

**Sample questions for Agriculture Analytics entrance test 2022,**  
**Science and Mathematics**

**Maths Questions:**

1. The points  $(-4, 0)$ ,  $(4, 0)$ ,  $(0, 3)$  are the vertices of a
  - (a) Right triangle
  - (b) Scalene triangle
  - (c) Equilateral triangle
  - (d) Isosceles triangle**
  
2. The distance between the points  $(0, 5)$  and  $(-5, 0)$  is
  - (a) 5
  - (b)  $5\sqrt{2}$**
  - (c)  $2\sqrt{5}$
  - (d) 10
  
3. The distance of the point P  $(2, 3)$  from the x-axis is
  - (a) 3**
  - (b) 2
  - (c) 1
  - (d) 5
  
4. Graphically, the pair of equations  $6x - 3y + 10 = 0$   
 $2x - y + 9 = 0$   
represents two lines which are
  - (a) Intersecting at exactly one point
  - (b) Intersecting at two points
  - (c) Coincident
  - (d) Parallel**
  
5. The father's age is six times his son's age. Four years hence, the age of the father will be four times his son's age. The present ages of the son and the father, in years, are respectively
  - (a) 4 and 24
  - (b) 5 and 30
  - (c) 6 and 36**
  - (d) 3 and 24
  
6. For some integer p, every even integer is of the form
  - (a)  $2p + 1$
  - (b)  $2p$**
  - (c)  $p + 1$
  - (d) p

7. The perimeters of two similar triangles ABC, PQR is 64 cm and 24 cm respectively. If PQ is 12 cm what will be the length of AB?
- a) 30 cm
  - b) 32 cm**
  - c) 12 cm
  - d) 16 cm
8. A funnel is in the shape of a right circular cone with a base radius of 3 cm and a height of 4 cm. Find the slant height of the funnel.
- a) 4 cm
  - b) 7 cm
  - c) 5 cm**
  - d) 8 cm
9. What is the formula for the volume of a right circular cone?
- a)  $\frac{1}{3}\pi r^3 h$
  - b)  $\frac{1}{3}\pi r^2 h$**
  - c)  $\frac{1}{2}\pi r^2 h$
  - d)  $\frac{1}{2}\pi r^3 h$
10. The angle of depression is always a/an \_\_\_\_\_ angle.
- a) right
  - b) obtuse
  - c) complete
  - d) acute**

### Physics Questions:

1. If the displacement of an object is proportional to square of time, then the object moves with
  - (a) uniform velocity
  - (b) uniform acceleration**
  - (c) increasing acceleration
  - (d) decreasing acceleration
2. Suppose a boy is enjoying a ride on a merry-go-round which is moving with a constant speed of  $10 \text{ ms}^{-1}$ . It implies that the boy is
  - (a) at rest
  - (b) moving with no acceleration**
  - (c) in accelerated motion
  - (d) moving with uniform velocity
3. A particle is moving in a circular path of radius  $r$ . The displacement after half a circle would be:
  - (a) Zero
  - (b)  $\pi r$
  - (c)  $2r$**
  - (d)  $2\pi r$
4. The numerical ratio of displacement to distance for a moving object is
  - (a) always less than 1
  - (b) always equal to 1
  - (c) always more than 1
  - (d) equal or less than 1**
5. Rocket works on the principle of conservation of
  - (a) mass
  - (b) energy
  - (c) momentum**
  - (d) velocity
6. The gravitational force between two objects is  $F$ . If masses of both objects are halved without changing the distance between them, then the gravitational force would become
  - (a)  $F/4$**
  - (b)  $F/2$
  - (c)  $F$
  - (d)  $2F$
7. When a mango falls from a mango tree then
  - (a) only the Earth attracts the mango.
  - (b) only the mango attracts the Earth.
  - (c) both the mango and the Earth attract each other.**
  - (d) both the mango and the Earth repel each other.

## Chemistry Questions

- Which of the following phenomena would increase on raising the temperature?
  - Diffusion, evaporation, compression of gases
  - Evaporation, compression of gases, solubility
  - Evaporation, diffusion, expansion of gases**
  - Evaporation, solubility, diffusion, compression of gases
- An element X is divalent and another element Y is tetravalent. The compound formed by these two elements will be:
  - XY
  - XY<sub>2</sub>**
  - X<sub>2</sub>Y
  - XY<sub>4</sub>
- Which of the following statements are true for pure substances?
  - Pure substances contain only one kind of particles
  - Pure substances may be compounds or mixtures
  - Pure substances have the same composition throughout
  - Pure substances can be exemplified by all elements other than nickel
  - (i) and (ii)
  - (i) and (iii)**
  - (iii) and (iv)
  - (ii) and (iii)
- What is the chemical formula of sodium carbonate?
  - Na<sub>2</sub>CO<sub>3</sub>**
  - NaHCO<sub>3</sub>
  - NaCO<sub>3</sub>
  - Na<sub>2</sub>HCO<sub>3</sub>
- Which of the following has maximum number of atoms?
  - 18 g H<sub>2</sub>O
  - 18 g of O<sub>2</sub>
  - 18 g of CO<sub>2</sub>
  - 18 g of CH<sub>4</sub>**

## **Biology Questions**

1. In which of the following groups of organisms, food materials are broken down outside the body and absorbed?
  - a. Mushroom, green plants, Amoeba
  - b. Yeast, mushroom, bread mould**
  - c. Paramecium, Amoeba, Cuscuta
  - d. Cuscuta, lice, tapeworm
2. What are the products obtained by anaerobic respiration in plants?
  - (a) Lactic acid + Energy
  - (b) Carbon dioxide + Water + Energy
  - (c) Ethanol + Carbon dioxide + Energy**
  - (d) Pyruvate
3. Which part of the alimentary canal receives bile from the liver –
  - (a) stomach
  - (b) small intestine**
  - (c) large intestine
  - (d) oesophagus
4. Which option correctly shows the transport of oxygen to the cell?
  - (a) Lungs → pulmonary vein → left atrium → left ventricle → aorta → body cells**
  - (b) Lungs → pulmonary vein → right atrium → right ventricle → aorta → body cells
  - (c) Lungs → pulmonary artery → left atrium → left ventricle → vena cava → body cells
  - (d) Lungs → pulmonary artery → right atrium → right ventricle → vena cava → body cells
5. Which statement shows interaction of an abiotic component with a biotic component in an ecosystem?
  - (a) A grasshopper feeding on a leaf.
  - (b) Rainwater running down into the lake.
  - (c) An earthworm making a burrow in the soil.**
  - (d) A mouse fighting with another mouse for food.