**Karan Arora**  **R.L. Institute M: 9416974837**

**Max Time : 1 hr** **Class = 9th Science Test Max Marks : 30**

**Cell , Matter in Our Surroundings , Motion , Forces and Laws of motion**

1. Multiple choice questions : [ 1 X 10 = 10 ]
2. What is linear momentum of a toy car of mass 300 g, moving with a speed of 18 km/h.

|  |  |  |  |
| --- | --- | --- | --- |
| a) 1.5 kg m/s | b) 3 kg m/s | c) 5.4 kg m/s | d) None |

1. The S.I. unit of linear momentum is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Newton | b) Dyne | c) kg m/s | d) g m/s |

1. A particle undergo displacement of 3 m due to north and 4 m due to east. The net displacement is:

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5 m | b) 7 m | c) 1 m | d) None of these |

1. A body starting from rest acquires a velocity of 10 m/s in 2 seconds. The acceleration of the body is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5 m/s2 | b) 10 m/s2 | c) 1 m/s2 | d) zero |

1. If a membrane allows passage of solvent freely but selects the passage of specific solute particles, it is called as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Impermeable | b) permeable | c) Semi - permeable | d) Selectively permeable |

1. Fluid mosaic model was presented by :

|  |  |
| --- | --- |
| a) Singer and Nicolson (1972) | b) Danielli and Davson (1935) |
| c) Robertson (1959) | d) Robert brown (1858) |

1. Chromosomes are made up of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) DNA | b) Protein | c) DNA & protein | d) RNA |

1. In solid, liquid and gas the interparticle spaces increase in the order:

|  |  |  |  |
| --- | --- | --- | --- |
| a) liquid > gas > solid | b) solid > liquid > gas | c) gas > solid > liquid | d) none |

1. The boiling point of diethyl ether , acetone and n-butyl alcohol are 35 , 56 and 118 respectively. Which one of the following correctly represents their boiling points in kelvin scale?

|  |  |
| --- | --- |
| a) 306 K , 329 K , 391 K | b) 308 K , 329 K , 392 K |
| c) 308 K , 329 K , 391 K | d) 329 K , 392 K , 308 K |

1. Which condition out of the following would increase the evaporation of water?

|  |  |
| --- | --- |
| a) Increase in temperature of water | b) Decrease in temperature of water |
| c) Less exposed surface area of water | d) Adding common salt to water |

1. Where are protein synthesis occur inside the cell? [ 1 ]
2. What types of clothes should we wear in summer? [ 1 ]
3. Define Newtons second laws of motion. [ 1 ]
4. Define Balanced and Unbalanced forces. [ 2 ]
5. Differentiate between Smooth Endoplasmic Reticulum and Rough Endoplasmic Reticulum. [ 2 ]
6. For any substance, why does the temperature remain constant during the change of state? [ 2 ]
7. An object starts from O and travels 5 km towards East , 5 km towards North and finally 10 km towards West. Calculate distance travelled and displacement of the object. [ 2 ]
8. A train starting from a railway station and moving with uniform acceleration attains a speed of 40 km/h in 10 minutes. Find its acceleration [ 2 ]
9. A 150 g ball travelling at 30 m/s strikes the palm of a player’s hand and is stopped in 0.06 s. Calculate the force exerted by the ball on the hand [ 2 ]
10. A force of 4 N acts on a body of mass 2 kg for 4 s. Assuming the body to be initially at rest. Find : [ 2 ]
11. Its velocity when the force stops acting.
12. The distance covered in 10 s after the force starts acting.
13. Draw labelled diagram of mitochondria. Write the functions of mitochondria. [ 3 ]