

CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

MODEL TEST PAPER 5

Chemistry

1. Chlorination of toluence in the presence of light and heat followed by treatment with aqueous NaOH gives

A. Benzoic acid

B. p-cresol

C. 2,4-dihydroxytoluene

D. o-cresol

Answer: A



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2. Which compound is oxidised to prepare methyl ethyl ketone?

A. t-butyl alcohol

B. 1-butanol

C. 2-butanol

D. 2-propanol

Answer: C



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3. If uranium (mass number 238 and atomic number 92) emits an alpha-particle, the product has mass no. and atomic no.

A. 236 and 90

B. 234 and 90

C. 238 and 9

D. 236 and 92

Answer: B



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4. Under what condition of temperature and pressure the formation of atomic hydrogen

from molecular hydrogen will be favoured most

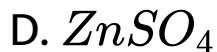
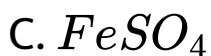
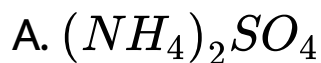
- A. Low temperature and high pressure
- B. High temperature and low pressure
- C. High temperature and low pressure
- D. Low temperature and low pressure

Answer: A



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5. Iodine is formed when potassium iodide reacts with



Answer: B



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6. The ionic product of water at 60°C is 9.61×10^{-14} . The pH of water at 60°C is

A. 7.0

B. 6.51

C. 9.61

D. 6.7

Answer: B



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7. The pH of solutions of both ammonium acetate and sodium chloride is 7 due to

A. Hydrolysis of the latter but not the former

B. Hydrolysis in both cases

C. No hydrolysis cases both

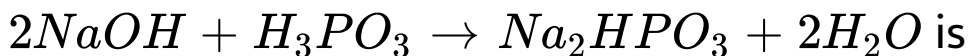
D. The former hydrolysis and not the latter

Answer: D



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8. Basicity of H_3PO_3 in



A. 3

B. 1

C. 2

D. None of the above

Answer: C



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9. On passing 3 faraday of electricity through the three electrolytic cells connected in series containing Ag^+ , Ca^{2+} and Al^{3+} ions respectively. The molar ratio in which the three metal ions are liberated at the electron is

A. 6 : 3 : 2

B. 3 : 2 : 1

C. 3 : 4 : 2

D. 1 : 2 : 3

Answer: A



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10. The oxidation state of the most electronegative element in the product of the reaction between BaO_2 and H_2SO_4 are

- A. -1 and 0
- B. -1 and -2
- C. -2 and -1
- D. 0 and -1

Answer: B



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11. 6.022×10^{22} molecules of N_2 at NTP will occupy a volume of

A. 2.234 litre

B. 6.02 ml

C. 6.02 litre

D. 22.4 litre

Answer: A



12. The decay constant of radioactive substance is $0.173 \text{ (years)}^{-1}$. Therefore

A. One sixth of the radioactive substance

will be left after 8 years

B. Half life of the radioactive substance is

$1/0.173$ year

C. Nearly 63% of the radioactive substance

will decay in $1/0.173$ years

D. All the above statements are true.

Answer: C



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13. In an atom two electrons move around the nucleus in circular orbits of radii R and $4R$. The ratio of the time taken by them to complete one revolution is

A. 8:7

B. 4: 1

C. 1: 8

D. 1: 4

Answer: C



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14. In a given mixture of gases which do not react with one another, the ratio of partial pressure to total pressure of each component is equal to its

A. Critical pressure

B. Weight per cent

C. Mole fraction

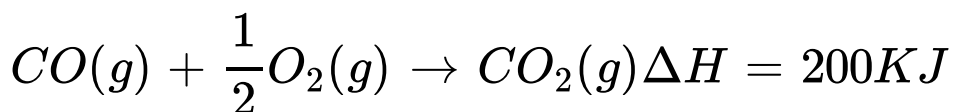
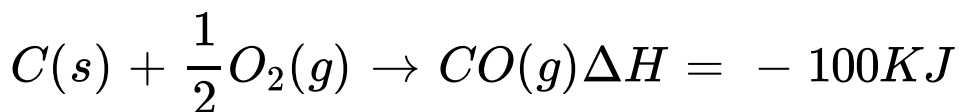
D. Volume per cent

Answer: C

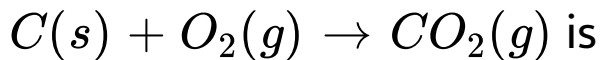


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15. The ΔH values for reactions of ,



The heat of reaction for



A. $-300KJ$

B. $-100KJ$

C. $-150KJ$

D. $-50KJ$

Answer: A



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16. The temperature of the system decreases
in an

A. Isothermal expansion

B. Adiabatic expansion

C. Adiabatic compression

D. Isothermal compression.

Answer: B



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17. The SI unit for ionic mobility is

A. $cm^{-2} \text{ volt}^{-1} \text{ sec}^{-1}$

B. $cm^2 \text{ volt}^{-2} \text{ sec}^{-1}$

C. $cm \text{ volt}^{-1} \text{ sec}^{-1}$

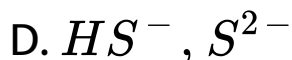
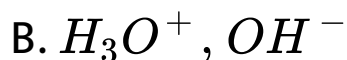
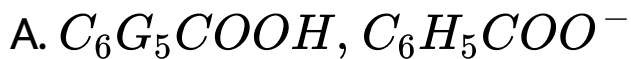
D. $m^2 \text{ volt}^{-1} \text{ sec}^{-1}$

Answer: D



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18. Which is not conjugate pair of acid-base



Answer: B



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19. The rate constant for a reaction is $10.8 \times 10^{-5} \text{ mole litre}^{-1}\text{sec}^{-1}$. The reaction obeys

A. Half order

B. zero order

C. Second order

D. First order

Answer: B



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20. 20 g of a substance in 2 litre of solution at $10^{\circ}C$ produces an osmotic pressure of 0.68 atm, the mol. wt. of solute is

A. 322

B. 380

C. 342

D. 360

Answer: C



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21. Which statement about enzymes is not correct?

- A. Urease is an enzyme
- B. Enzymes are catalysts
- C. Enzymes can catalyse any reaction
- D. Enzymes are in colloidal state.

Answer: C



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22. A cation M^{3+} loses 3 electrons, its oxidation number becomes



Answer: D



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23. Electrochemical equivalent of a substance is equal to its quantity liberated at electrode on passing electricity equal to

A. 1 coulomb

B. 96,500 coulomb

C. 1 ampere

D. 1 volt.

Answer: B



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24. Which compound shows highest oxidation number for chlorine

A. $KClO_4$

B. $KClO$

C. $KClO_3$

D. HCl

Answer: A



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25. Sulphur forms for chlorides S_2Cl_2 and SCl_2 . The equivalent mass of sulphur in SCl_2

is 16 . The equivalent mass of sulphur in S_2Cl_2

is

A. 8

B. 16

C. 32

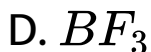
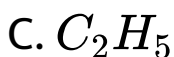
D. 64

Answer: C



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26. In which of the following molecules the central atom has sp^2 hybridization

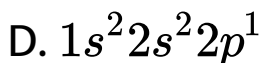
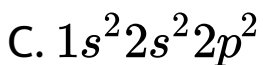
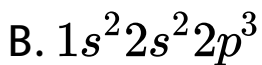
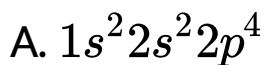


Answer: B



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27. Which electronic configuration of neutral atoms will have the highest first ionisation potential



Answer: B



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28. If S_1 be the specific charge of cathode rays and S_2 be that of positive rays then

A. $S_1 > S_2$

B. $S_1 = S_2$

C. $S_1 < S_2$

D. Neither of these

Answer: A



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29. The oxygen and hydrogen formed during electrolysis of water are in the weight ratio of

A. 8 : 1

B. 16 : 1

C. 1 : 4

D. 2 : 1

Answer: A



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30. Which of the following derivatives is same for glucose and fructose

- A. Phenyl hydrazine
- B. Oxime
- C. Penta acetyl derivatives
- D. Osazone

Answer: D



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31. Which of the following has the maximum acidic strength

- A. p-nitrophenol
- B. m-nitrobenzoic acid
- C. p-nitrobenzoic acid
- D. o-nitrobenzoic acid

Answer: D



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32. Alkyl halide on heating with alcoholic solution of silver salt of a carboxylic acid gives

A. Acid

B. Alkane

C. Esters

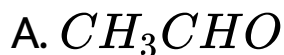
D. Alcohols

Answer: C



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33. The compound which on reduction with $LiAlH_4$ gives two alcohols

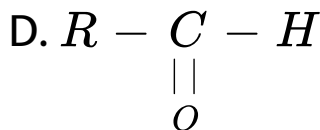
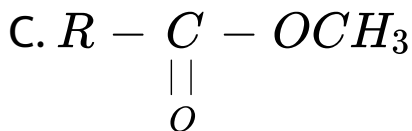
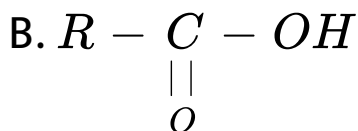
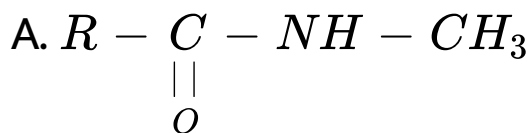


Answer: D



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34. Which of the following types of carbonyl groups will produce an oxime on reaction with NH_2OH



Answer: B



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35. An aldehyde on treatment with Zn/HCl yields

A. 2° alcohol

B. 3° alcohol

C. 1° alcohols

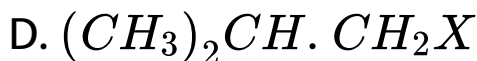
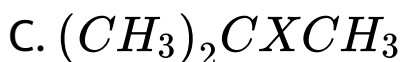
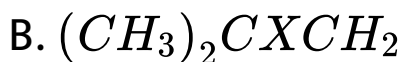
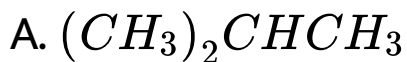
D. None of the above

Answer: C



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36. The product formed in the reaction of HX with $(CH_3)_2C = CH_2$ is



Answer: C



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37. The olefin which on ozonolysis gives CH_3CH_2CHO and CH_3CHO is

A. 2-pentene

B. 2-butene

C. 1-pentene

D. 1-butene

Answer: A



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38. An organic compound contains C, H and S. When C and H are estimated, the combustion tube at the end should contain a

- A. A) Lead chromate
- B. B) silver spiral
- C. C) Potassium chloride
- D. D) Copper spiral

Answer: A



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39. An alkane is most likely to react with

A. An electrophile

B. An alkali

C. A nucleophile

D. A free radical

Answer: A



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40. Concentrated aqueous sodium hydroxide can separate a mixture of



Answer: B



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41. Ozonides are formed by the action of O_3 with

A. Alkanes

B. Alkenes or alkynes

C. Metals

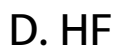
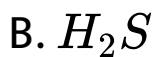
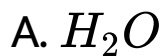
D. Non metals

Answer: B



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42. Minimum bond length will be in



Answer: D



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43. The element which evolves two gases on reacting with conc. H_2SO_4 is

A. S

B. Si

C. P

D. C

Answer: D



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44. Nitric oxide is prepared by the action of cold dil. HNO_3 on

A. Cu

B. Sn

C. Zn

D. Fe

Answer: A



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45. Cane sugar reacts with conc. HNO_3 to give:

A. Oxalic acid

B. H_2CO_3

C. CO_2 and H_2O

D. CO and H_2O

Answer: A



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46. A metal which has no effect on a solution of mercury chloride is

A. Ag

B. Al

C. Fe

D. Zn

Answer: A



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47. Least abundant metal in II A group is

A. Ra

B. Ca

C. Be

D. Sr

Answer: A



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48. Which one has highest lattice energy?

A. NaI

B. NaF

C. NaCl

D. NaBr

Answer: B



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49. Froth floatation method may be used to increase the concentration of mineral in

A. Calamine

B. Bauxite

C. Haematite

D. Chalcopyrite

Answer: D



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50. Which series of elements should have nearly the same atomic radii?

A. Na, K, Rb

B. Fe, Co, Ni

C. Li, Be, B

D. F, Cl, Br

Answer: B



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51. Which of the following compounds gives an addition product with acetone but not with aldehydes?

A. Hydrogen cyanide

B. Chloroform

C. Sodium bisulphate

D. Hydrogen

Answer: B



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52. Sodium acetate and acetyl chloride react to give

- A. Acetic acid
- B. Acetic anhydride
- C. Acetone
- D. Sodium formate

Answer: B



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53. Diethyl ether on treatment with chlorine in presence of sunlight gives

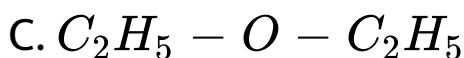
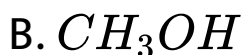
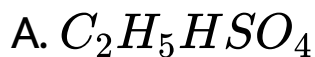
- A. Trichlorodiethyl ether
- B. Perchlorodiethyl ether
- C. Trichloroacetaldehyde
- D. None of these

Answer: B



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54. The reaction between excess of C_2H_5OH and H_2SO_4 at $140^\circ C$ gives



Answer: C



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55. The negative part of an addendum adds on to that carbon atoms which is joined to the least number of hydrogen atoms. This statement is called

- A. Thiele's theory
- B. Markowinkoff's rule
- C. Peroxide effect
- D. Bayer's strain theory

Answer: B



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56. The product formed when 1-butene is subjected to the action to HBr in the presence of peroxide is

- A. 1-bromobutane
- B. 1,1- dibromobutane
- C. 2,2- dibromobutane
- D. 1, 2-dibromobutane

Answer: A



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57. Ethyl-hydrogen-sulphate is obtained by reaction of H_2SO_4 on

- A. Ethylene
- B. Ethyl chloride
- C. Ethane
- D. Ethanol

Answer: A



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58. The final product formed by ozonolysis of compound, $RCH = CR_2$ is

A. RCHO

B. R_2CO

C. Both (a) and (b)

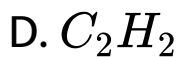
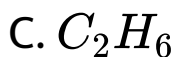
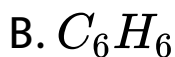
D. None of these

Answer: C



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59. A compound X on ozonolysis forms two molecules of $HCHO$. The compound, X is



Answer: A



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60. The olefin which on ozonolysis gives

CH_3CH_2CHO and CH_3CHO is

A. 1-butene

B. 1-pentene

C. 2-butene

D. 2-pentene

Answer: D



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