

Chemistry Mock Test 12

Q-1. The unit of rate constant for the first order reaction is

- (a) sec^{-1}
- (b) mol. Lte^{-1}
- (c) $\text{mol}^{-1} \cdot \text{ltr. Sec}^{-1}$
- (d) All of these

Q-2. The charge of an electron is $-1.6 \times 10^{-19} \text{ C}$. The value of free charge on Li^+ ion will be

- (a) $3.6 \times 10^{-19} \text{ C}$
- (b) $2.6 \times 10^{-19} \text{ C}$
- (c) $1.6 \times 10^{-19} \text{ C}$
- (d) $1 \times 10^{-19} \text{ C}$

Q-3. The maximum valence of an element with atomic number 7 is

- (a) 2
- (b) 3
- (c) 4
- (d) 5

Q-4. How many grams of CaCO_3 will give 56 g of CaO ?

- (a) 120 g
- (b) 112 g
- (c) 100 g
- (d) 56 g

Q-5. Which of the following has the same mass as that of an electron?

- (a) Photon
- (b) Proton
- (c) Positron

(d) Neutron

Q-6. What is the value of carbonate hardness of water sample if 100 ml of it took 5 ml of 0.09 N HCl solutions? (Molecular weight of $Na_2CO_3 = 106$)

(a) $4.50 \text{ mg} - \frac{eq}{ltr}$.

(b) $477.00 \text{ mg} - \frac{eq}{ltr}$.

(c) $0.042 \text{ mg} - \frac{eq}{ltr}$.

(d) $1.80 \text{ mg} - \frac{eq}{ltr}$.

Q-7. The shape of IF_7 molecule is

(a) Octahedral

(b) Tetrahedral

(c) Trigonalbipyramidal

(d) Pentagonalbipyramidal

Q-8. If the rate of diffusion of CH_4 is twice of that of a gas X, then what is the molecular mass of the gas X ?

(a) 32

(b) 64

(c) 80

(d) 96

Q-9. The extraction of IA and IIA group metals is done by

(a) Carbon reduction

(b) Electrolytic reduction

(c) Metal displacement

(d) Alumino, thermic process

Q-10. The element having atomic number 56 belongs to

(a) Actinides

(b) Lanthanides

(c) Transition series

(d) Alkaline earth metals

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Q-11. For $l = 3$, the corresponding values of magnetic quantum numbers would be

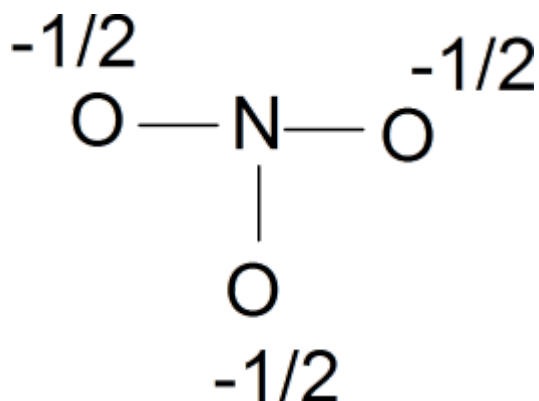
- (a) $-1, -2, -3$
- (b) $0 + 1, +2, +3$
- (c) $\pm 1, \pm 2, \pm 3$
- (d) $0, \pm 1, \pm 2, \pm 3$

Q-12. Which of the following is an alicyclic compound?

- (a) Benzene
- (b) Hexane
- (c) Cyclohexane
- (d) Furon

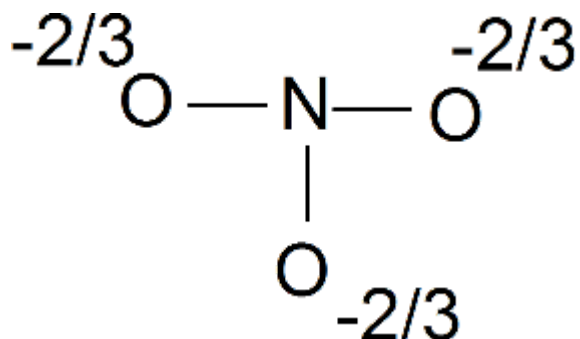
Q-13. The resonance hybrid of nitrate ion is

(a)



Resonance Hybrid of Nitrate - Choice A

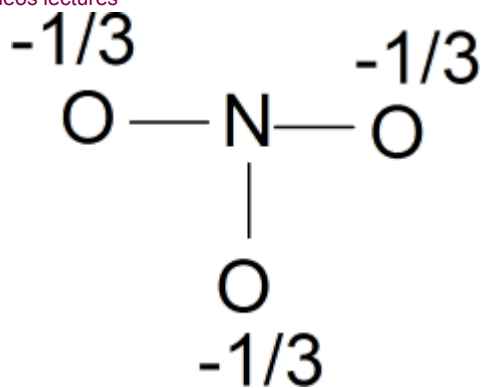
(b)



Resonance Hybrid of Nitrate - Choice B

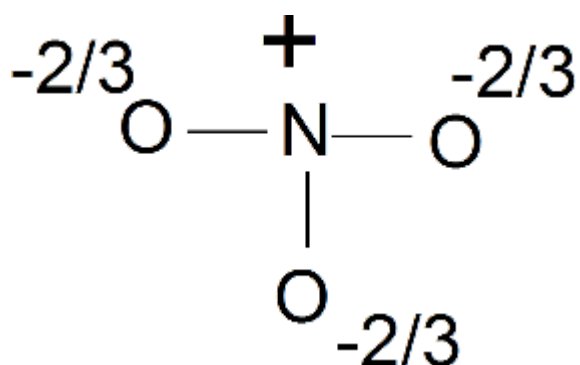
(c)

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Resonance Hybrid of Nitrate - Choice C

(d)



Resonance Hybrid of Nitrate - Choice D

Q-14. The homologue of ethylene is

- (a) C_2H_2
- (b) C_3H_6
- (c) C_3H_8
- (d) C_3H_4

Q-15. The maximum number of hydrogen bonds formed by a water molecule in ice is

- (a) 4
- (b) 3
- (c) 2
- (d) 1

Q-16. Which of the following shows electrical conduction?

- (a) Sodium
- (b) Graphite
- (c) Diamond
- (d) Potassium

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Q-17. The rate of a chemical reaction depends upon

- (a) Time
- (b) Pressure
- (c) Concentration
- (d) All of these

Q-18. The interatomic distances in H_2 and Cl_2 molecules are 74 and 198 pm respectively The bond length of HCl is

- (a) 124 pm
- (b) 136 pm
- (c) 272 pm
- (d) 248 pm

Q-19. The electronic configuration of Mn^{2+} ion in its ground state is

- (a) $3d^5 4s^0$
- (b) $3d^4 4s^1$
- (c) $3d^3 4s^2$
- (d) $3d^2 4s^2 4p^2$

Q-20. The shape of ethylene molecule is

- (a) Square planar
- (b) Tetrahedral
- (c) Pyramidal
- (d) Linear

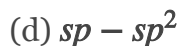
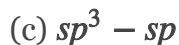
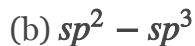
Q-21. An isomer of ethanol is

- (a) Ethanol
- (b) Methanol
- (c) Diethyl ether
- (d) Dimethyl ether

Q-22. The hybridization of carbons of $C - C$ single bond of $HC = C - CH = CH_2$ is

- (a) $sp^3 - sp^3$

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Q-23. The positive charge of an atom is

(a) Spread all over the atom

(b) Distributed around the nucleus

(c) Concentrated at the nucleus

(d) All of these

Q-24. During the electrolysis of an electrolyte, the number of ions produced, is directly proportional to the

(a) Time consumed

(b) Mass of electrons

(c) Quantity of electricity passed

(d) Electro chemical equivalent of electrolyte

Q-25. In graphite, carbon atoms are joined together due to

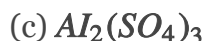
(a) Ionic bonding

(b) Covalent bonding

(c) Metallic bonding

(d) Van der Waal's forces

Q-26. Carborundum is



Q-27. Which of the following is called laughing gas ?

(a) Nitric oxide

(b) Nitrous oxide

(c) Dinitrogen trioxide

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(d) Dinitrogenpentoxide

Q-28. ZnO when heated with BaO at $1100^{\circ}C$ gives a compound. Identify the compound

(a) $BaZnO_2$

(b) $Ba + ZnO_2$

(c) $BaCdO_2$

(d) $BaO_2 + Zn$

Q-29. For a cell, the cell reaction is



If standard reduction potential of Mg and Cu are $-2.37 V$ and $+0.34 V$, then e.m.f. of the cell of

(a) $2.03 V$

(b) $-2.03 V$

(c) $2.71 V$

(d) $-2.71 V$

Q-30. In the metallurgy of zinc, the zinc dust obtained from roasting contains some zinc oxide. How is this Removed?

(a) Smelting is employed

(b) X-ray method is used

(c) Absorbance of UV light

(d) Shock coding with a shower of lead

Q-31. Excess of ethanol when heated with concentrated H_2SO_4 at $140^{\circ}C$, the compound obtained is

(a) Ethane

(b) Diethyl sulphate

(c) Ethoxy ethane

(d) Ethyl hydrogensulphate

Q-32. When metallic copper comes in contact with moisture, a green powdery/pasty coating can be seen over it. This is chemically known as

(a) Copper sulphide –Copper carbonate

(b) Copper sulphate –Copper sulphide

(c) Copper carbonate –Copper sulphate

(d) Copper carbonate –Copper sulphate

Q-33. Which of the following is the most stable carbonium ion among the following?

(a) $C_6H_5CH_2$

(b) CH_3CH_2

(c) $C_6H_5 - CH_2CH_2$

(d) $C_6H_5CH - C_6H_5$

Q-34. If Na is heated in presence of air, it forms

(a) Na_2CO_3

(b) Na_2O_2

(c) Na_2O

(d) Both (b) and (c)

Q-35. The indicator used in the titration of iodine against sodium thiosulphate is

(a) Starch

(b) Potassium

(c) K_2CrO_4

(d) $K_3Fe(CN)_6$

Q-36. The reaction of an aldehyde with hydroxylamine gives a product which is called

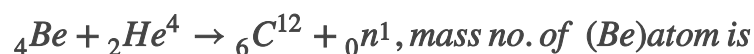
(a) Aldoxime

(b) Hydrazine

(c) Semicarbazone

(d) Aminohydroxide

Q-37. According to the nuclear reaction:



(a) 4

(b) 6

(c) 7

(d) 9

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Q-38. The bad smelling substance, formed by the action of alcoholic caustic potash on chloroform and aniline, is

- (a) Nitrobenzene
- (b) Phenyl cyanide
- (c) Phenylisocyanate
- (d) Phenylisocyanate