Tagore.Sr.Sec.School

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

Full Syllabus Exam

Section – A

Q.1 Multiple choice questions :   [1 X 20 = 20]

1) 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

2) The S.I. unit of linear momentum is :
   a) Newton   b) Dyne   c) kg m/s   d) g m/s

3) 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

4) 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

5) 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

6) Fluid mosaic model was presented by :
   a) Singer and Nicolson (1972)   b) Danielli and Davson (1935)
   c) Robertson (1959)   d) Robert brown (1858)

7) Chromosomes are made up of :
   a) DNA   b) Protein   c) DNA & protein   d) RNA

8) 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

9) Fats are stored in human body as :
   a) Cuboidal epithelium   b) Adipose tissue   c) Bones   d) Cartilage

10) Nerve cell does not contain :
   a) Axon   b) Nerve endings   c) Tendons   d) Dendrites

11) Skeleton tissue comprises:
   a) Tendons and ligaments   b) Bones and cartilage
   c) Blood and lymph   d) All of these

12) Which of the following cell play a role in defence mechanism?
   a) WBC   b) RBC   c) Platelets   d) None of these

13) 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

14) 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

15) The dead element present in phloem are :
   a) companion cell   b) phloem fibres   c) phloem parenchyma   d) sieve tubes

16) 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

17) Flexibility in plants is due to :
   a) collenchyma   b) sclerenchyma   c) parenchyma   d) chlorenchyma

18) Girth of stem increases due to :
   a) apical meristem   b) lateral meristem
   c) intercalary meristem   d) vertical meristem

19) 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

20) 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]

Q.2 Where are protein synthesis occur inside the cell?

Q.3 What types of clothes should we wear in summer?

Q.4 What is the standard unit of force?

Q.5 The value of acceleration due to gravity of the earth is :_____

Q.6 Define One newton.

Q.7 Define Adipose tissue.

Q.8 Define work.

Q.9 Define Evaporation

Q.10 Why lysosomes called as suicidal bag of the cell?

Q.11 Define isotopes and isobars.

Section – C [2 x 10 = 20]

Q.12 Convert the following temperatures to the Celsius scale:
(a) 293 K   (b) 470 K

Q.13 Differentiate between xylem and phloem.

Q.14 Differentiate between homogeneous and heterogeneous mixture.

Q.15 Define Balanced and Unbalanced forces.

Q.16 Differentiate between Smooth Endoplasmic Reticulum and Rough Endoplasmic Reticulum.

Q.17 Write the chemical formula of : (a)   Magnesium chloride   (b) Calcium carbonate

Q.18 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.

Q.19 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.

Q.20 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

Q.21 Define Tendons and Ligaments.

Section – D [3 x 15 = 15]

Q.22 Draw labelled diagram of mitochondria. Write the functions of mitochondria.

Q.23 Calculate the molar mass of the following: (a) HNO_3 (b) C_2H_2 (c) $MgSO_4$.

Q.24 Differentiate between RBC , WBC and Platelets.

Q.25 Distinguised between the properties of three types of muscles fibres

Q.26 Write four points to distinguish between true solution , colloidal solution and suspension.

Section – E [5 x 3 = 15]

Q.27 (a)   A bus starting from rest moves with a uniform acceleration of 0.1 m/s^2 for 2 minutes. Find the speed acquired and the distance travelled.
(b)   A force of 5 N gives a mass m_1, an acceleration of 10 m/s^2 and a mass m_2 , an acceleration of 20 m/s^2. What acceleration would it give if both the masses were tied together.

Q.28 Differntiate between Plant cell and animal cell.

Q.29 (a) Define three laws of newtons.
(b) Differntiate between manure and fertilizers.