

**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 two marks.

**SECTION-A**

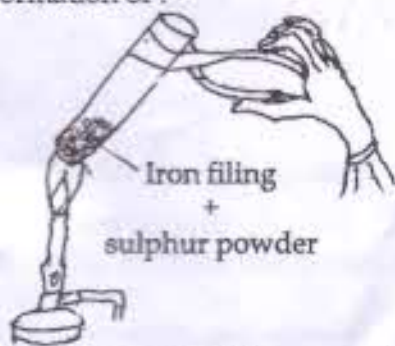
- |    |  |   |
|----|--|---|
| 1  | Name the main substance of which the cell wall is composed of.   | 1 |
| 2  | Name the physical quantity which corresponds to the rate of change of momentum.  | 1 |
| 3  | What is the momentum of a toy car of mass 200 kg moving with a speed of 5 m/s ?  | 1 |
| 4  | What is an Alloy? Give two examples.   | 2 |
| 5  | Write names of different kinds of connective tissue on the basis of matrix:  | 2 |
| 6  | List any two points of difference between mass and weight.   | 2 |
| 7  | What is meant by a true solution? Write its any two properties and two examples.   | 3 |
| 8  | Define the latent heat of vapourisation. Why the particles of steam possess more energy than water at the same temperature?  | 3 |
| 9  | Kushagra dropped a crystal of copper sulphate each into a beaker of hot water and containing cold water and observed carefully.  | 3 |
|    | (i) What would he observe as the time passes?  |   |
|    | (ii) Does the rate of mixing change with temperature? Why and how?   |   |
| 10 | What is the fundamental unit of life? Who discovered it? How can they be observed?   | 3 |
| 11 | Draw neat and labelled diagrams of the various types of muscular tissues to show the difference between them.  | 3 |
| 12 | State and derive the law of conservation of momentum.  | 3 |
| 13 | (i) If the force of gravity on Earth is $9.8 \text{ ms}^{-2}$ , then what would be the weight of an object on earth which has a mass of 10kgs?   | 3 |
|    | (ii) What would be its weight on moon?   |   |
|    | (iii) How does the value of 'g' change at the poles?   |   |
| 14 | A stone is thrown in a vertically upward direction with a velocity of 6 m/s. If the acceleration of the stone during its motion is $10 \text{ m/s}^2$ in the downward direction, what will be the height attained by the stone and how much time will it take to reach there ? | 3 |

- 15 A car acquires a velocity of 20 m/s in 10 seconds starting from rest. Find : 3  
 (a) the acceleration  
 (b) the distance travelled in this time and  
 (c) the average velocity.
- 16 A book slides down a table top and comes to rest position after a certain distance. 3  
 Name the force acting on the book. What types of forces are acting on the book?  
 (Balanced/ unbalanced). Which force brought the book to rest?
- 17 On reading about the farmers committing suicide in the newspaper, Radhika, thought of 3  
 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.  
 (i) How plant diseases can be prevented ?  
 (ii) In what ways insect pests attack the plants ?  
 (iii) Why Radhika wanted to help farmers ?
- 18 Differentiate between "capture fishing" and "culture fishing". 3
- 19 (a) How will you separate a mixture of common salt, camphor and Iron fillings. Name 5  
 and describe the processes involved.  
 (b) Name the technique used to separate  
 i. Cream from milk  
 ii. Oil and water
- 20 Differentiate between boiling and evaporation. What is the effect of temperature, surface 5  
 area and wind velocity on evaporation?
- 21 (a) Explain the formation of complex permanent tissue in plants. Mention two types of 5  
 complex tissues and write their functions.  
 (b) How simple permanent tissues are different from complex permanent tissues ?
- 22 (a) Differentiate between acceleration due to gravity and universal gravitational constant. 5  
 Derive a relation between 'g' and 'G'.  
 (b) State universal law of Gravitation.
- 23 (a) Differentiate between uniform and non-uniform motion. 5  
 (b) Using graphical method derive the second equation of motion,  $s = ut + \frac{1}{2}at^2$   
 (c) Depict a body at rest using a distance -time graph.
- 24 (a) How do biotic and Abiotic factors affect crop production? 5  
 (b) What are the desirable Agronomic characteristics for crop improvement?

### SECTION - B

- 25 We should use clean test tubes while conducting experiments in the laboratory because : 1  
 (a) Test tube might slip off from our hands.  
 (b) Any chemical present in the test tube may affect the result of the experiment we are  
 conducting.  
 (c) To increase visibility through clear glass.  
 (d) To keep our laboratory neat and clean.
- 26 Rohit was trying to test the presence of starch in potato extract. He forgot the reagent with 1  
 which starch gives blue black colour. Help him to select the correct stain from the following :  
 (a) Safranin (b) Methylene blue  
 (c) Iodine solution (d) Eosin

- 27 On strongly heating a mixture of iron filings and sulphur powder a black mass is formed due to the formation of : 1



- (a) Hydrogen sulphide (b) Iron oxide  
(c) Iron sulphide (d) Sulphur dioxide
- 28 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
- 29 Magnesium ribbon burns with 1  
(a) White dazzling Flame (b) Yellow Flame  
(c) Black Sooty Flame (d) Blue Flame
- 30 Tina was observing a human cheek cell slide stained with methylene blue under a microscope. The colour of the cell appears to be : 1  
(a) red (b) blue (c) black (d) yellow
- 31 Cell wall of a certain type of plant tissue have thickening of lignin. They are : 1  
(a) parenchyma (b) collenchyma  
(c) sclerenchyma (d) both (b) and (c)
- 32 The correct order of methods applied to separate the components of a mixture of common salt, sand and ammonium chloride is : 1  
(a) Dissolving in water, evaporation and sublimation  
(b) Dissolving in water, filtration, evaporation and sublimation.  
(c) Sublimation, dissolving in water, filtration and evaporation.  
(d) Moving a magnet, dissolving in water and sublimation
- 33 The spring balance used to measure minimum force required to just move a wooden block is of range 0 – 100 gwt and has 100 divisions on its scale. When the block just started moving the pointer was at 65<sup>th</sup> division the force at this point is : 1  
(a) 650 gwt (b) 65 gwt  
(c) 6.5 gwt (d) 35 gwt
- 34 Milk seems to be a homogeneous solution and is quite stable. Is it a true solution ? Justify your answer. 2
- 35 Students were conducting an experiment to determine the melting point of ice. The teacher emphasized on choosing the correct thermometer. Why should the bulb of thermometer remain in the middle of the ice and the content be stirred regularly? What is the melting and boiling point of water? 2
- 36 A group of students selected 10 raisins with stalks and weighed them using digital balance. Then they soaked them for few hours the weight of swollen raisins was 9.2g which was 4g more than the weight of dry raisins. Calculate the water imbibed by the raisins. 2