

AMITY, SAKET.

SUMMATIVE ASSESSMENT – I, 2016-17

SCIENCE

Class – IX

Time Allowed : 3 hours

Maximum Marks : 90

General Instructions :

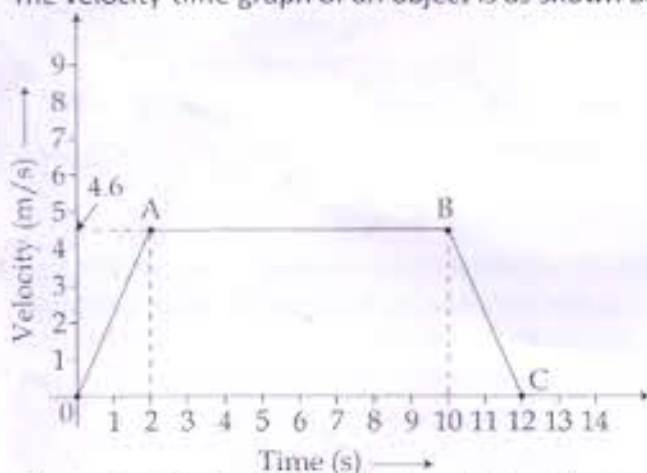
1. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
2. All questions are **compulsory**
3. All questions of **Section-A** and all questions of **Section-B** are to be attempted separately.
4. Question numbers **1 to 3** in **Section-A** are **one mark** 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 **twomarks**.

SECTION-A

- 1 What are the functional segments of DNA called? 1
- 2 What is the numerical ratio of average velocity to average speed of an object when it is moving along a straight path? 1
- 3 What is the total momentum of the bullet and the gun after the gun is fired? 1
- 4 a) Explain the following giving an activity : There is enough space between particles of matter. 2
b) Define the term saturated solution.
- 5 Name the following – 2
 - (a) Tissue that occurs in specific regions of growth
 - (b) Tissue present at the growing tips of stems and roots.
 - (c) Tissue at the base of the leaves or internodes on twigs.
 - (d) Basic packing tissue in the form of a few layers of cells.

- 6 "Several phenomena of celestial bodies were believed to be unconnected but universal law of gravitation was successful to explain them". Mention any two phenomena. 2
- 7 (a) Why is the path of light not visible in a solution when a beam of light is passed through it? 3
 (b) Classify each of following as solution, colloid or suspension :
 (i) a mixture whose particles are big enough to scatter a beam of light passing through it.
 (ii) A mixture whose particles settle down when it is left undisturbed.
 (c) Why is rusting of iron called a chemical change?
- 8 Give reasons for the following : 3
 (a) Camphor disappears if kept in open air for a few days.
 (b) Wet clothes do not dry easily on a rainy days.
 (c) Sweat doesn't dry easily on humid days.
- 9 a) Name the technique to separate the following : 3
 (i) Two immiscible liquids
 (ii) Naphthalene from common salt
 (iii) Components of air
 (iv) To squeeze out water from wet clothes in washing machine.
 b) Name two liquefied gases used in daily life.
- 10 What is the significance of : 3
 (i) presence of cell sap in vacuoles.
 (ii) presence of SER in liver cells.
 (iii) presence of ribosomes on RER.
- 11 Differentiate between the three types of muscular tissues. 3
- 12 A force of 10N accelerates an object from 15 m/s to 25 m/s in 20 sec. Calculate the mass of the object. 3
- 13 Two solid objects of masses 1kg and 2 kg and of same size are dropped from a helicopter at the same time. Which one will reach the ground earlier? Justify your answer with suitable reason. 3
- 14 A girl while riding a bicycle moves with the speed of 10 km/h for 2 h and with the speed of 15 km/h for the next 3 h. Find the total distance moved by her and her average speed. 3
- 15 A car acquires a velocity of 72 km per hour in 10 seconds starting from rest. Find : 3
 (a) the acceleration
 (b) the distance travelled in this time and
 (c) the average velocity.
- 16 (i) List two differences between mass and weight of a body. 3
 (ii) Can a body have mass, but no weight? Give reasons for your answer.
- 17 On reading about the farmers committing suicide in the newspaper, Radhika, thought of doing something for them. She took the help of an NGO working in those areas and contacted government agencies and found out the reason behind the poor yield. It was a plant disease. The problem was taken care of and the farmers also got support in form of loan and disease resistant seeds. 3
 (i) How can plant diseases be prevented?
 (ii) In what ways do the insect pests attack the plants?
 (iii) Why does Radhika want to help farmers?

- 18 (a) Name the major nutrient which we get from fish. 3
 (b) Mention the two ways of obtaining fish.
- 19 (a) What is meant by a pure substance? How can we check the purity of a substance? 5
 (b) Illustrate the difference between a homogeneous and heterogeneous mixture giving an example for each
 (c) Draw a labeled diagram to show the separation technique of chromatography
- 20 (a) Define latent heat of vaporisation. 5
 (b) Out of boiling water or steam, which produces severe burns and why?
 (c) Mention one similarity between evaporation and boiling.
 (d) Why does the rate of evaporation increase with an increase in temperature?
- 21 (a) The growth of plant occurs only in specific region 5
 (i) State the different types of this tissue
 (ii) Write one function of each of the above mentioned tissues.
 (b) Mention the importance of nucleus in the cell. 5
- 22 Explain recoiling of gun on the basis of Newton's Third Law of Motion. 5
 A bullet of mass 20 g is horizontally fired with a horizontal velocity 150 ms^{-1} from a pistol of mass 2 kg. Calculate the recoil velocity of the pistol.
- 23 The velocity-time graph of an object is as shown below. 5



- (a) Identify the kind of motion of the object represented by lines OA and BC.
 (b) With what velocity the object is moving at $t = 8$ seconds?
 (c) Calculate the acceleration of the object in the following cases :
 (i) Between the third and tenth second.
 (ii) During the last two seconds.

- 24 State the desirable characteristics of bee varieties suitable for honey production. Name one Indian and one exotic variety of bee used for honey production. What are the products of bee keeping? 5

SECTION - B

- 25 Akanksha took 5 g of tuar dal, powdered it and added 5 mL of water to it in a test tube she shook the test tube vigorously. After adding a few drops of conc. hydrochloric acid she observed that the dal tested positive for adulteration with metanil yellow because : 1

- (a) The solution turned blue black
- (b) The solution turned yellow
- (c) The solution turned pink
- (d) The solution remained colourless

26 If we are not observing positive test for starch in a food sample it means the given food material is : 1

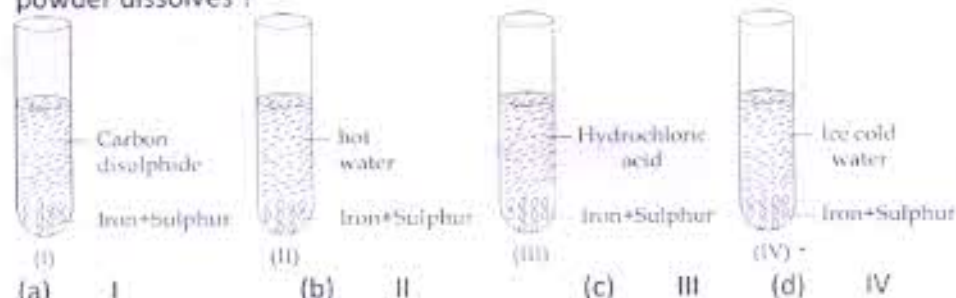
- (a) Rice
- (b) Potato
- (c) Peas
- (d) corn flour

27 While conducting the experiment in laboratory the teacher instructed the students to be careful with carbon disulphide and not to bring it near the burner because : 1

- (a) carbon disulphide is volatile and its vapours are highly inflammable
- (b) for dissolving sulphur in carbon disulphide we need not heat it.
- (c) carbon disulphide does not show accurate results/reactions on heating.
- (d) None of the above.

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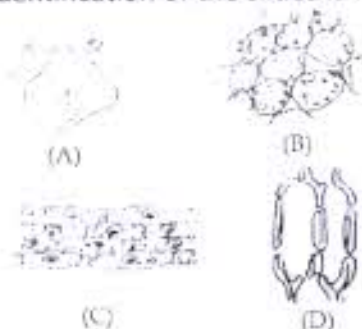
28 In which solvent given below sulphur present in the mixture of iron filings and sulphur powder dissolves ?



29 On burning magnesium ribbon, a white ash is obtained which when dissolved in water turns a red litmus solution into blue. What is the chemical name of white ash and nature of solution respectively : 1

- (a) Magnesium oxide and solution is basic in nature.
- (b) Magnesium oxide and solution is acidic in nature.
- (c) Magnesium hydroxide and solution is basic in nature.
- (d) Magnesium chloride and solution is acidic in nature.

30 Following four slides were given for observation under the microscope. The correct identification of the slides is : 1



- | | | | |
|-----|-----------------------|-----------------------|--|
| (a) | (A) human cheek cells | (B) sclerenchyma | |
| | (C) onion peel cells | (D) parenchyma | |
| (b) | (A) parenchyma | (B) human cheek cells | |
| | (C) onion peel cells | (D) sclerenchyma | |
| (c) | (A) human cheek cells | (B) parenchyma | |
| | (C) onion peel cells | (D) sclerenchyma | |
| (d) | (A) onion peel cells | (B) cheek cells | |
| | (C) parenchyma | (D) sclerenchyma | |
- 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. 1
- 32 From a mixture of ammonium chloride, sand and common salt ammonium chloride is separated by sublimation. The remaining mixture of sand and common salt can be separated by adding water to the mixture and using the methods.
- (a) filtration and evaporation
- (b) sublimation and condensation
- (c) separating funnel and evaporation
- (d) distillation and condensation
- 33 The spring balance used for pulling the block has least count of 0.5 kg wt. The block starts sliding when pointer is at 25th division. The applied force is : 1
- (a) 25 kg wt (b) 0.5 kg wt
- (c) 12.5 kg wt (d) 5.0 kg wt
- 34 In beaker A when light passes through the solution one can see the path of the light. What do you infer from this about the type of solution ? Give two examples of solutes which when added to water will give similar kind of solutions. 2
- 35 Mention the position of bulb of thermometer in the following experiments:- 2
- (i) in an experiment to determine the melting point of ice.
- (ii) in an experiment to determine the boiling point of water.
- 36 Ravi took weight of five raisins and five swollen raisins of approximately equal size. If the weight of raisins taken was 7 g and weight of swollen raisins is x g, then (i) write the formula to calculate the percentage of water absorbed by raisins and (ii) if the value of x is 10.5 g then what will be the percentage of water absorbed by the raisins. 2

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