**Tagore.Sr.Sec.School**

**Max Time : 3 hr** **Class = 9th Science Max Marks : 80**

**Full Syllabus Exam**

Section – A

1. Multiple choice questions : [ 1 X 20 = 20 ]
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. Fats are stored in human body as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Cuboidal epithelium | b) Adipose tissue | c) Bones | d) Cartilage |

1. Nerve cell does not contain :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Axon | b) Nerve endings | c) Tendons | d) Dendrites |

1. Skeleton tissue comprises:

|  |  |
| --- | --- |
| a) Tendons and ligaments | b) Bones and cartilage |
| c) Blood and lymph | d) All of these |

1. Which of the following cell play a role in defence mechanism?

|  |  |  |  |
| --- | --- | --- | --- |
| a) WBC | b) RBC | c) Platelets | d) None of these |

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. The dead element present in phloem are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) companion cell | b) phloem fibres | c) phloem parenchyma | d) sieve tubes |

1. Meristematic tissue in plants are :

|  |  |
| --- | --- |
| a) localized and permanent | b) not limited to certain region |
| c) localized and continuously dividing cells | d) growing in volume |

1. Flexibility in plants is due to :

|  |  |  |  |
| --- | --- | --- | --- |
| a) collenchyma | b) sclerenchyma | c) parenchyma | d) chlorenchyma |

1. Girth of stem increases due to :

|  |  |
| --- | --- |
| a) apical meristem | b) lateral meristem |
| c) intercalary meristem | d) vertical meristem |

1. When a branch of a tree is shaken, some of the fruits may fall down. This happens due to :

|  |  |
| --- | --- |
| a) Inertia of rest | b) Inertia of motion |
| c) Inertia of direction | d) None of the above |

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

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

Section – B [ 1 x 10 = 10 ]

1. Where are protein synthesis occur inside the cell?
2. What types of clothes should we wear in summer?
3. What is the standard unit of force?
4. The value of acceleration due to gravity of the earth is :\_\_\_\_\_\_\_\_\_
5. Define One newton.
6. Define Adipose tissue.
7. Define work.
8. Define Evaporation
9. Why lysosomes called as suicidal bag of the cell?
10. Define isotopes and isobars.

Section – C [ 2 x 10 = 20 ]

1. Convert the following temperatures to the Celsius scale:

(a) 293 K (b) 470 K

1. Differentiate between xylem and phloem.
2. Differentiate between homogeneous and heterogeneous mixture.
3. Define Balanced and Unbalanced forces.
4. Differentiate between Smooth Endoplasmic Reticulum and Rough Endoplasmic Reticulum.
5. Write the chemical formula of : (a) Magnesium chloride (b) Calcium carbonate
6. 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.
7. A force of 5 N is acting on an object. The object is displaced through 2m in the direction of force. Find the work done by the force.
8. A sonar device on a submarine send out a signal and receives an echo 5s later. Calculate the speed of sound in water if the distance of the object from the submarine is 3625 m
9. Define Tendons and Ligaments.

Section – D [ 3 x 15 = 15 ]

1. Draw labelled diagram of mitochondria. Write the functions of mitochondria.
2. Calculate the molar mass of the following: (a) HNO3 (b) C2H2 (c) MgSO4.
3. Differentiate between RBC , WBC and Platelets.
4. Distinguised between the properties of three types of muscles fibres
5. Write four points to distinguish between true solution , colloidal solution and suspension.

Section – E [ 5 x 3 = 15 ]

1. (a) A bus starting from rest moves with a uniform acceleration of 0.1 m/s2 for 2 minutes. Find the speed acquired and the distance travelled.

(b) A force of 5 N gives a mass m1, an acceleration of 10 m/s2 and a mass m2 , an acceleration of 20 m/s2. What acceleration would it give if both the masses were tied together.

1. Differntiate between Plant cell and animal cell.
2. (a) Define three laws of newtons.

(b) Differntiate between manure and fertilizers.