be 10.5 cm, calculate the speed of the tip of the second's hand of the clock. 2
- 7 ✓ How will you separate a mixture of common salt, camphor and Iron filings. Describe the process. 3
- 8 ✓ Explain interconversion of three states of matter with the help of flow chart. Name the process of each interconversion. 3
- 9 (a) Define matter and write its three states. 3
(b) Explain how these states of matter arise due to variation in the characteristics of the particles.
- 10 ✓ Compare the location of nucleus in animal cell and plant cell. Draw a sketch of both the cells to support your answer. 3
- 11 ✓ (a) Blood is called a fluid connective tissue? State reason. 3
(b) Name the various components of blood.
(c) State the main function of blood.
- 12 State reason for the following : 3
(i) ✓ Road accidents at high speeds are very much worse than accidents at low speeds.
(ii) ✓ When a motor car makes a sharp turn at a high speed, passengers get thrown to one side.
(iii) ✓ The passengers in a bus tend to fall in the forward direction when a moving bus brakes to a stop.
- 13 (i) ✓ If the force of gravity on Mars is 3.8 ms^{-2} , then what would be the weight of an object on mars which has a mass of 10kg on earth? 3
(ii) ✓ What would be its weight on earth?
(iii) ✓ From the above data, analyse what will be the percentage difference of your weight on earth and on mars?
- 14 ✓ Define uniform acceleration and non-uniform acceleration. Give an example of each. 3

15

The following table show the distance travelled by three objects in every second.

3

Time	Distance travelled (in m)		
	Object A	Object B	Object C
1 st sec	10	5	12
2 nd sec	10	10	8
3 rd sec	10	15	15
4 th sec	10	20	17
5 th sec	10	25	12

Handwritten calculations:

$$\begin{array}{r} 55/5+5 \\ 60/20 \\ 0/0 \end{array}$$

- (a) Classify the motion of the three objects as uniform or non-uniform motion. *DOUBT*
- (b) Who has travelled :
- (i) maximum and
- (ii) minimum distance in 4th sec ?
- (c) Calculate the total distance travelled by 'A' ?

16

A car falls off a ledge and drops to the ground in 0.5 s (Take $g = 10 \text{ m/s}^2$) :

3

- (i) Find the speed on striking the ground.
- (ii) Find the average speed of car in 0.5 second.
- (iii) How high is the ledge from the ground ?

17

Ravi was studying in the city. In holidays he went to his village. There his father took him to his fields. He saw that the field crops were infested by insects, pests, diseases and weeds. His father was very worried. Ravi told his father what needs to be done to protect the crop from these.

- (i) How do weeds affect the crop ?
- (ii) Name any two weeds.
- (iii) List any two aspects of Ravi's behaviour that are worth appreciation here.

18

- (a) Name the crop which can be grown in combination to fish culture.
- (b) Mention the feeding zones of Catla, Rohu, Mrigals, common carp in.

3

$20x + 100 = 100x$
 $20x + 2000 = 100x$
 $25 + 100$
 30×2000
 2×80

19 (a) Calculate the mass of potassium chloride required to prepare its 20% solution in 100 g of water. 5

(b) Explain the term solubility and the effect of temperature on it.

20 (a) Explain the term diffusion. Illustrate with an activity that rate of diffusion increases with temperature. 5

(b) Name two compressed gases which are used in :

(i) Our homes for cooking

(ii) Are supplied to hospital in cylinders

21 Name the constituents of xylem tissue. Draw labelled diagram of any three constituents. 5

22 (a) State Newton's second Law of Motion. Express it mathematically and find SI unit of force from it. 5



(b) In the diagram given above, if the card is flicked away with a jerk, what will you observe? Explain the reason for this observation.

23 Give reason for the following : 5

(a) A footballer kicks a ball which rolls on the ground and after covering some distance comes to rest.

(b) Cricket player moves his hand backward while catching the ball.

(c) While riding a racing car the seat belts with two shoulder straps is compulsory.

(d) Only the carrom coin at the bottom of a pile is removed when a fast moving striker hits it.

(e) The shooter moves backwards on firing the rifle.

24 Mention the two ways of obtaining fish. Write the nutritive value of fishes and honey. How farmers are benefitted by fish production and bee keeping? 5

SECTION - B

25 Kartik's mother bought arhar dal from the market, on adding water the solution became yellow. He took the sample to his school laboratory and added a few drops of conc. hydrochloric acid. The solution turned bright pink. This confirmed that the adulterant added to the dal was : 1

- (a) Potassium dichromate
- (b) Lead chromate
- (c) Metanil yellow
- (d) Khesari dal

26 ✓ Manu put a few drops of a solution from a bottle without label on potato slices. It showed colour change. What he might have observed? What was the solution? 1

- (a) Potato slices turned pink, solution was H_2SO_4 .
- (b) Potato slices might have turned red, solution was HCl.
- (c) Potato slices turned blue black. Solution was Iodine solution.
- (d) Potato slice turned blue, solution was sodium hydroxide.

27 ✓ When a magnet is rolled over iron sulphide then : 1

- (a) Iron is attracted towards the magnet
- (b) Iron sulphide clings to the magnet near the poles
- (c) No effect of magnet as iron loses its properties
- (d) All of the above

28 ✓ Sample 'X' is a mixture of iron filings and sulphur and sample 'Y' is the substance obtained by heating sample 'X' strongly. Sample 'X' and 'Y' are separately shaken with carbon disulphide in two different test tubes. Which of the following is the correct set of observations? 1

- (a) 'X' is insoluble and Y is partly soluble.
- (b) 'X' is partly soluble and Y is insoluble.
- (c) 'X' is soluble and Y is partly soluble.
- (d) 'X' is insoluble and Y is soluble.

29 ✓ An iron nail was dipped in a salt solution of 'A'. After some time a reddish brown substance was deposited on the iron nail. The salt A could be : 1

- (a) silver chloride
- (b) iron sulphate
- (c) copper sulphate
- (d) silver nitrate

30 ✓ The thin peel of onion is placed in a watch glass containing water because : 1

- (i) It prevents the peel from folding
 - (ii) It prevents the entry of air bubbles into it
 - (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)

31 Under the microscope these muscles show alternate light and dark bands or striations. These muscles contain a special protein called : 1

- (a) relaxation proteins (b) contraction proteins
(c) contractile proteins (d) none of the above

32 An example of heterogeneous mixture is . 1

- (a) cream (b) salt-water
(c) sand (d) sugar - water

33 Four students A, B, C and D were asked to pick up spring balance of appropriate range and least count to measure the minimum force required to just move a wooden block weighing 400 gwt on a surface. They were told that this force will be in the range of 170 - 190 gwt. The range and least count of the spring balance selected by them were respectively as : 1

- (A) (0 - 200 gwt, 1 gwt) (B) (0 - 200 gwt, 0.5 gwt)
(C) (0 - 500 gwt, 1 gwt) (D) (0 - 200 gwt, 2 gwt)

Which student is likely to get best result ?

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

34 You are given a solution of egg albumin in water. In the laboratory how would you confirm that it is a colloidal solution ? 2

35 While conducting the experiment to determine the melting point of ice students observed that the thermometer reading decreased for sometime and then became constant. What could be the possible reason for this ? Explain briefly. 2

36 If 'x' is the initial mass of the raisins and 'y' is the final mass of raisins after soaking in water, calculate the percentage of water absorbed by raisins. Name the process due to which raisins absorb water. 2