

SUMMATIVE ASSESSMENT - I, 2014**SCIENCE****Class - IX****Time Allowed : 3 hours****Maximum Marks : 90****General Instructions :**

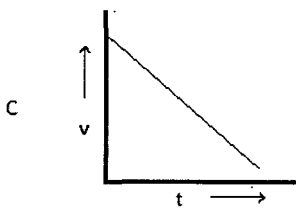
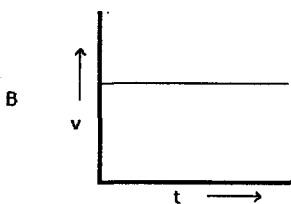
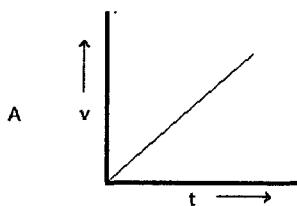
1. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
2. **All questions are compulsory**
3. **All questions of Section-A and all questions of Section-B are to be attempted separately.**
4. Question numbers **1 to 3 in Section-A are one mark questions**.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

SECTION-A

- | | | |
|---|--|---|
| 1 | How is a cartilage different from a bone ? | 1 |
| 2 | When an object is dropped from a height, it accelerates when it falls down. Name the force which accelerates the object. | 1 |
| 3 | On which factor does inertia depend ? | 1 |
| 4 | Boiling is known as bulk phenomenon. Justify this statement. | 2 |
| 5 | Name the tissue which is present in the respiratory tract and what is its function ? | 2 |
| 6 | Account for the following : | 2 |
| | (a) Motion of moon around the earth is accelerated motion. | |
| | (b) Speed can never be zero. | |



- 7 (a) Differentiate between simple distillation and fractional distillation. 3
(b) What is the function of beads in fractionating column used in fractional distillation ?
- 8 You are provided with solution of substance 'X'. How will you test whether it is saturated or unsaturated with respect to 'X' at a given temperature ? What happens when a hot saturated solution is allowed to cool ? 3
- 9 Explain why desert coolers are effective in summer and not in rainy season ? 3
- 10 What would happen if there were no lysosomes in the cell ? (Give three effects) 3
- 11 Differentiate between xylem and phloem tissues. 3
- 12 3

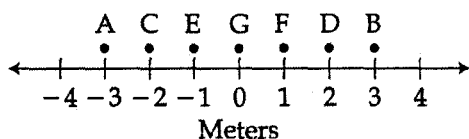


What type of force is acting in the cases given above?

- 13 A bullet of mass 10 g moving with a velocity of 400 m/s gets embedded in a freely suspended wooden block of mass 900 g. What is the velocity acquired by the block ? 3
- 14 Write three points of difference in mass and weight of an object. 3
- 15 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.

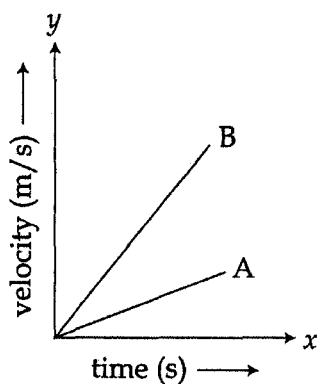
- 16 Rahul while doing skating moves along a number line in the alphabetical order (A, B, C, D, ..., G) and finally stops at 'G'.



- (a) Calculate the distance travelled by him.
- (b) Find his average velocity if he covers each metre in 1 s.
- 17 Baldev was growing a crop continuously in the same field for many years. He observed that his crops were getting infected by insects. He discussed this problem with his son Ram who was studying in class IX. He advised his father to grow different crops in pre-planned succession and grow legumes to increase soil fertility.
- (i) Name the cropping pattern called which Baldev's son suggested.
- (ii) How do leguminous plants increase the soil fertility ?
- (iii) Comment on the values exhibited by Ram here.
- 18 "There is a need for sustainable practices in agriculture and animal husbandry". Mention the reason for their need.
- 19 Illustrate an activity to show the effect of temperature on the particles of matter.
- 20 Write your observations when the following processes take place
- (a) an aqueous solution of sugar is heated to dryness.
- (b) a saturated solution of potassium chloride prepared at 60°C is allowed to cool at room temperature.
- (c) a mixture of iron filings and sulphur powder is heated strongly.
- (d) A beam of light is passed through a colloidal solution.
- (e) dil - HCl is added to the mixture of iron and sulphur.
- 21 Draw the labelled diagram of section of phloem. Name the four types of elements found in phloem? With respect to conduction, what is the main difference between xylem and phloem ?

- 22 (i) An object has a mass of 60 kg. What is its weight on : 5
(a) Moon (value of 'g' is 1/6 the value on earth)
(b) another planet (value of 'g' is 2 times than that of earth)
(c) Is mass of scalar or vector quantity ?
(ii) How does the force of gravity depend upon the masses of the bodies and the distance between them ?

- 23 (a) Derive the equation of motion, $v = u + at$ by graphical method. 5
(b) Which of the two bodies A and B in the following graph is moving with higher acceleration and why ?



- 24 What is Genetic manipulation ? What are the products of genetic manipulation ? What major agronomic traits are incorporated by this technique ? 5

SECTION - B

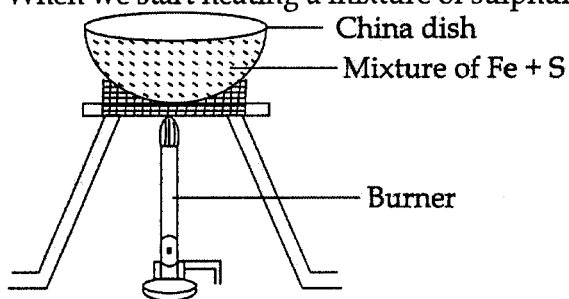
- 25 Sarita took the sample of arhar dal to laboratory from her house. She wants to test for the presence of adulteration in it. She got confused in choosing reagent. Please help her to choose the same from the following 1

- (a) Iodine solution (b) methylene Blue
(c) Safranin (d) conc hydrochloric acid

- 26 The presence of metanil yellow in dal can cause : 1
(a) Stomach disorder and liver damage
(b) Paralysis, leprosy etc.
(c) Vomiting and dehydration

(d) Heart attack and short breathing

27 When we start heating a mixture of sulphur powder and iron filings, we would observe that : 1



- (a) sulphur starts melting
- (b) iron filings start melting
- (c) mixture becomes red hot
- (d) mixture evaporates

28 Iron sulphide obtained by heating iron filings and sulphur powder is a : 1

- (a) black powder
- (b) hard black mass
- (c) yellow solid
- (d) grey solid

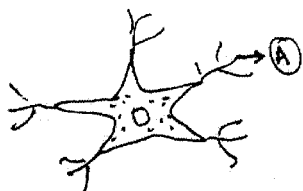
29 Small amount of blue litmus solution is added to magnesium oxide in a China dish. Its colour changes to : 1

- (a) red
- (b) colourless
- (c) green
- (d) there is no change in colour

30 The stained parts of the onion peel cells are : 1

- (a) Cell membrane, nucleolus, cytoplasm
- (b) Cell membrane, nucleus, vacuoles
- (c) Cell wall, nucleus, cytoplasm
- (d) Cell wall, nucleus, vacuoles

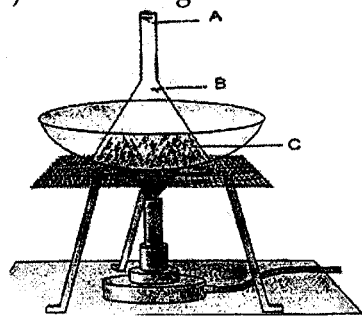
31 1



Part of nerve cell has been drawn here. The correct labelling for 'A' is :

- (a) cilia (b) flagella
(c) tentacles (d) dendrites

- 32 In the given figure, Identify the place at which you can find only pure ammonium chloride (NH_4Cl) after heating. 1



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

- 33 A rectangular wooden block open from one side is lying on a horizontal table. Different weights are kept in the box one by one. To establish relationship between weight of a block and the minimum force required to just move it using a spring balance, it is observed that the force required to just move the rectangular block is maximum when we put in it a weight of : 1

- (a) 30g wt. (b) 20g wt.
(c) 35g wt. (d) 25g wt.

- 34 State the method by which we can prepare colloid of starch. 2

- 35 While doing an experiment to determine the boiling point of water, a student heated water in a beaker and observed that when water starts boiling the temperature remains constant. State reason. Where does the heat energy go? 2

- 36 Write four main steps of the method involved in an experiment on determining the percentage of water absorbed by raisins in the laboratory. 2