

**INDRAPRASTHA INTERNATIONAL SCHOOL**  
**SUMMATIVE ASSESSMENT-I SCIENCE**  
**CLASS-IX**

Time allowed: 3 hours

Maximum Marks: 90

**General Instructions:**

1. This question paper consists of 36 questions and 4 printed pages.
  2. All the questions are compulsory.
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**Section A**

- Q. 1 Name the two chief components' of nucleus. 1
- Q. 2 Does velocity of an object remain constant in uniform circular motion? 1
- Q. 3 State the importance of photoperiod in agriculture. 1
- Q. 4 What is the relationship between chromatin material and chromosomes? 2
- Q. 5 (a) What will happen if an animal cell is kept in distilled water for 24 hours? 2  
(b) Name the undefined nuclear region of a prokaryotic cell.
- Q. 6 State two differences between rough endoplasmic reticulum and smooth endoplasmic reticulum. 2
- Q. 7 A cyclist goes around a circular track of diameter 105m in 5min. Calculate his speed and velocity at the end of 7minutes 30seconds. 3
- Q. 8 (a) Why is starch solution considered to be a colloidal solution? 3  
(b) A solution contains 20 grams of acetic acid in 250 ml of water. What is the concentration of the solution?
- Q. 9 Which separation technique will you apply for the separation of the following? 3  
(a) Nitrogen from air;  
(b) Tea leaves from tea;  
(c) Different pigments from an extract of flower petals.  
Also write the basic principle of each method.
- Q.10 A car accelerates uniformly from 18 Km/h to 36 Km/h in 5 s. Calculate 3  
(a) the acceleration and  
(b) the distance covered by the car in that time.
- Q.11 How would you mathematically interpret Newton's second law of motion? What is the unit of Force? Define the SI unit of force, by using this interpretation. 3
- Q.12 (a) Why is luggage kept on the roof of the bus and tied with a rope? 3

- (b) A car is moving at a velocity of 72 Km/h. Suddenly brakes are applied so as to stop the car at 10 m. Find the force exerted by the brakes on the car. (If the total mass of car and passengers is equal to 800 Kg).
- Q.13 (a) Two objects of masses  $m_1$  and  $m_2$ , when separated by a distance  $d$ , exert a force  $F$  on each other. What is the effect on this force if 3
- (i) the masses of both the objects are doubled?
- (ii) the distance between the objects is halved?
- (b) How is  $G$  different from  $g$ ?
- Q.14 Calculate the weight of an astronaut whose mass is 80 Kg on the surface of the earth and 3 on the surface of the moon. Given that acceleration due to gravity on the surface of moon is one-sixth of that on the earth.
- Q.15 Give reasons for each of the following: 3
- (a) It is difficult to pull out the husk of coconut.
- (b) Skeletal muscles are also known as striated muscles.
- Q.16 (a) state three differences between broilers and layers. 3
- (b) Name the food requirements of dairy animals
- Q.17 (a) State any three advantages of intercropping 3
- (b) Explain vermin-composting.
- Q.18 (a) What is stratified squamous epithelium? 3
- (b) State its location and mention its significance.
- Q.19 How will you separate a mixture containing acetone (boiling point  $56^\circ\text{C}$ ) and ethyl 5 alcohol (boiling point  $78.37^\circ\text{C}$ ) which are miscible with each other? Describe with the help of a well-labeled diagram.
- Q.20 (a) Convert  $-25^\circ\text{C}$  into Kelvin 5
- (b) Which contains more heat energy: 1 Kg of Water at 373 Kelvin or 1 Kg of steam at 373 Kelvin? Justify your answer.
- (c) Name the types of colloids in which the dispersed phase and dispersing medium are respectively :
- (i) Liquid and gas
- (ii) Liquid and Liquid
- (iii) Liquid and solid
- Also give one example of each.