

Chemistry

Question 1:

Which element may occur as different isotopes. Element 'x' has three isotopes with mass numbers 20, 21 and 22. The fractional abundances are 0.90, 0.01 and 0.09 respectively. The average atomic mass is of the following molecules has the smallest bond angle?

- a) 19.34
- b) 20.19
- c) 20.8
- d) 21.28

Question 2:

Number of radial nodes and angular nodes for a 3d orbital are:

- a) 1,3
- b) 1,2
- c) 2,1
- d) 0,2

Question 3:

A 0.6% (w/v) solution of urea would be isotonic with

- a) 0.1 M glucose solution
- b) 0.1 M KCL solution
- c) '0.6% (w/v) glucose solution < yA
- d) '0.6% (w/v) KCL solution

Question 4:

The rate constant of a reaction has the same unit as the rate of reaction. The reaction is of:

- a) Zero order
- b) First order
- c) Second order
- d) Third order

Question 5.

Large number of oxidation states are exhibited by the actinoids than those by the lanthanides, the main reason being.

- a) 4f orbitals more diffused than the 5f orbitals
- b) lesser energy difference between 5f and 6d than between 4f and 5d orbitals
- c) more energy difference between 5f and 6d than between 4f and 5d orbitals
- d) more reactive nature of the actinoids than the lanthanides

Physics

Question 1

A constant force (F) is applied on a stationary particle of mass ' m '. The velocity attained by the particle in a certain displacement will be proportional to:

- a) m
- b) $1/m$
- c) \sqrt{m}
- d) $1/\sqrt{m}$

Question 2.

A standard unit should be:

a) Consistent b) reproducible c) invariable d) easily available for usage

- a) Only a & b are true
- b) Only a & c are true
- c) Only a, c & d are true
- d) a, b, c, d are true

Question 3:

The relative density of material of a body is found by weighing it first in air and then in water. If the weight in air is (5.00 ± 0.05) N and weight in water is (4.00 ± 0.05) N, then the relative density along with the maximum percentage error is:

- a) $5.0 \pm 11\%$
- b) $5.0 \pm 1\%$
- c) $5.0 \pm 6\%$
- d) $1.25 \pm 5\%$

Question 4:

A ship A is moving Westwards with a speed of 10 km/h and a ship B 100 km South of A, is moving Northwards with a speed of 10 km/h . The time after which the distance between them becomes shortest is

- a) $5\sqrt{2} \text{ h}$
- b) $10\sqrt{2} \text{ h}$
- c) 0 h
- d) 5 h

Question 5:

If the identical cells each having an emf of 20 V are connected in parallel, then the emf of the combinations is:

- a) 2V
- b) 200V
- c) 20V
- d) 10V

Mathematics

Question 1:

From a group of 5 boys and 3 girls, three persons are chosen at random, Find the probability that there are more girls than boys.

- a) $\frac{3}{8}$
- b) $\frac{4}{7}$
- c) $\frac{5}{8}$
- d) $\frac{2}{7}$

Question 2:

If three complex numbers are in A.P, then they lie on:

- a) straight line
- b) a circle
- c) a parabola
- d) ellipse

Question 3:

A man has 4 sons and there are 5 schools within his reach. The number of ways he can admit his sons in the schools so that no two of them will be in the same school is:

- a) 5C_4
- b) 5P_4
- c) 54
- d) 45

Question 4:

The cross product of two parallel vectors is:

- a) 0
- b) 1
- c) parallel
- d) perpendicular

Question 5:

Which of the following is not a measure of central tendency?

- a) Mean
- b) Median
- c) Mode
- d) Range

Biology

Question 1:

Which of the following definitions covers a greater number of organisms?

- a) Kingdom
- b) Genus
- c) Family
- d) Class

Question 2:

Correct enzyme-substrate pair is:

- a) Maltose-lactase
- b) Protein-amylase
- c) Carbohydrate-lipase
- d) Casein-rennin

Question 3:

Deficiency of Adrenal cortex hormones results in:

- a) Tetany
- b) Acromegaly
- c) Addison disease
- d) Cretinism

Question 4:

Which one is not among the three domains of life?

- a) Archaea
- b) Bacteria
- c) Protista
- d) Eukarya

Question 5:

Which one is sedimentary cycle?

- a) Oxygen cycle
- b) Hydrogen cycle
- c) Nitrogen cycle
- d) Phosphorous cycle

English

Question 1:

Choose the correct verb to fill the gap.

By the end of the year, she _____ with a degree in business.

- a) already graduates
- b) already graduated
- c) will have already graduated
- d) has already graduated

Question 2:

Choose the synonym for the following word Hallowed

- a) Sacred
- b) Old
- c) Inactive
- d) Effective

Question 3:

As _____ cuts it as well as he does, I always have my hair cut at Johnson's.

- a) anyone
- b) someone else's
- c) no one else
- d) everyone

Question 4:

Mohit _____ his century before it is the end of the match.

- a) will score
- b) will have scored
- c) has scored
- d) scores

Question 5:

Which word is a adverb in this sentence?

There are no interesting programmes tonight.

- a) interesting
- b) programmes
- c) there
- d) tonight