



## CHEMISTRY

### BOOKS - KCET PREVIOUS YEAR PAPERS

#### MODEL TEST PAPER - 7

#### Chemistry

1. Isomers which can be inter converted through rotation around a single bond are

- A. Position of isomers
- B. Diastereomers
- C. Enantiomers
- D. Conformers

**Answer: B**

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2. Hydrogen gas will not reduce

A. Heated aluminium oxide

B. Heated ferric oxide

C. Heated stannic oxide

D. Heated cupric oxide

**Answer: A**

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3. Number of paired electron in  $O_2$  molecule is

A. 8

B. 16

C. 14

D. 7

**Answer: C**



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4. The number of neutrons in the parent nucleus which gives  $^{14}\text{N}$  on beta emission is

A. 14

B. 7

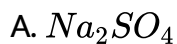
C. 8

D. 6

Answer: C

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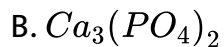
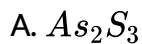
5. Which salt when dissolved in water will hydrolyze ?



Answer: C

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6.  $K_{sp} = [A]^3[B]^2$  for the salt where A and B are the cation and anion as the case may be stands true for



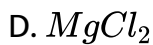
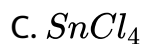
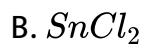
D. All are correct

**Answer: D**



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7. The salt that does not hydrolyse



**Answer: A**



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8. The angular momentum of an electron in 2p orbitals is

A.  $\frac{2h}{\pi}$

B.  $\frac{h}{\sqrt{2}\pi}$

C.  $\frac{h}{2\pi}$

D. None

Answer: B



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9. Given electrode potentials are ,



,  
 $E^\circ$  cell for the cell reaction,  $2Fe^{3+} + 2I^- \rightarrow 2Fe^{2+} + I_2$  is

- A.  $0.536 - 0.771 = -0.236V$
- B.  $(0.771 - 0.5 \times 0.536) = 0.503V$
- C.  $0.771 - 0.536 = 0.235V$
- D.  $(2 \times 0.771 - 0.536) = 1.006V$

**Answer: C**

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**10.** The burning of hydrogen is called

- A. Reduction
- B. Hydrogenation
- C. Oxidation

## D. Hydration

**Answer: C**

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11. 20 g of a monobasic acid furnishes 0.5 moles of  $H_3O^+$  ions in its aqueous solution. The value of 1 g eq. of the acid will be

A. 100 g

B. 20 g

C. 10 g

D. 40 g

**Answer: D**

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**12.** Gamma rays are

- A. High energy electrons
- B. High energy positrons
- C. Low energy electrons
- D. High energy electromagnetic waves

**Answer: D**



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**13.** The nature of anode rays depends on

- A. Nature of residual gas
- B. Nature of discharging tube
- C. Nature of electrode

D. All of these

**Answer: A**



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14. When two atoms of hydrogen combine to form a molecule of hydrogen gas, the energy of the molecule is

- A. Lower than that of separate atoms
- B. Higher than that of separate atoms
- C. Equal to that of separate atoms
- D. None of these .

**Answer: A**



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15. A mixture of 2 moles of CO and 1 mole of  $O_2$  in a closed vessel is ignited to convert CO into  $CO_2$ . Then

A.  $\Delta H < \Delta E$

B.  $\Delta H > \Delta E$

C.  $\Delta = \Delta E$

D. The relationship depends upon the capacity of the vessel.

**Answer: A**

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16. If 50 calorie are added to a system and system does work of 30 calorie on surroundings, the change in internal energy of system is

A. 30 cal

B. 50 cal

C. 40 cal

D. 20 cal

**Answer: D**

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17. The specific conductance of saturated solution of  $CaF_2$  is  $3.86 \times 10^{-5}$  ohm  $cm^{-1}$  and that of water used for solution is  $1.15 \times 10^{-5}$ . The specific conductance of  $CaF_2$  alone is

A.  $3.86 \times 10^{-4}$

B.  $4.01 \times 10^{-5}$

C.  $3.7 \times 10^{-4}$

D.  $3.71 \times 10^{-5}$

**Answer: D**

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18. Which of the following is not a salt

- A. Slaked lime
- B. Lead sulphate
- C. Zinc nitrate
- D. NaCl

Answer: A

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19. The rate for a first order reaction is  $0.6932 \times 10^{-2} \text{ mol L}^{-1}$  and the initial concentration of the reactant is  $1M$ ,  $t_{1/2}$  is equal to

- A. 6.932 minute

B.  $0.6932 \times 10^{-3}$  minute

C. 100 minute

D.  $0.6932 \times 10^{-2}$  minute

**Answer: C**

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20. Which is the correct representation for  $K = \frac{C_1}{C_2}$  relation ?

A. The distribution coefficient K

B. The distribution coefficient K is in favour of phase II

C. The distribution coefficient K is in favour of phase I

D. None of the above

**Answer: C**

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21. The vapour pressure of ethanol and methanol are 42.0 mm and 88.55 mm Hg respectively. An ideal solution is formed at the same temperature by mixing 46.0g of ethanol with 16.0 of methanol. The mole fraction of methanol in the vapour is

A. 0.502

B. 0.556

C. 0.467

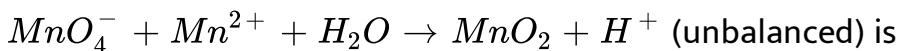
D. 0.513

**Answer: D**



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22. The eq. wt of  $KMnO_4$  in the reaction,



A. 158

B. 52.7

C. 31.6

D. None of the above

**Answer: B**

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23. Two platinum electrodes were immersed in a solution of cupric sulphate and electric current passed through the solution. After some time it was found that the colour of copper sulphate disappeared with evolution of gas at the electrode. The colourless solution contains



- A. Sulphuric acid
- B. Platinum sulphate
- C. Copper sulphate
- D. Copper hydroxide

**Answer: A**



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**24.** Oxidation number of chlorine in HOCl is

- A. +2
- B. +6
- C. +1
- D. +5

**Answer: C**



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25. The normality of a solution containing 60 g of  $CH_3COOH$  per litre is

A.  $1.5n$

B.  $2N$

C.  $0.5N$

D.  $1N$

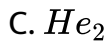
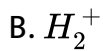
Answer: D



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26. The bond strength is maximum in :

A.  $He_2^+$



**Answer: D**

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27. A nuclear reaction is accompanied by a loss of mass equivalent to 0.01864 amu. The energy liberated is

A. 17.34 MeV

B. 186.2 MeV

C. 4.655 MeV

D. 9321.1 MeV

**Answer: A**



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28. Rydberg constant is

- A. A universal constant
- B. Same for all elements
- C. Different for different elements
- D. Is different for lighter element but same for heavier elements

**Answer: C**



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29. A sample of gas at  $35^{\circ}C$  and 1atmosheric pressure occupies a volume of 3.75 litre. At what temperature should the gas be kept, if

it is required to reduced the volume to 3.0 litre at the same pressure

- A.  $0.00^{\circ}C$
- B.  $-26.6^{\circ}C$
- C.  $28^{\circ}C$
- D.  $3.98^{\circ}C$

**Answer: B**



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**30.** Action of  $PCl_3$  on salicylic acid produces

- A. o-chlorobenzoic acid
- B. o-chlorobenzoyl chloride
- C. o - hydroxybenzoyl chloride

D. None of the above

**Answer: B**

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**31.** Chlorobenzene can be prepared by reacting aniline with

- A. Nitrous acid followed by heating with cuprous chloride and HCl
- B. Cuprous chloride
- C. Chlorine in presence of anhydrous aluminium chloride
- D. Hydrochloric acid

**Answer: A**

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32. Benzene diazonium chloride react with phenol to give

- A. Diazobenzene
- B. p - amino azobenzene
- C. o-hydroxy azobenzene
- D. p - hydroxy azobenzene

**Answer: D**

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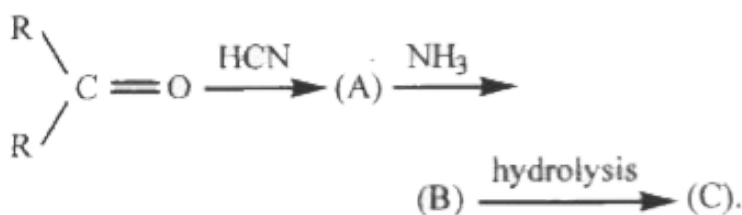
33. Formic and acetic acid can be distinguished by

- A. With ammoniacal  $AgNO_3$
- B. With caustic soda
- C. With sodium bicarbonate

D. With the help of litmus

Answer: A

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Compound (C) in above reaction is

- A.  $\alpha$  - amino- $\beta$  - hydroxy acid
- B.  $\alpha$  - amino- alkannol
- C.  $\alpha$ - amino -acid
- D.  $\alpha$  - hydroxy acid

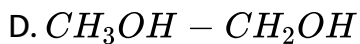
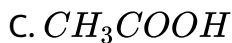
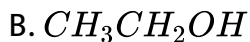
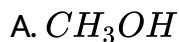
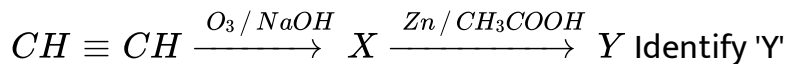
Answer: C





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35. In the reaction



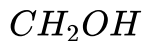
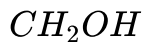
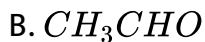
Answer: D



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36. Ethylidene dichloride on treatment with aq. KOH gives



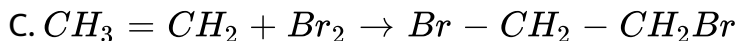
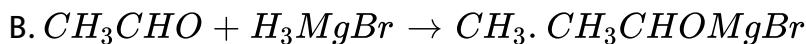
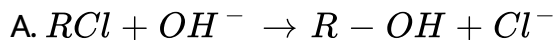


**Answer: B**



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**37.** An example of electrophilic addition is



D. None of the above

**Answer: C**



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**38.** When an aqueous solution containing sodium acetate and sodium propionate is electrolyzed we get

- A. Propane
- B. Ethane
- C. Butane
- D. All of these

**Answer: D**



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**39.** The total number of possible isomeric trimethyl benzene is

- A. 4

B. 5

C. 6

D. 3

**Answer: D**



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**40.**  $C_7H_7Cl$  has in all...isomers

A. 3

B. 2

C. 4

D. 5

**Answer: C**



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41. Which match is incorrect

- A. Dow's process-manufacture of phenol
- B. Bessermmer process-manufacture of steel
- C. Mac Arthur and Forest process-extraction of silver
- D. Ammonia soda process - manufacture of potassium chrbonate.

**Answer: D**

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42. The atom larger in size as compared to oxygen is

- A. Ar

B. Xe

C. Ne

D. Kr

**Answer: C**

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**43.** When KBr is treated with conc.  $H_2SO_4$  a reddish brown gas is evolved. The gas coming out is

A.  $NO_2$

B.  $Br_2 + HBr$

C.  $H_2O_2$

D.  $Br_2$

**Answer: D**



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44. Which of the following liberates oxygen to from water

A. Na

B.  $I_2$

C.  $P$

D.  $F_2$

Answer: D



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45. Structur of ammonia is

A. Trigonal bipyramidal

B. Tetrahedral

C. Pyramidal

D. Trigonal

**Answer: C**



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**46.** If the flame of a gas stove burns with yellow tips, the burner must be adjusted to provide

A. More air

B. More gas

C. Less air

D. None of the above

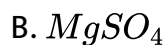
**Answer: A**





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47. Which sulphate has the highest solubility in water



Answer: A



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48. Alkali metal chloride soluble in pyridine is



B. KCl

C. CsCl

D. LiCl

**Answer: D**



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**49.** The salt which is least likely to be found in minerals is

A. Nitrate

B. Chloride

C. Sulphide

D. Sulphate

**Answer: A**



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50. The element with the highest first ionization potential is

- A. Carbon
- B. Nitrogen
- C. Oxygen
- D. Boron

**Answer: B**

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51. A nitrogen containing compound on heating with  $CHCl_3$  and alcoholic KOH evolved an unpleasant smelling vapour. The compound could be

- A. Nitrobenzene

B. Aniline

C. Benzamide

D. N, N-dimethyl aniline

**Answer: B**

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**52.** Aniline on treatment with HCl and  $NaNO_2$  at low temperature gives

A. Amino phenol

B. Diazonium salt

C. Chloro aniline

D. Nitroaniline

**Answer: B**



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53. Nitrobenzene on reduction with  $Zn / NH_4Cl$  gives

- A. Aniline
- B. Hydrozo benzene
- C. Nitroso benzene
- D. N-phenl hydroxylamine

Answer: D



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54. A hydrocarbon reacts with hypochlorous acid to give 1-chlor-2-hydroxy ethane. The hydrocabon is

- A. Methane

B. Acetylene

C. Ethylene

D. Ethane

**Answer: C**

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55. Alkene  $R - CH = CH_2$  reacts readily with  $B_2H_6$  and the product on oxidation with alkaline hydrogen peroxide produces

A.  $R - COCH_3$

B.  $R - CH_2 - HO$

C. 
$$\begin{array}{c} RCH - CH_2 \\ | \qquad \quad | \\ OH \qquad \quad OH \end{array}$$

D.  $RCH_2CH_2OH$

**Answer: D**

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**56.** Action of water on calcium carbide gives

A. Ethane

B. Ethyne

C. Ethane

D. Ethanal

**Answer: B**

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**57.** Acidic hydrogen is present in

A. Ethyne

B. Benzene

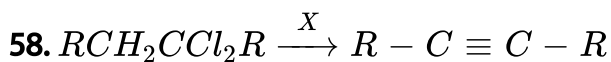
C. Ethene

D. Ethane

**Answer: A**



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The reagent 'X' is

A. Na

B. KOH in  $C_2H_5OH$

C.  $HCl$  and  $H_2O$

D.  $Zn$



**Answer: B**

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59. When acetylene is passed through dil. $H_2SO_4$  in presence of  $HgSO_4$ , the compound formed is

A.  $C_2H_5OH$

B. Acetic acid

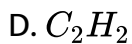
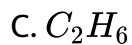
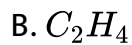
C. Acetone

D. Acetaldehyde

**Answer: D**

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60. Which of the following compounds will react with metal by displacing the H - atom ?



**Answer: D**



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