



CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

MODEL TEST PAPER 9

Chemistry

1. The lowest degree of paramagnetism per mole of the compound at 298 K will be shown by



Answer: C



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2. Which one is least basic



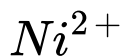


Answer: D



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3. How many unpaired electrons are there is



A. 2

B. 8

C. 0

D. 4

Answer: A



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4. The number of α and β particles emitted in the nuclear reaction, ${}_{90}\text{Th}^{298} \rightarrow {}_{83}\text{Bi}^{212}$ are

A. 4α and 7β

B. 4α and 1β

C. 8α and $1/\beta$

D. 3α and 7β

Answer: B



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5. Which one is not an acid salt

A. NaH_2PO_3

B. NaH_2PO_4

C. NaH_2PO_2

D. All are acid salts

Answer: B



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6. Solution prepared by dissolving equal number of moles of $HOCl$ ($K_a = 3.2 \times 10^{-8}$) and $NaOCl$ in a buffer of pH

A. 3.2 g

B. 8.0g

C. 4.8 g

D. 7.5 g

Answer: D



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7. The hydrolysis of the salt of strong acid and weak base is called

A. Amphoteric hydrolysis

B. Cationic hydrolysis

C. Anonic hydrolysis

D. None

Answer: B



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8. Eq. wt. of an acid salt $NaHSO_4$ is

A. $M/2$

B. M/3

C. M/1

D. None

Answer: C



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9. During electrolysis of H_2O , the molar ratio of H_2 and O_2 formed is

A. 1 : 2

B. 2:1

C. 1:1

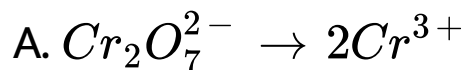
D. 1:3

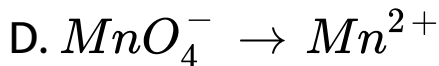
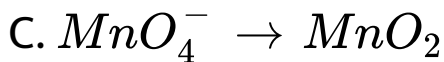
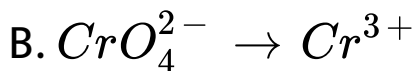
Answer: B



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10. In which transfer of five electrons takes place





Answer: D



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11. Molecular weight of a gas is 11.2 litre of which at NTP weights 14g is

A. 28

B. 14×11.2

C. 14

D. $14/11.2$

Answer: A



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12. An element X decays first by positron emission and then two α - particles are emitted in successive radioactive decay. If the product nucleus has a mass number 229 and

atomic number 89, the mass number and the atomic number of element X are

A. 273, 92

B. 237, 94

C. 238, 93

D. 273, 93

Answer: B



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13. The total energy of the electron in the hydrogen atom in the ground state is -13.6 eV .

The KE of this electron is

A. 6.8 eV

B. 0

C. -13.6 eV

D. 13.6 eV

Answer: D



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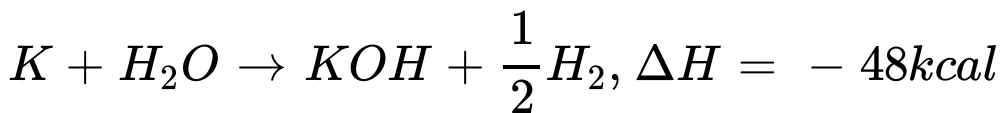
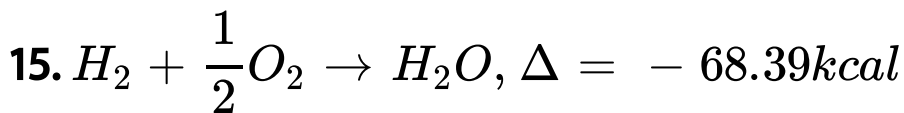
14. Helium atom is two times heavier than a hydrogen molecule. At $15^{\circ}C$ the average KE of helium atom is

- A. Same as that of hydrogen
- B. Half that of hydrogen
- C. Twice that of hydrogen
- D. Four times that of hydrogen

Answer: A



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The heat of formation of KOH in kcal is :

A. $69.38 + 48 + 14$

B. $-68.39 + 14$

C. $68.39 - 48 + 14$

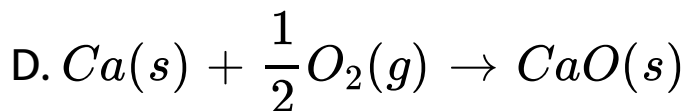
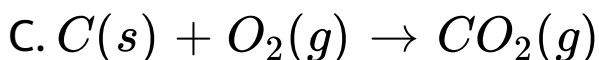
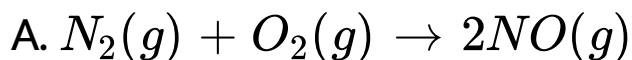
D. $-68.39 - 48 - 14$

Answer: C



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16. ΔS^0 will be highest for the reaction

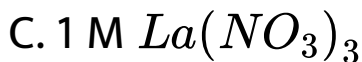
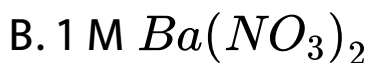
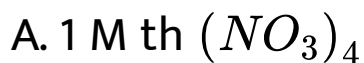


Answer: A



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17. The molecular conductance and equivalent conductances are same for the solution of

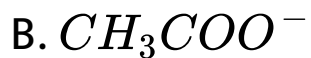


Answer: D



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18. Which does not act as a Bronsted acid



Answer: B



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19. A graph plotted between concentration of reactant consumed at any time (x) and t is found to be straight line passing through the origin. Thus reaction is of

A. Second order

B. Zero order

C. Third order

D. First order

Answer: B



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20. The molecular weight of NaCl determined from colligative properties is always

A. > 58.5

B. < 58.5

C. $= 58.5$

D. Cannot be measured

Answer: C



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21. Protons accelerate the hydrolysis of ester.

This is an example of

- A. A negative catalyst
- B. A heterogeneous catalysis
- C. A promoter
- D. An acid-base catalysis

Answer: D



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22. The eq. wt. of I_2 in the change $I_2 \rightarrow IO_3^{1-}$ is

A. 2.54

B. 63.5

C. 25.4

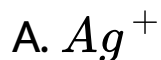
D. 12.7

Answer: C



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23. H^+ ions are reduced at platinum electrode prior to

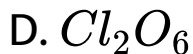
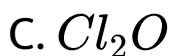
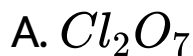


Answer: C



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24. The oxidation state of chlorine is highest in the compound



Answer: A



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25. The weight of solute present in 200 ml of
0.1 M H_2SO_4

A. 3.92 g

B. 4.9 g

C. 1.96 g

D. 2.45 g

Answer: C



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26. Which of the following atoms in its ground state is likely to be diamagnetic ?

A. Al

B. O

C. N

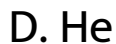
D. Ca

Answer: D



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27. Which is likely to have the highest melting point ?



Answer: B



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28. If uncertainty in position of electron is zero, the uncertainty in its momentum would be :

A. $h / 2\pi$

B. $h / 4\pi$

C. zero

D. infinity

Answer: D



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29. Which contains the same number of molecules as 16 g oxygen

A. 16 g SO_2

B. 32g SO_2

C. 16g O_3

D. All the above

Answer: B



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30. Glucose on reduction with Na/Hg and water gives

- A. Fructose
- B. Sorbitol
- C. Gluconic acid
- D. Saccharic acid

Answer: B



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31. Aniline was acetylated. The product on nitration followed by alkaline hydrolysis gave

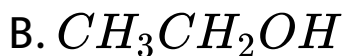
- A. Acetanilide
- B. p-nitroaniline
- C. m-nitroaniline
- D. o-nitracetanilide

Answer: B



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32. Substance containing an asymmetric carbon atom



Answer: D



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33. Nitration of Salicylic acid will give

- A. 2, 4, 6-trinitrobenzene
- B. 2, 4, 6-trinitrobenzoic acid
- C. 2, 4, 6-trinitrophenol
- D. None

Answer: C



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34. Acetaldehyde and acetone differ in their reaction with



B. Phenyl hydrazine

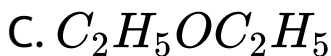
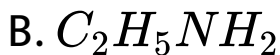
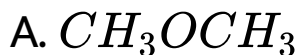


Answer: A



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35. When C_2H_5OH is mixed with ammonia and passed over heated alumina, the compound formed is

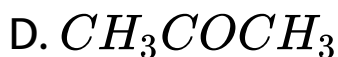
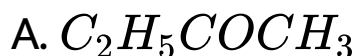


Answer: B



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36. Which compound on reaction with ethyl magnesium bromide and water will form 2-methyl-2-butanol ?



Answer: D



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37. The gases evolved at anode during Kolbe synthesis are

A. CO_2

B. Hydrocarbons

C. Both (a) and (b)

D. None of these

Answer: C



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38. Silica gel is used for keeping away the moisture because it

A. Reacts with H_2O

B. Adsorbs H_2O

C. Absorbs H_2O

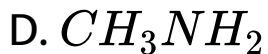
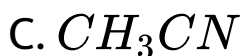
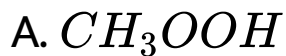
D. None

Answer: C



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39. The molecule which behaves as electrophile and nucleophile is



Answer: C



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40. In the second group of qualitative analysis, H_2S is passed through a solution acidified with HCl in order to

- A. Increase the concentration to S^{2-} ions
- B. Increase the solubility of H_2S
- C. Limit the concentration of S^{2-} ions
- D. Add the Cl^- ions

Answer: A



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41. Which on treating with ethereal solution of $AlCl_3$ gives $LiAlH_4$?

A. LiOH

B. Li

C. LiH

D. LiCl

Answer: C



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42. Which of the following hydrogen halides has the lowest boiling point?

A. HCl

B. HF

C. HI

D. HBr

Answer: A



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43. SO_2 is dried by

A. P_2O_5

B. HNO_3

C. Anhyd. $CaCl_2$

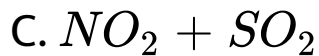
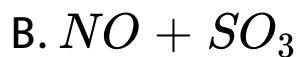
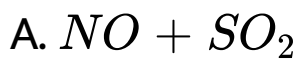
D. CuO

Answer: A



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44. Nitrous acid reacts with H_2SO_4 give



D. None

Answer: C



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45. When conc. H_2SO_4 is added to charcoal

A. CO and SO_2 are evolved

B. Water gas is formed

C. CO_2 and SO_2 are evolved

D. There is no reaction

Answer: C



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46. The structure of BF_3 is

A. Equilateral triangle

B. Pyramidal

C. Tetrahedral

D. None

Answer: A



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47. The highest oxidation potential is for

A. Ra

B. Be

C. Ba

D. Li

Answer: D



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48. The chloride ion is isoelectric with potassium. The size of chloride ion is

A. Same as that of K^+ ion

B. Larger than K^+ ion

C. Smaller than K^+ ion

D. None

Answer: B



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49. Radium is obtained from

A. Haematite

B. Pitchblende

C. Monazite

D. None of these

Answer: B



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50. Nitrogen exhibits its group valency in

A. Silver nitrate

B. Ammonia

C. Nitrogen dioxide

D. Hydrazine

Answer: A



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51. Primary aliphatic amines can be distinguished from secondary and tertiary amines by reacting with



B. Zn - dust



D. $CHCl_3$ and KOH

Answer: D



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52. Nitromethane reacts with chlorine in presence of alkali to yield

- A. Chloromethane
- B. Chloropicrin
- C. Nitrosyl chloride
- D. Chloroform

Answer: B



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53. The compound which on reacting with aqueous nitrous acid at low temperature produces an oily nitrosamine is

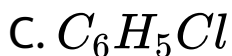
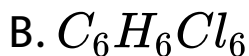
- A. Ethyl amine
- B. aniline
- C. methyl amine
- D. Diethyl amine

Answer: D



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54. Benzene reacts with Cl_2 in sunlight to give a final product



Answer: B



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55. Gammexane is

A. D.D.T

B. Chloral

C. Benzene hexachloride

D. Hexachloro ethane

Answer: C



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56. Toluene reacts with Cl_2 in presence of light to give

- A. Benzyl chloride
- B. p-chlorotoluene
- C. Benzoyl chloride
- D. o-chlorotoluene

Answer: A



57. Which of the following reactions takes place when a mixture of conc. HNO_3 and H_2SO_4 reacts with benzene at 350 K ?

- A. Sulphonation
- B. Hydrogenation
- C. Nitration
- D. Dehydration

Answer: C



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58. Toluene on oxidation with dil. HNO_3 and alkaline $KmnO_4$ gives

A. Benzaldehyde

B. Nitrotoluene

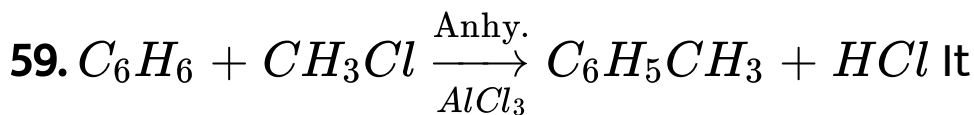
C. Phenol

D. Benzoic acid

Answer: D



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is an example of

A. Friedel Craft's reaction

B. Wurtz reaction

C. Kolbe's reaction

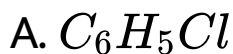
D. Grignard reaction

Answer: A



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60. Benzene reacts with CH_3COCl in the presence of $AlCl_3$ to give



Answer: D



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