



CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

KARNATAKA CET 2002

Chemistry Mcq S

1. Glacial acetic acid is obtained by

A. chemically separaing acetic acid

B. treating vinegar with dehydrating agents

C. crystallising, separating and melting acetic acid

D. distilling vinegar

Answer: A



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2. An organic acid without a carboxylic acid group is

A. picric acid

B. oxalic acid

C. vinegar

D. adipic acid

Answer: A



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3. An ester used as medicine is

- A. ethyl benzoate
- B. methyl salicylate
- C. methyl acetate
- D. ethyl acetate

Answer: D



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4. Reaction of aniline with benzaldehyde is

A. polymerisation

B. condensation

C. addition

D. substitution

Answer: B



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5. Halo alkane in the presence of alcoholic KOH undergoes

A. elimination

B. polymerisation

C. dimerisation

D. substitution

Answer: A



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6. The simplest way to check whether a system is colloidal is by

A. electro dialysis

B. finding out particle size

C. Tyndall effect

D. Brownian movement

Answer: C



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7. An example for a strong electrolyte is

A. urea

B. ammonium hydroxide

C. sugar

D. sodium acetate

Answer: D



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8. An example of a salt that will not hydrolyze is

A. CH_3COONH_4

B. CH_3COOK

C. NH_4Cl

D. KCl

Answer: D



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9. C^{14} is

A. a natural non-radioactive isotope

B. an artificial non-radioactive isotope

C. an artificial radioactive isotope

D. a natural radioactive isotope

Answer: D



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10. A cuprous ore among the following is

A. cuprite

B. malachite

C. chalcocopyrites

D. azurite.

Answer: A



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11. Van der Waal's equation for n moles of a gas is

A. $\left(P + \frac{n^2 a}{V^2}\right)(V - nb) = nRT$

B. $\left(P + \frac{na}{V^2}\right)(V - nb) = RT$

C. $\left(P + \frac{a}{V^2}\right)(V - b) = nRT$

$$D. \left(P + \frac{n^2 a}{V^2} \right) (V - b) = ER$$

Answer: A



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12. Smallest among these species is

A. lithium

B. lithium ion

C. hydrogen

D. helium

Answer: C



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13. Sodium chloride is an ionic compound where as hydrogen chloride gas is mainly covalent because

- A. A) electronegativity difference in the case of hydrogen is less 2.1
- B. B) hydrogen chloride is a gas
- C. C) hydrogen is a non-metal

D. D) sodium is reactive.

Answer: A



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14. Covalent compounds have low melting point because

A. covalent molecules are held by weak Van der Waal's force of attraction

B. covalent bond is less exothermic

C. covalent bond is weaker than ionic bond

D. covalent molecules have definite shape.

Answer: A



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15. A neutral fertilizer among these compounds is

A. ammonium nitrate

B. urea

C. CAN

D. ammonium sulphate

Answer: C



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16. A condensation polymer among the following polymers is

A. teflon

B. polysterene

C. PVC

D. decron

Answer: D



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17. A compound that undergoes bromination easily is

A. toluene

B. benzoic acid

C. phenol

D. benzene

Answer: C



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18. A sugar that is not a disaccharide among the following is

A. galactose

B. lactose

C. maltose

D. sucrose

Answer: A



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19. Drying oil invariably contains

A. butyric acid

B. stearic acid

C. lauric acid

D. linoleic acid

Answer: D



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20. Basic amino acid among these compounds is

A. lysine

B. tyrosine

C. proline

D. serine

Answer: A



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21. Aluminium oxide is not reduced by chemical reactions since

A. reducing agent contaminate

B. the process pollute the environment

C. aluminium oxide is highly stable

D. aluminium oxide is reactive

Answer: C



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22. Iron loses magnetic property at

A. melting point

B. 1000 K

C. Curie point

D. boiling point

Answer: C



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23. An example for a double salt is

- A. potassium ferricyanide
- B. cobalt hexamine chloride
- C. cuprous sulphate
- D. Mohr's salt

Answer: D



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24. The set of compounds in which the reactivity of halogen atom in the ascending order is

A. vinyl chloride, chloroethane, chlorobenzene

B. vinyl chloride, chlorobenzene, chloroethane

C. chloroethane, chlorobenzene, vinyl
chloride

D. chlorobenzene, vinyl chloride,
chloroethane

Answer: D



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25. Methanal is

A. CH_3CHO

B. CH_3COCH_3

C. CH_2OH

D. $HCHO$

Answer: A



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26. In the case of auto catalysis

A. product catalysis

B. solvent catalysis

C. reactant catalysis

D. heat produced in the reaction catalysis.

Answer: A



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27. Which of the following statement is true?

A. ΔG is always greater than ΔH

B. ΔG is always less than ΔH

C. ΔG may be lesser or greater or equal to

$$\Delta H$$

D. ΔG is always proportional to ΔH

Answer: C



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28. Order of reaction is decided by

A. molecularity

B. pressure

C. temperature

D. mechanism of reaction as well as relative concentration of reactants.

Answer: D



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29. Half-life of a reaction is found to be inversely proportional to the cube of initial concentration. The order of reaction is

A. 5

B. 2

C. 4

D. 3

Answer: C



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30. Which among the following statements is false?

A. A) The adsorption may be monolayered
or multilayered

B. B) Particle size of adsorbent will not
affect the amount of adsorption

C. C) Increase of pressure increases
amount of adsorption

D. D) Increase of temperature may decrease
the amount of adsorption.

Answer: B



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31. Purine derivative among the following bases is

A. cytosine

B. guanine

C. uracil

D. thymine

Answer: B



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32. A drug that is antipyretic as well as analgesic is

A. penicillin

B. chloroquin

C. para acetamidophenol

D. chlorpromazine hydrochloride

Answer: C



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33. For a f-orbital the values of m_l are

A. $-1, 0, +1$

B. $0, +1, +2, +3$

C. $-2, -1, 0, +1, +2$

D. $-3, -2, -1, 0, +1, +2, +3$

Answer: D



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34. Chloride ion and potassium ion are isoelectronic Then

A. potassium ion is relatively bigger

B. depends on the other cation and anion

C. their sizes are same

D. chloride ion is bigger than potassium ion.

Answer: D



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35. In a reversible reaction a catalyst will affect

A. the rate of forward reaction and reverse reaction

B. neither the forward reaction nor the rate of reverse reaction

C. the rate of forward reaction

D. the rate of reverse reaction.

Answer: A



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36. Pentavalence in phosphorous is more stable when compared to that of nitrogen even though they belong to same group is due to

- A. reactivity of phosphorous
- B. inert nature of nitrogen
- C. dissimilar electronic configuration
- D. larger size of phosphorus atom.

Answer: C



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37. Aqueous solutions of hydrogen sulphide and sulphur dioxide when mixed together, yield

- A. sulphur trioxide and water
- B. hydrogen and sulphurous acid
- C. sulphur and water
- D. hydrogen peroxide and sulphur

Answer: C



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38. A salt producing hydrocarbon among these compounds is

A. ethane

B. methane

C. ethene

D. ethyne

Answer: D



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39. Octane number is zero for

A. n-octane

B. iso-octane

C. n-heptane

D. iso-heptane

Answer: C



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40. The intensive property among these quantities is

A. enthalpy

B. mass/volume

C. mass

D. volume

Answer: B



41. 30g of magnesium and 30g of oxygen are reacted and the residual mixture contains

- A. 45 g of magnesium oxide and 15g of oxygen
- B. 50g of magnesium oxide and 10g of oxygen
- C. 60g of magnesium oxide only

D. 40g of magnesium oxide and 20g of oxygen

Answer: B



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42. 3g of an oxide of a metal is converted to chloride completely and it yielded 5g of chloride. The equivalent weight of metal is

A. 12

B. 20

C. 33.25

D. 2.325

Answer: C



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43. 20ml of 0.25 N strong acid and 30 ml 0.2 N of strong base are mixed, the resulting solution is

A. 0.02 N acidic

B. 0.025 N basic

C. 0.02 N basic

D. 0.025 N acidic

Answer: C



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44. The ratio of the forward reaction is two times that of the revers reaction at a given

temperature and identical concentration.

$K_{\text{equilibrium}}$ is

A. 2.5

B. 2.0

C. 0.5

D. 1.5

Answer: B



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45. A chemical reaction was carried out at 300 K and 280 K. The rate constants were found to be k_1 and k_2 respectively . Then

A. $K_2 \approx 0.25K_1$

B. $K_2 \approx 0.5K_1$

C. $K_2 \approx 4K_1$

D. $K_2 \approx 2K_1$

Answer: A



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46. Ammonium ion is

A. neither an acid nor base

B. both an acid and a base

C. a conjugate acid

D. a conjugate base

Answer: C



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47. Water is a

- A. amphoteric solvent
- B. aprotic solvent
- C. protophobic solvent
- D. protophilic solvent

Answer: A



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48. A smuggler could not carry gold by depositing iron on gold surface since

A. gold has higher standard reduction potential than iron

B. gold has lower standard reduction potential than iron

C. gold is denser

D. iron rusts

Answer: A



49. A is an aqueous acid, B is an aqueous base.

They are diluted separately, then

A. pH of A increases and pH of B decreases

B. pH of A increases and pH of B decreases

till pH in each case is seven

C. pH of A and B increase

D. pH of B and A decrease

Answer: B



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50. ${}_Z X^M + {}_2 \text{He}^4 \rightarrow {}_{15} \text{P}^{30} + {}_0 n^1$. Then

A. $Z=12, M=27$

B. $Z=13, M=27$

C. $Z=12, M=17$

D. $Z=13, M=28$

Answer: B



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51. Kinetic theory of gases presumes that collision between the molecules to be perfectly elastic because

A. collisions will not split the molecule

B. the molecules are tiny

C. the molecules are rigid

D. the temperature remains constant

irrespective of collisions

Answer: D



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52. Bio-gas production is more useful when compared to the direct use of dung because

A. both fuel value and fertiliser value are effectively utilized

B. production of bio gas involves less labour

C. fuel is quickly produced

D. the fertilizer produced is a fluid

Answer: A



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53. Compounds with high heat of formation are less stable because

A. high temperature is required to synthesise them

B. molecules of such compounds are distorted

C. it is difficult to synthesise them

D. energy rich state leads to instability

Answer: D



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54. In the case of a radio isotope the value of $T_{1/2}$ and λ are identical in magnitude. The value is

A. 0.693

B. $(0.693)^{1/2}$

C. $1/0.693$

D. $(0.693)^2$

Answer: B



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55. Heat of neutralisation of weak acid and strong base is less than the heat of neutralisation of strong acid and strong base due to

A. A) energy has to be spent for the total dissociation of weak acid

B. B) salt of weak acid and strong base is not stable

C. C) incomplete dissociation of weak acid

D. D) incomplete neutralisation of weak acid

Answer: A



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56. A radio isotope will not emit

- A. gamma and alpha rays simultaneously
- B. gamma rays only
- C. alpha and beta rays simultaneously
- D. beta and gamma rays simultaneously

Answer: C



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57. Heat treatment alters the properties of steel due to

A. chemical reaction on heating

B. partial rusting

C. change in the residual energy

D. change in the lattice structure due to differential rate of cooling

Answer: D



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58. Chemical bond implies

A. attraction and repulsion

B. attraction and repulsion balanced at a particular distance

C. attraction

D. repulsion

Answer: B



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59. Grignard reagent is not prepared in aqueous medium but prepared in ether medium. Because

- A. the reagent reacts with water
- B. the reagent becomes inactive in water
- C. it is insoluble in water
- D. the reagent is highly reactive in water

Answer: A



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60. A lone pair of electrons in an atom implies

A. a pair of valence electrons not involved
in bonding

B. a pair of electrons involved in bonding

C. a pair of electrons

D. a pair of valence electrons

Answer: A



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