



Indraprastha INTERNATIONAL SCHOOL
Sector 10, Dwarka, New Delhi – 110075

A364YNZ

SUMMATIVE ASSESSMENT - I, 2016-17
SCIENCE
SET B

Class: IX
Date: 12.9.2016

Maximum Marks: 90
Time Allowed: 3 hours

General Instructions :

1. The question paper comprises 36 questions and 5 printed pages.
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.

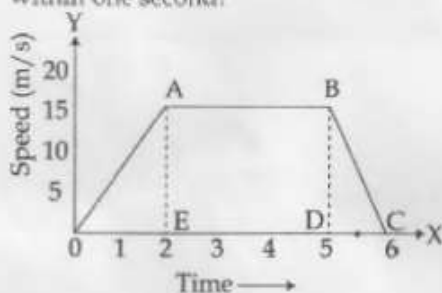
SECTION-A

- | | | |
|---|---|---|
| 1 | Name the cell organelle which is associated with protein synthesis. | 1 |
| 2 | Give an example of a uniform circular motion. | 1 |
| 3 | Shyam throws a heavy stone out of his boat. As a result, the boat moves in opposite direction. Why? | 1 |
| 4 | Compare the rate of diffusion of liquids and solids with reason. | 2 |
| 5 | Name the tissue present between internal organs. What are its functions? | 2 |
| 6 | Give reason-stone falls towards the earth but earth do not rise towards the stone. | 2 |
| 7 | Explain the term centrifugation? Give its two applications. | 3 |
| 8 | With the help of an activity, show that gases are more easily compressible than liquids and solids. | 3 |

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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. Can a single cell live independently on its own? Explain by giving example. 3
11. Give the schematic location of the meristematic tissue in the plant body. Give the function of each of these tissues. 3
12. A body of mass 'm' is moving with a velocity 'u'. When a force is applied on it for time t, its velocity increases to 'v'. Write expressions for : 3
- (a) Initial and final momentum
- (b) Change of momentum
- (c) Rate of change of momentum. Also write SI unit for each.
13. Two solid objects of masses 1kg and 2 kgs are dropped from a helicopter at the same time. Which one will reach the ground earlier? Justify your answer with suitable reason. 3

14. The speed-time graph of a car is given. The car weighs 1000 kg. 3
- (a) What is the distance travelled by the car in first two seconds?
- (b) What is the braking force applied at the end of 5 seconds to bring the car to a stop within one second?



15. Study the velocity-time table and answer the following : 3
- | | | | | | | | |
|----------------|---|----|----|----|----|----|----|
| Velocity (m/s) | 0 | 10 | 15 | 20 | 15 | 10 | 0 |
| Time (s) | 0 | 5 | 10 | 15 | 20 | 25 | 30 |
- (a) What is the value of acceleration during 0-15 s?
- (b) Is the body in uniform or non-uniform motion?
- (c) The time interval in which the acceleration is negative.
16. What do you understand by momentum? A vehicle is running with a velocity of 5 m/s. If the momentum of the vehicle is 5000 kgm/s. What is its mass? 3
17. Dunichand was good in studies and his parents wanted him to continue further. When he came to the village during vacation he persuaded villagers to adopt modern methods of irrigation, genetically modified seeds. And the villagers saw tremendous increase in the yield. 3
- (i) Why the modern methods of irrigation are better than the traditional ones?

- (ii) What is meant by genetically modified seeds?
(iii) What values of Dunichand are exhibited by his behaviour?
- 18 "Cross breeding programmes between indigenous and exotic breeds of poultry birds focusses on desirable traits". Mention any three such traits for which new varieties are developed. 3
- 19 (a) You are given iron filings and sulphur powder. Using these substances differentiate between physical and chemical changes 5
(b) Differentiate between elements and compounds.
- 20 Can increasing or decreasing pressure change the state of matter? 5
How can we liquefy atmospheric gases? State the factors that determine the state of a substance taking the example of change of a solid into liquid and vice-versa.
- 21 Draw a well labelled diagram of an eukaryotic nucleus. "The nucleus plays a central role in cellular reproduction". Justify this statement. 5
- 22 (a) Prove that if the earth attracts two bodies placed at the same distance from the centre of earth. With equal force; then their masses will be the same. 5
(b) Mathematically express the acceleration due to gravity in terms of mass of the earth and radius of earth.
(c) Why is 'G' called a universal constant ?
- 23 (a) Write the formula to find the magnitude of gravitational force between earth and an object on earth's surface. 5
(b) Derive how does the value of gravitational force 'F' change between two objects when the :
(i) distance between them is reduced to half, and
(ii) mass of one object is increased four times
- 24 Define hybridisation. Mention three basic types of cross - breeding practices. Describe any one of them. 5

SECTION - B

- 25 A student wants to test for adulteration in yellow dal. Which reagent he should use to test it: 1
(a) Iodine solution (b) Safranin
(c) Methylene Blue (d) conc hydrochloric acid
- 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 When you mix iron filings and sulphur thoroughly and spread the mixture evenly on a white sheet. How the particles in the mixture appear ? 1
(a) grey and yellow particles can be seen distinctly spread uniformly.
(b) grey and yellow particles can be seen distinctly, but they are not spread uniformly.
(c) grey and yellow particles cannot be seen distinctly.
(d) only yellow particles can be seen distinctly.

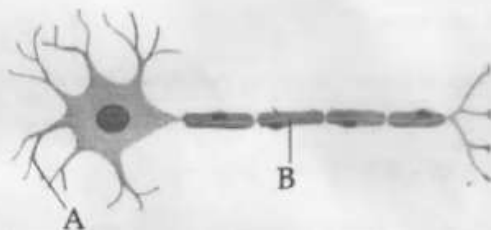
- 28 When a mixture of iron filings and sulphur powder is strongly heated in a China dish then the colour of the product obtained is : 1
- (a) yellow (b) black
(c) grey (d) orange

- 29 A student took some dilute sulphuric acid in a conical flask and added some pieces of zinc metal into it. He observed bubbles of colourless and odourless gas. This gas is : 1
- (a) oxygen (b) hydrogen sulphide
(c) hydrogen (d) sulphur dioxide

- 30 The steps included for preparing a temporary mount of human cheek cell are : 1
- (i) With the help of a toothpick, scrape the inner side of cheek to collect squamous epithelial cells.
 - (ii) Rinse the mouth with water
 - (iii) Put a drop of glycerine on the slide
 - (iv) Add a few drops of stain methylene blue
 - (v) Place a coverslip gently over the slide

Correct sequence of steps is -

- (a) (v)-(iv)-(iii)-(ii)-(i) (b) (ii)-(i)-(iv)-(iii)-(v)
(c) (iv)-(iii)-(i)-(v)-(ii) (d) (ii)-(iv)-(iii)-(i)-(v)
- 31 The correct labelling for 'A' and 'B' in the following diagram of neuron is : 1



- (a) A - nucleus B - Dendrite
(b) A - Dendrite B - Axon
(c) A - Cyton B - Dendrite
(d) A - Axon B - Cyton
- 32 A mixture contains two solids A & B. Only A sublimes, both A & B dissolve in water. A student is asked to separate A and B. The method he applies is : 1
- (a) filtration followed by evaporation
(b) evaporation only
(c) sublimation only
(d) decantation
- 33 When the wooden block moves on the surface of a table, the direction of the force of friction is : 1
- (a) vertically upwards
(b) vertically downwards
(c) horizontal, in the direction of motion
(d) horizontal, opposite to the direction of motion

- 34 When egg white is mixed with water and stirred what does it form ? Are we able to see the path of light through it? 2
- 35 Why are pieces of pumice stone placed in the container before heating water while determining the boiling point of water in the laboratory? Explain briefly. 2
- 36 While performing the experiment to determine the percentage of water imbibed by the raisins, when raisins are taken out from the water they are gently dried between the folds of filter paper, why? Why is it advised to take raisins with stalk? 2