



CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

KARNATAKA CET 2008

Chemistry

1. Methoxy methane and ethanol are

A. Functional isomers

B. Optical isomers

C. Position isomers

D. Chain isomers

Answer: A



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2. When the azimuthal quantum number has has the value of 2 , the number of orbitals possible are

A. 3

B. 0

C. 7

D. 5

Answer: D



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3. For the reaction

$Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$, the volume

of carbon monoxide required to reduce one mole of ferric oxide is

A. $67.2dm^3$

B. $11.2dm^3$

C. $22.4dm^3$

D. $44.8dm^3$

Answer: A



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4. The monomers of Buna -S rubber are

- A. styrene and butadiene
- B. isoprene and butadiene
- C. vinyl chloride and sulphur
- D. butadiene

Answer: A



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5. An element with atomic number 21 is a

A. transition element

B. alkali metal

C. halogen

D. representative element

Answer: A



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6. The number of node planes present in σ^* 's antibonding orbitals is

A. 0

B. 3

C. 1

D. 2

Answer: C



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7. Which of the following electrolytic solutions has the least specific conductance ?

A. 2N

B. 0.002 n

C. 0.02 N

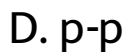
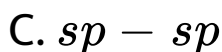
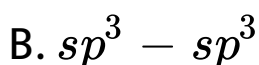
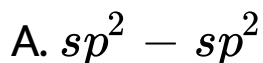
D. 0.2 N

Answer: A



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8. The overlapping of orbitals in benzene is of the type



Answer: D



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9. The calculated bond order in superoxide ion is :

A. 1.5

B. 1

C. 2.5

D. 2

Answer: A



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10. Which of the following can be measured by the Ostwald - Walker dynamic method ?

- A. Vapour pressure of the solvent
- B. Relative lowering of vapour pressure
- C. Lowering of vapour pressure
- D. All of these

Answer: B



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11. Three moles of PCl_5 , three moles of PCl_3 and two moles of Cl_2 are taken in a closed vessel . If at equilibrium the vessel has 1.5 moles of PCl_5 , the number of moles of PCl_3 present in it is

A. 6

B. 4.5

C. 5

D. 3

Answer: B





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12. How many optically active stereomers are possible for butane - 2,3- diol ?

A. 3

B. 4

C. 1

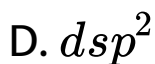
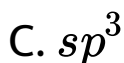
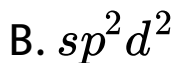
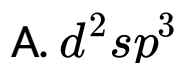
D. 2

Answer: A



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13. An octahedral complex is formed when hybrid orbitals of the following type are involved



Answer: A



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14. For the reaction

$2HI_{(g)} \rightleftharpoons H_{2(g)} + I_{2(g)} - QkJ$, the equilibrium constant depends upon

A. catalyst

B. volume

C. temperature

D. pressure

Answer: C



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15. The angle strain in cyclobutane is

A. $19^{\circ} 22'$

B. $9^{\circ} 44'$

C. $24^{\circ} 44'$

D. $29^{\circ} 16'$

Answer: B



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16. The maximum possible number of hydrogen bonds a water molecule can form is :

A. 3

B. 4

C. 1

D. 2

Answer: B



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17. A gas deviates from ideal behaviour at a high pressure because its molecules :

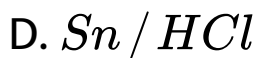
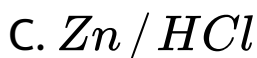
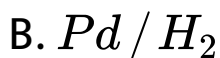
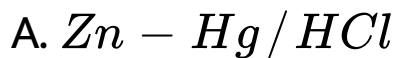
- A. have kinetic energy
- B. are bound by covalent bonds
- C. attract one another
- D. show the Tyndall effect.

Answer: C



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18. The reagent used to convert an alkyne to alkene is



Answer: B



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19. When compared to ΔG° for the formation of Al_2O_3 , the ΔG° for the formation of Cr_2O_3 is

A. same

B. unpredicted

C. higher

D. lower

Answer: A



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20. In order to increase the volume of a gas by 10%, the pressure of the gas should be :

A. decreased by 10 %

B. increased by 1 %

C. increased by 10 %

D. increased by 1 %

Answer: D



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21. n- propyl bromide on treating with alcoholic KOH produces

A. propyne

B. propanol

C. propane

D. propene

Answer: D



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22. Mercury is a liquid metal because

A. It has a completely filled d- orbital that prevents d-d overlapping of orbitals

B. It has a completely filled d- orbital that causes d-d overlapping

C. It has a completely filled s- orbital

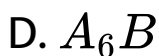
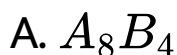
D. It has a small atomic size

Answer: A



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23. A compound is formed by elements A and B . This crystallises in the cubic structure where the A atoms are the corners of the cube and B atoms are at the body centres . The simplest formula of the compound is



Answer: C



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24. Anisole can be prepared by the action of methyl iodide on sodium phenate. The reaction is called

- A. Fitting reaction
- B. Etard reaction
- C. Wurtz reaction
- D. Williamson reaction

Answer: D



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25. Malleability and ductility of metals can be accounted due to

A. the capacity of layers of metal ions to slide over the other

B. the interaction of electrons with metal ions in the other

C. the presence of electrostatic force

D. the crystalline structure in metal

Answer: A



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26. The correct order in which the first ionization potential increases is

A. K , Be , Na

B. Be, Na K

C. Na , K, Be

D. K, Na, Be

Answer: D



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27. 10cm^3 of 0.1 N monobasic acid requires 15cm^3 of sodium hydroxide solution whose normality is

A. 0.066 N

B. 0.66 N

C. 1.5 N

D. 0.15 N

Answer: A



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28. The IUPAC name for tertiary butyl iodide is

- A. 1- Iodo -3- methylpropane
- B. 2- Iodo - 2- methylpropane
- C. 4- Iodobutane
- D. 2- Iodobutane

Answer: B



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29. When sulphur dioxide is passed in an acidified $K_2Cr_2O_7$ solution , the oxidation state of sulphur is changed from

A. +4 to + 6

B. +6 to + 4

C. +4 to + 0

D. +4 to + 2

Answer: A



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30. Mass of 0.1 mole of methane is

A. 1.6 g

B. 0.1 g

C. 1 g

D. 16 g

Answer: A



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31. Catalytic dehydrogenation of a primary alcohol gives a

A. ketone

B. ester

C. secondary alcohol

D. aldehyde

Answer: D



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32. Excess of PCl_5 reacts with conc , H_2SO_4 giving

- A. sulphuryl chloride
- B. sulphurous acid
- C. chlorosulphonic acid
- D. thionyl chloride

Answer: A



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33. If one mole of ammonia and one mole of hydrogen chloride are mixed in a closed container to form ammonium chloride gas , then

A. $\Delta H < \Delta U$

B. there is no relationship

C. $\Delta H > \Delta U$

D. $\Delta H = \Delta U$

Answer: A



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34. The compound on dehydrogenation gives a ketone . The original compound is

- A. tertiary alcohol
- B. caboxylic acid
- C. primary alcohol
- D. secondary alcohol

Answer: D



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35. Which is the most easily liquefiable rare gas ?

A. Ar

B. Ne

C. Xe

D. Kr

Answer: C



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36. Mesomeric effect involves delocalisation of

A. protons

B. sigma electrons

C. pi electrons

D. none of these

Answer: C



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37. Which of the following has the maximum number of unpaired d electrons ?



Answer: D



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38. One mole of which of the following has the highest entropy ?

A. mercury

B. diamond

C. liquid nitrogen

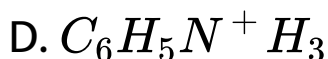
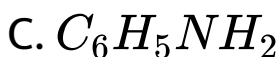
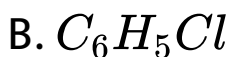
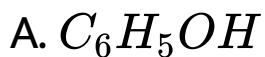
D. hydrogen gas

Answer: D



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39. Which of the following species does not exert a resonance effect ?

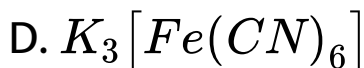
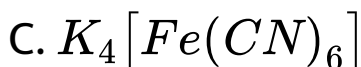
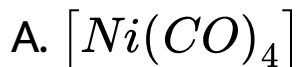


Answer: D



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40. A complex compound in which the oxidation number of a metal is zero

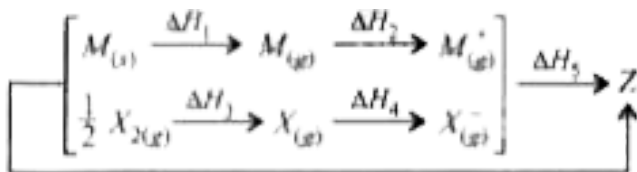


Answer: A



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41. Consider the Born - Haber cycle for the formation of an ionic compound given below and identify the compound (Z) formed.



A. MX

B. $M^+ X_{(g)}^-$

C. $M^+ X^-$

D. $M^- X_{(s)}^-$

Answer:



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42. In the brown ring test , the brown colour of the ring is due to

A. a mixture of NO and NO_2

B. nitrosoferrous sulphate

C. ferrous nitrate

D. ferric nitrate

Answer: B



43. Amines behave as

- A. aprotic acid
- B. neutral compound
- C. Lewis acids
- D. Lewis base

Answer: D



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44. Dalda is prepared from oils by

A. hydrolysis

B. distillation

C. oxidation

D. reduction

Answer: D



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45. The chemical name of anisole is

A. Propanone

B. Acetone

C. Ethanoic acid

D. Methoxy benzene

Answer: D



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46. An ionic compound is expected to have tetrahedral structure if r_+ / r_- lies in the range of

A. 0.155 to 0.225

B. 0.732 to 1

C. 0.414 to 0.732

D. 0.225 to 0.414

Answer: D



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47. Among the following , which is least acidic ?

A. p- nitrophenol

B. p- chlorophenol

C. phenol

D. o- cresol.

Answer: D



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48. A ligand can also be regarded as

- A. Lewis base
- B. Bronsted acid
- C. Lewis acid
- D. Bronsted base

Answer: A



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49. The colour of sky is due to

A. absorption of light by atmospheric gases

B. transmission of light

C. wavelength of scattered light

D. All of these

Answer: C



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50. Which of the following organic compounds answers both Iodoform test and Fehlings test

A. ethanal

B. propanone

C. ethanol

D. methanal

Answer: A



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51. The number of disulphide linkages present in insulin are

A. 3

B. 4

C. 1

D. 2

Answer: D



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52. 80 g of oxygen contains as many atoms as in

A. 10 g of hydrogen

B. 5 g of hydrogen

C. 80 g of hydrogen

D. 1 g of hydrogen

Answer: B



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53. Which metal has a greater tendency to form metal oxide ?

A. Al

B. Ca

C. Cr

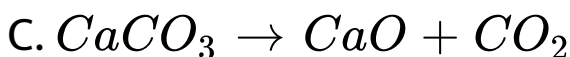
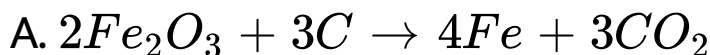
D. Fe

Answer: A



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54. Identify the reaction that does not take place in a blast furnace.



Answer: C



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55. Waxes are esters of

A. glycerol and fatty acid

B. long chain alcohols and long chain fatty
acids

C. glycerol

D. long chain alcohols

Answer: B



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56. Helium is used in balloons in place of hydrogen because it is

A. radioactive

B. more abundant than hydrogen

C. incombustible

D. lighter than hydrogen

Answer: C



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57. The basic principle of Cottrell 's precipitator is

A. neutralisation of charge on colloidal particles

B. scattering of light

C. Le chatelier 's principle

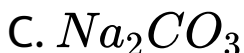
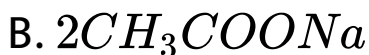
D. peptisation

Answer: A



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58. When carbon monoxide is passed over solid caustic soda heated to 200°C , it forms



Answer: A



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59. $N_2 + 3H_2 \rightleftharpoons 2NH_3 + \text{heat}$. What is the effect of the increase of temperature on the equilibrium of the reaction ?

- A. equilibrium is unaltered
- B. reaction rate does not change
- C. equilibrium is shifted to the left.
- D. equilibrium is shifted to the right

Answer: C



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60. Hydrogen gas is not liberated when the following metal added to dil HCl

A. Mg

B. Sn

C. Ag

D. Zn

Answer: C



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