



CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

MODEL TEST PAPER - 1

Chemistry

1. A dilalogen denvative (X) with three carbon atoms reacts wih alcoholic KOH to give hydrocarbon (Y) which gives a white precipitate

with ammoniacal $AgNO_3$ (X). With aqueous KOH it gives a ketone, The compound (X) is

A. 2, 2, -dichloropropane

B. 1, 2-dichloropropene

C. 1, 2-dichloropropane

D. 1, 3 -dichloropropane

Answer: A



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2. The highest boiling point is expected for

A. 2, 2,3,3 -tetramethylbutene

B. n-octane

C. n-butane

D. Iso-octane

Answer: B



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3. A solution of KBr will liberate Br_2 with

A. I_2

B. Cl_2

C. SO_2

D. HI

Answer: B



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4. The cathodic reaction in electrolysis of dilute H_2SO_4 with Pt electrode is

A. Reduction

B. Both

C. Oxidation

D. Neutralization

Answer: A



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5. Chlorine reacts with benzaldehyde to give

A. Chlorobenzene

B. Benzal chloride

C. Benzoyl chloride

D. Benzyl chloride

Answer: C



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6. The solubility of AgCl ($K_{sp} = 1.2 \times 10^{-10}$) in a 0.10 M NaCl solution is

A. $1.2 \times 10^{-10} \text{ M}$

B. $1.2 \times 10^{-6} \text{ M}$

C. 1.2×10^{-9} M

D. 0.1 M

Answer: C



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7. The conjugate base of HBr is

A. Br^{-}

B. H^{+}

C. Br

D. H_2Br_3

Answer: A



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8. Which of the following statement is correct?

Galvanic cell converts

- A. Metal from its element state changes to the combined state
- B. Electrical energy into chemical energy

C. Electrolyte into identical ions

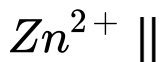
D. Chemical energy into electrical energy

Answer: D



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9. The cell potential of the galvanic cell, Zn |



$$E_{\text{Zn}^{2+}/\text{Zn}}^{\circ} = -0.76\text{V}, E_{\text{Ag}^+/\text{Ag}}^{\circ} = +0.8\text{V}$$

A. A) -1.56V

B. B) $-0.04V$

C. C) $+1.56V$

D. D) $0.004 V$

Answer: C



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10. Oxidation number of Cl in $CaOCl_2$ is

A. -2

B. -1 and $+1$

C. +2

D. None of these

Answer: B



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11. How many grams are present in one mole of $MgSO_4$?

A. 130.2

B. 360

C. 120.4

D. 12.04

Answer: C



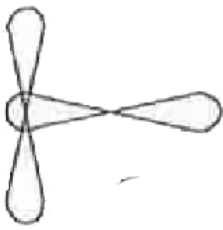
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12. Which p-orbitals overlapping would give the strongest bond?
strongest bond?



A.

B.



C.



D.



Answer: C



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13. Which pair of the element will have the same chemical properties ?

A. 3, 11

B. 13, 22

C. 2, 4

D. 4, 24

Answer: A



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14. The molecules of which of the following gas have highest speed?

A. Nitrogen at 1000°C

B. Methane at 298 K

C. Oxygen at 0°C

D. Hydrogen at -50°C

Answer: D



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15. If $S_R + O_2(g) \rightarrow SO_2(g)$, $\Delta H = -71.1$

kcal (i) $S_M + O_2(g) \rightarrow SO_2(g)$, $\Delta H = 71.7$

.... (ii) The heat of transition for $S_M \rightarrow S_R$ is

A. A) -1.2

B. B) -0.6

C. C) $+1.2$

D. D) $+0.6$

Answer: B



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16. At constant P and T which of the following statement is correct for, $C(s) + O_2(g) \rightarrow CO_2(g)$

A. $\Delta H = \Delta E$

B. $\Delta H < \Delta E$

C. $\Delta H > \Delta E$

D. ΔH is independent of the physical state of reactants

Answer: A



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17. The $[H_3O^+]$ in the rain water of $pH = 4.35$ is

A. $12.5 \times 10^{-5} \text{ M}$

B. $6.5 \times 10^{-5} \text{ M}$

C. $9.5 \times 10^{-5} \text{ M}$

D. $4.5 \times 10^{-5} \text{ M}$

Answer: D



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18. For the reaction $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$ at 773K, the value of $K_p = 1.4 \times 10^{-15}$. Calculate K_c (Given $R = 8.314 \text{ JK}^{-1}\text{mol}^{-1}$).

A. $1.44 \times 10^{-5} \times (0.082 \times 773)^3$

B. $(0.082 \times 773)^2 \times 1.44 \times 10^{-5}$

C. $1.44 \times 10^{-5} \times (0.082 \times 500)^2$

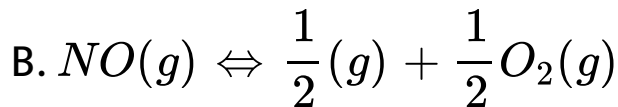
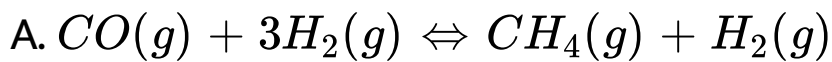
D. 1.44×10^5

Answer: D



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19. A reaction in which an increase in pressure will increase the yield of a products is



D.



Answer: A



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20. Platinised asbestos used as a catalyst in manufacture of H_2SO_4 is an example of

A. Homogenous catalysis

B. Heterogenous catalysis

C. Induced catalysis

D. Auto catalysis

Answer: B



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21. The melting point of most of solid substances increase with an increase of pressure acting on them.

However, ice melts at a temperature lower than its usual melting point, when the pressure increases. This is because

- A. Ice is not a true solid
- B. Ice is less denser than water
- C. The bonds break under pressure
- D. Pressure generates heat

Answer: B



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22. The completely filled M shell of an atom contains in all

A. 2e

B. 18 e

C. 32 e

D. 8 e

Answer: B



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23. The amount of sodium deposited by 5 ampere current for 10 minute from fused NaCl is

A. 0.517 g

B. 71.5 g

C. 5.17 g

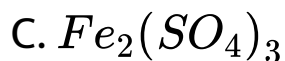
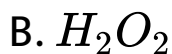
D. 0.715 g

Answer: D



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24. The compound that can work both as an oxidizing and reducing agent is



Answer: B



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25. How many g of glucose should be dissolved to make one litre solution of 10% glucose

A. 1.8 g

B. 180 g

C. 100 g

D. 10 g

Answer: C



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26. The elements in which electron enters to 3d orbitals

A. 21 to 29

B. 21 to 32

C. 21 to 90

D. 21 to 31

Answer: A



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27. The projectile, that experiences minimum repulsion on approaching a particular nucleus is

A. Neutron

B. α -particle

C. Electron

D. β -particle

Answer: A



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28. We can say that the energy of a photon of frequency ν is given by $E = h\nu$, where h is planck's constant. The momentum of a photon is $p = h / \lambda$, where λ is the wavelenght of photon, then we may conclude that velocity of light is equal to

A. $(E/p)^2$

B. E/p

C. Ep

D. $(E/p)^{1/2}$

Answer: B



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29. A balloon filled with ethane is pricked with a sharp point and quickly plunged into a tank of hydrogen at the same pressure . After some time, the balloon wil

- A. Ethylene (C_2H_4) inside it
- B. Collapsed
- C. Remained unchanged in size

D. Enlarged

Answer: D



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30. A temperature in $0^{\circ}C$ is converted into K

A. By deducting 273.16

B. By adding 200

C. By adding 273.16

D. By multiplying 273.16

Answer: C



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31. When toluene is treated with acid $KMnO_4$,
we get

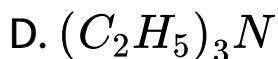
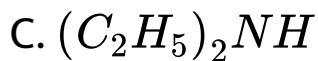
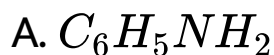
- A. Benzene
- B. Benzyl alcohol
- C. Benzaldehyde
- D. Benzoic acid

Answer: D



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32. Which of the following is least basic?



Answer: A





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33. Which of the following on oxidation gives an acid containing two carbon atoms

A. Ethyl amine

B. Ethyl nitrile

C. Ethanamide

D. Ethanol

Answer: D



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34. By passing acetic acid vapours over calcium oxide at 600 K, the compound obtained is:

- A. Acetone
- B. Actaldehyde
- C. Acetic anhydride
- D. Ethanol

Answer: A



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35. The number of methoxy groups in a compound can be determined by treating it with

- A. Acetic acid
- B. Sodium carbonate
- C. Sodium hydroxide
- D. HI and $AgNO_3$

Answer: D



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36. Iodoform when heated with silver powder, forms

A. Ethyne

B. Ethane

C. Ethene

D. Methane

Answer: A



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37. The boiling point of n-alkanes is ... Than the branched chain alkanes of the same molecule weight

A. More

B. Equal

C. Less

D. None of these

Answer: A



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38. When HCl gas is passed through propene in the presence of benzoyl peroxide, it gives

- A. Allyl chloride
- B. 2-chloropropane
- C. n-propyl chloride
- D. No reaction

Answer: B



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39. Benzaldoxime exists in how many forms ?

A. 4

B. 2

C. 3

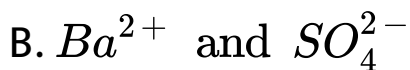
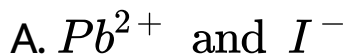
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Answer: B



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40. Reddish- brown (chocolate) ppt. are formed with:



D. None of these

Answer: C



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41. NH_3 does not form complex with

A. AgBr

B. AgCl

C. AgI

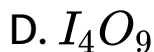
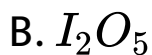
D. None of these

Answer: C



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42. Which of the following halogen oxides is ionic?

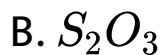
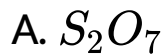


Answer: D



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43. The anhydride of pyrosulphuric acid



Answer: C



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44. The colourless gas liberated by passing excess of chlorine through NH_3 gas is

A. N_2

B. NCl_3

C. H_2

D. HCl

Answer: D



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45. The metallic character of the element of IV A group

- A. Has no significance
- B. Increases from top to bottom
- C. Does not change
- D. Decrease from top to bottom

Answer: B



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46. Colemanite is a mineral of

A. Mn

B. B

C. Al

D. Mg

Answer: D



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47. Which is a transuranic element

A. Francium

B. Fermium

C. Rhodium

D. Promethium

Answer: B



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48. Which loses weight on exposure to atmosphere?

A. A saturated solution of CO_2

B. Concentrated H_2SO_4

C. Anhydrous sodium carbonate

D. Solid NaOH

Answer: A



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49. Pentlandite is an ore of

A. Co

B. Cu

C. Ni

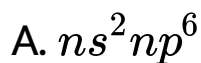
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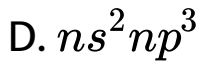
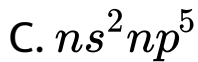
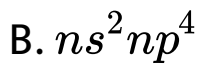
Answer: C



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50. The first ionization energy is smallest for the atom with electronic configuration





Answer: B



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51. Which of the following liberates methane gas on treatment with water?

A. Silicon carbide

B. Aluminium carbide

C. Calcium carbide

D. Iron carbide

Answer: B



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52. On heating sodium acetate with sodium hydroxide, the gas evolved will be

A. Acetylene

B. Methane at 298 K

C. Ethane

D. Ethylene

Answer: B



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53. Sodalime is extensively used in decarboxylation reaction to obtain alkanes.

Sodalime is-

A. NaOH

B. NaOH and CaO

C. CaO

D. Na_2CO_3

Answer: C



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54. Methyl bromide when heated with zinc in closed tube, produces

A. Methane

B. Ethylene

C. Ethane

D. Methanol

Answer: C



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55. Wurtz reaction using bromoethane yields

A. 2-bromobutane

B. Iso-butane

C. n-butane

D. Ethane

Answer: C



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56. Formation of alkane by the action of Zn on alkyl halide is called-

A. Frankland reaction

B. Cannizzaro's reaction

C. Wurtz reaction

D. Kolbe's reaction

Answer: A



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57. For the preparation of Alkanes, aqueous solution of sodium or potassium salt of carboxylic acid is subjected to

A. Hydrolysis

B. Hydrogenation

C. Oxidation

D. Electrolysis

Answer: D



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58. Which of the following compounds does not dissolve in conc. H_2SO_4 even on warming?

A. Ethylene

B. Benzene

C. Aniline

D. Hexane

Answer: D



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59. Among paraffins, it is generally observed that with an increase in molecular weight-

A. Freezing point decreases

B. Boilingpoint increases

C. Boiling point decreases

D. Specific gravity decreases

Answer: B



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60. As compared with the Boiling point of straight chain isomers the Boiling point of branched chain alkanes is-

A. Lower

B. Equal

C. Higher

D. Independent of branching

Answer: A



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