

SAMPLE QUESTIONS

Chemistry

Question 1:

Equivalent conductance of 1M CH_3COOH is $10 \text{ ohm}^{-1} \text{ cm}^2 \text{ equiv}^{-1}$ and that at infinite dilution is $200 \text{ ohm}^{-1} \text{ cm}^2 \text{ equiv}^{-1}$. Hence the % ionization of CH_3COOH is_____

Question 2:

The vapour pressure of a pure solvent at 50°C is 400mm. If 0.2 mole of a non volatile solute is added to 1 mole of the solvent the vapour pressure of that solution at 50°C is nearly

1. 400mm
2. 200mm
3. 300mm
4. 333mm

Question 3:

What is the degree of hardness of a sample of water containing 24mg of MgSO_4 (molecular mass 120) per kg of water?

1. 10ppm
2. 15ppm
3. 25ppm
4. 20ppm

Question 4:

Chemical (X) is used for removal of temporary hardness of water. (X) reacts with Na_2CO_3 to produce caustic soda. When CO_2 is bubbled through (X), it turns cloudy. What is the chemical formula of (X)?

1. $\text{Ca}(\text{OH})_2$
2. CaO
3. CaCO_3
4. $\text{Ca}(\text{HCO}_3)_2$

Question 5:

The heat of combustion of carbon and carbon monoxide are -393.5 and $-283.5 \text{ kJ mol}^{-1}$, respectively. The heat of formation (in kJ) of carbon monoxide per mole is_____

1. 676.5
2. -676.5
3. -110.5
4. 110.5

Physics

Question 1:

A solid sphere and a solid cylinder of same mass are rolled down on two inclined planes of heights h_1 & h_2 . If at the bottom of the plane of two objects have same linear velocities, then ratio of h_1 to h_2 is

1. 2:3
2. 7:5
3. 14:15
4. 15:14

Question 2:

The initial velocity of a particle is u [at $t=0$] and the acceleration f is given by at . Which of the following relation is valid?

1. $v = u + at^2$
2. $v = u + at^2/2$

3. $v = u + at$
4. $v = u$

Question 3:

At which temperature, the centigrade and Fahrenheit scales are equal?

1. 40°
2. -40°
3. 37°
4. -80°

Question 4:

The rms velocity of H_2 molecules at $27^{\circ}C$ is 1930 m/s . The rms velocity of O_2 molecules at $1200K$ will be_____.

Question 5:

An AC series circuit contains 4Ω resistance and 3Ω inductive reactance. What is the impedance of the circuit?

1. 1Ω
2. 5Ω
3. 7Ω

4. $7/\sqrt{2} \Omega$

Mathematics

Question 1:

The algebraic expression $x^2 + \sqrt{5}x + 9$ is a

1. Polynomial
2. Not a Polynomial
3. Integer
4. None of these

Question 2:

The shadow of a tree 6m high is $2\sqrt{3}$ m. The angle of elevation of the sun will be

1. 60°
2. 30°
3. 75°
4. None of these

Question 3:

Volume of the sphere whose radius is 1cm is

1. 1 cm³
2. 8.8 cm³
3. 14.4 cm³
4. None of these

Question 4:

A coin is tossed once what is the probability of getting tail

1. $\frac{1}{2}$
2. 1
3. 2
4. None of these

Question 5:

The 12th term of A.P. 5, 8, 11,..... is_____

Biology

Question 1:

Conversion of glucose to lactate takes place in

1. Aerobic condition
2. Anaerobic condition
3. Both Aerobic condition and Anaerobic condition
4. None of these

Question 2:

In respiration the energy not captured by ATP is converted to

1. Transferred to water
2. Converted to heat
3. Released with CO₂
4. Transferred to organic molecules

Question 3:

The phenomena which cools the surface of leaves is

1. Guttation
2. Translocation
3. Transamination
4. Transpiration

Question 4:

The only movable bone in the skull is

1. Maxilla
2. Frontoparietal
3. Mandible
4. Nasal

Question 5:

Which of these pests attack mustard?

1. Pod borer
2. Aphids
3. White grub
4. Pyrilla

English

Question 1:

What is the synonym of Adversity?

1. Failure
2. Misfortune

3. Helplessness
4. Crisis

Question 2:

Find the correct spelling.

1. Pugnacios
2. Pugnacious
3. Pagnacous
4. Pugnashous

Question 3:

Choose the correct answer. Your dreams_____ if you try.

1. Accomplishes
2. will be accomplished
3. is accomplishing
4. has accomplished

Question 4:

Which of these words is closest in meaning to the word provided? "educe"

1. demand
2. elicit
3. ideal
4. unlawful

Question 5:

Choose one word for the following statement:

Government of the people, by the people and for the people

1. Democracy
2. Autocracy
3. Socialism
4. Anarchy

Aptitude

Question 1:

A train moving at a uniform speed crosses a platform 99m long in $13\frac{1}{2}$ seconds and an electric pole in 9 seconds. Find the length of the train?

1. 194 m

2. 196 m
3. 198 m
4. 200 m

Question 2:

A can run 15 metres while B runs 20 metres. In a km race B beats A by

1. 200m
2. 100m
3. 220m
4. 250m

Question 3:

A does alone a work in 4 days. B does alone a work in 8 days. In how many days the work will be completed if A & B work together?

1. 4 days
2. 8 days
3. 32 days
4. $8/3$ days

Question 4:

If 20% discount, then SP is 24. What is SP if discount is 30% ?

1. 21
2. 22
3. 23
4. 28

Question 5:

How much water be added to 14 litres of milk worth Rs. 5.40 a litre so that the value of the mixture may be Rs. 4.20 a litre?

1. 7 litres
2. 6 litres
3. 5 litres
4. 4 litres