



CHEMISTRY

BOOKS - KCET PREVIOUS YEAR PAPERS

KARNATAKA CET 2018

Chemistry

1. 1.0 g of Mg is burnt with 0.28 g of O_2 in a closed vessel.

Which reactant is left in excess and how much ?

A. Mg , 5.8 g

B. Mg , 0.58 g

C. O_2 , 0.24 g

D. O_2 , 2.4 g

Answer: B



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2. The orbital nearest to the nucleus is

A. 4f

B. 5d

C. 4s

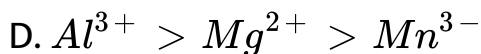
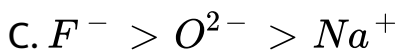
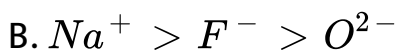
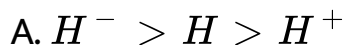
D. 7p

Answer: C



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3. Which of the following is the correct order of radius?



Answer: A



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4. The intramolecular hydrogen bond is present in

- A. phenol
- B. o - nitrophenol
- C. p - nitrophenol
- D. p - cresol

Answer: B

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5. The state of hybrid orbitals of carbon in CO_2 , CH_4 and CO_3^{2-} respectively is

A. sp^3 , sp^2 and sp

B. sp^3 , sp and sp^2

C. sp , sp^3 and sp^2

D. sp^2 , sp^3 and sp

Answer: C



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6. For an ideal gas, compressibility factor is

A. 0

B. 1

C. -1

D. $+2$

Answer: B



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7. The relationship between K_p and K_c is

$K_p = K_c(RT)^{\Delta n}$. What would be the value of Δn for the

reaction $NH_4Cl(s) \rightleftharpoons NH_3(g) + HCl(g)$?

A. 1

B. 0.5

C. 1.5

D. 2

Answer: D



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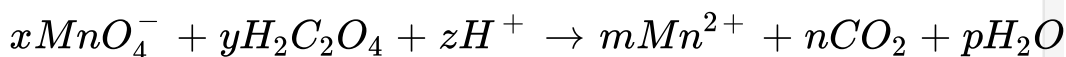
8. Acidity of BF₃, can be explained on which of the following concepts ?

- A. Arrhenius concept
- B. Bronsted Lowry concept
- C. Lewis concept
- D. Bronsted Lowry as well as Lewis concept.

Answer: C

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9. For the redox reaction



The value of x, y, m and n are

A. 10, 2,5,2

B. 2,5,2,10

C. 6,4,2,4

D. 3,5,2,10

Answer: B



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10. H_2O_2 is

A. an oxidising agent

B. a reducing agent

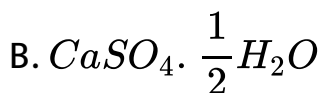
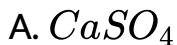
C. both oxidising and reducing agent

D. neither oxidising nor reducing agent.

Answer: C

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11. Dead burnt plaster is



Answer: A

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12. Identify the following compound which exhibits geometrical isomerism:

A. But - 2 - ene

B. But - 1 - ene

C. Butane

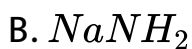
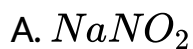
D. Iso - butane

Answer: A



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13. During the fusion of organic compound with sodium metal, nitrogen present in the organic compound is converted into

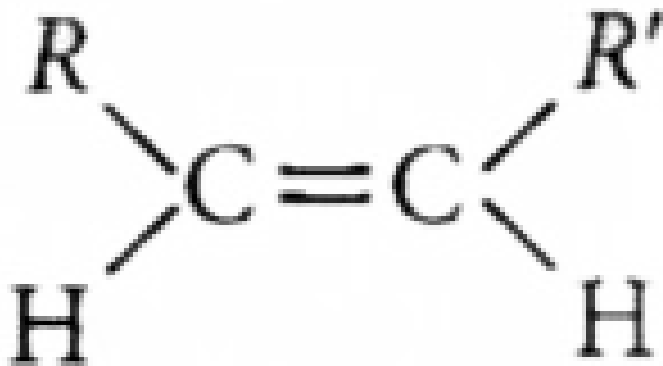
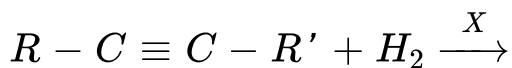


Answer: C



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14. The reagent 'X' used for the following reaction is



A. Ni

B. Pd/C

C. $LiAlH_4$

D. $Na / liquid NH_3$

Answer: B



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15. Which of the following ions will cause hardness in water ?



Answer: A



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16. Which of the following oxides shows electrical properties like metals?

A. SiO_2

B. MgO

C. $SO_2(s)$

D. CrO_2

Answer: D



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17. Which of the following aqueous solutions should have the highest boiling point?

A. 1.0 M NaOH

B. 1.0 M Na_2SO_4

C. 1.0 M NH_2NO_3

D. 1.0 M KNO_3

Answer: B



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18. The charge required for the reduction of 1 mole of MnO_4^- to MnO_2 is

A. 1 F

B. 3 F

C. 5 F

D. 7 F

Answer: B

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19. For the reaction , $2SO_2 + O_2 \rightleftharpoons 2SO_3$,

the rate of disappearance of O_2 is $2 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$.

The rate of appearance of SO_3 is

A. $2 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$

B. $6 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$

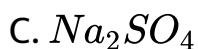
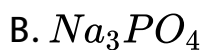
C. $1 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$

D. $6 \times 10^{-4} \text{ mol L}^{-1} \text{ s}^{-1}$

Answer: B

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20. Which of the following electrolytes will have maximum coagulating value for AgI / Ag^+ sol ?



Answer: D



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21. Electrolytic refining is used to purify which of the following metals?

A. Cu and Zn

B. Ge and Si

C. Zr and Ti

D. Zn and Hg

Answer: A

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22. Dry ice is

A. solid CO

B. Solid SO_2

C. Solid CO_2

D. Solid O_2

Answer: C



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23. Which of the following is an amphoteric oxide ?

A. V_2O_5 , Cr_2O_3

B. Mn_2O_7 , Cr_2O_3

C. CrO , V_2O_5

D. V_2O_5 , V_2O_4

Answer: A

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24. The IUPAC name of $[Co(NH_3)_4Cl(NO_2)]Cl$ is

- A. tetraaminechloridonitrito - N - cobalt (III) chloride
- B. tetraaminechloridonitriocobalt (II) chloride
- C. tetraaminechloridonitriocobalt (I) chloride
- D. tetraaminechloridonitriocobalt (III) chloride

Answer: A

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25. Which of the following statements is true in case of alkyl halides?

- A. They are polar in nature.
- B. They can form hydrogen bonds .
- C. They are highly soluble in water.
- D. They undergo addition reactions.

Answer: A



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26. Phenol can be distinguished from ethanol by the reagent

A. bromine water

B. sodium metal

C. iron metal

D. chlorine water

Answer: A

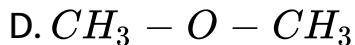
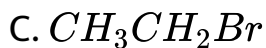


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27. Which of the following compounds undergoes haloform reaction ?

A. CH_3COCH_3

B. HCHO

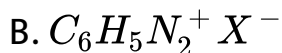
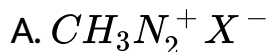


Answer: A



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28. Which of the following will be the most stable diazonium salt ($RN_2^+ X^-$) ?



Answer: B



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29. Which of the following bases is not present in DNA?

A. Adenine

B. Guanine

C. Cytosine

D. Uracil

Answer: D



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30. Which one of the following is a polyamide polymer ?

A. Terylene

B. Nylon - 6,6,

C. Buna - S

D. Bakelite

Answer: B

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31. In F.C.C. the unit cell is shared equally by how many unit cells ?

A. 10

B. 8

C. 6

D. 2

Answer: C



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32. At a particular temperature, the ratio of molar conductance to specific conductance of 0.01 M NaCl solution is

A. $10^5 \text{ cm}^3 \text{ mol}^{-1}$

B. $10^3 \text{ cm}^3 \text{ mol}^{-1}$

C. $10 \text{ cm}^3 \text{ mol}^{-1}$

D. $10^5 \text{ cm}^2 \text{ mol}^{-1}$

Answer: A

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33. Isotonic solutions are solutions having the same

- A. surface tension
- B. vapour pressure
- C. osmotic pressure
- D. viscosity

Answer: C

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34. The temperature coefficient of a reaction is 2. When the temperature is increased from 30°C to 90°C , the rate of reaction is increased by

A. 150 times

B. 410 times

C. 72 times

D. 64 times

Answer: D



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35. Gold sol is not a

- A. lyophobic sol
- B. negatively charged sol
- C. macromolecular sol
- D. multimolecular colloid

Answer: C



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36. The common impurity present in bauxite is

- A. CuO

B. ZnO

C. Fe_2O_3

D. Cr_2O_3

Answer: C



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37. Very pure N_2 can be obtained by

A. thermal decomposition of ammonium dichromate

B. treating aqueous solution of NH_4Cl and $NaNO_2$

C. liquefaction and fractional distillation of liquid air

D. thermal decomposition of sodium azide .

Answer: D

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38. Which of the following oxidation states is common for all lanthanides?

A. +2

B. +3

C. +4

D. +5

Answer: B

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39. The electronic configuration of transition element "X", is +3, oxidation state is $[Ar]3d^5$. What is its atomic number?

A. 25

B. 26

C. 27

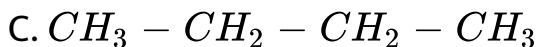
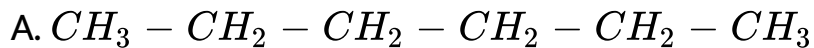
D. 24

Answer: B



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40. n-Propyl chloride reacts with sodium metal in dry ether to give



D.



Answer: A



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41. When the vapours of tertiary butyl alcohol are passed through heated copper at 573 K, the product formed is

- A. but - 2 - ene
- B. 2 - butanonone
- C. 2 - methyl propene
- D. butanal

Answer: C



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42. What is the increasing order of acidic strength among the following ?

(i) p-methoxy phenol

(ii) p-methyl phenol

(iii) p-nitro phenol

A. $ii < iii < i$

B. $iii < ii < i$

C. $i < ii < iii$

D. $i < iii < ii$

Answer: C



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43. Which of the following is more basic than aniline ?

A. Diphenylamine

B. Triphenylamine

C. p- Nitroaniline

D. Benzylamine

Answer: D



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44. The two forms of D-Glucopyranose are called

A. diastereomers

B. anomers

C. enantiomers

D. enantiomers

Answer: B

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45. Among the following, the branched chain polymer is

A. polyvinyl chloride

B. bakelite

C. low density polythene

D. high density polythene

Answer: C

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46. Edge length of a cube is 300 pm. Its body diagonal would be

A. 600 pm

B. 423 pm

C. 519.6 pm

D. 450.5 pm

Answer: C



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47. Which of the following is not a conductor of electricity ?

- A. Solid NaCl
- B. Cu
- C. Fused NaCl
- D. Brine solution

Answer: A

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48. For a cell involving two electron changes, $E_{\text{cell}}^{\circ} = 0.3V$ at $25^{\circ}C$. The cell equilibrium constant of the reaction is

A. 10^{-10}

B. 3×10^{-2}

C. 10

D. 10^{10}

Answer: D



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49. The value of rate constant of a pseudo first order reaction

A. depends only on temperature

- B. depends on the concentration of reactants present in small amounts
- C. depends on the concentration of reactants present in excess
- D. is independent of the concentration of reactants

Answer: A



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50. $(CH_3)_3SiCl$ is used during polymerization of organosilicons because

- A. the chain length of organosilicon polymers can be controlled by adding $(CH_3)_3SiCl$
- B. $(CH_3)_3SiCl$ improves the quality and yield of the polymer
- C. $(CH_3)_3SiCl$ does not block the end terminal of silicone polymer
- D. $(CH_3)_3SiCl$ acts as a catalyst during polymerisation.

Answer: A



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51. When PbO_2 reacts with concentrated HNO_3 , the gas evolved is

A. NO_2

B. O_2

C. N_2

D. N_2O

Answer: B

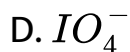
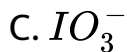


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52. $KMnO_4$ acts as an oxidising agent in alkaline medium.

When alkaline $KMnO_4$ is treated with KI, iodide ion is

oxidised to



Answer: C



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53. $[Fe(NO_2)_3Cl_3]$ and $[Fe(O - NO)_3Cl_3]$ shows

A. linkage isomerism

B. gemetical isomerism

C. optical isomerism

D. hydrate isomerism.

Answer: A



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54. Tertiary alkyl halide is practically inert to substitution by S_N2 mechanism because of

A. insolubility

B. instability

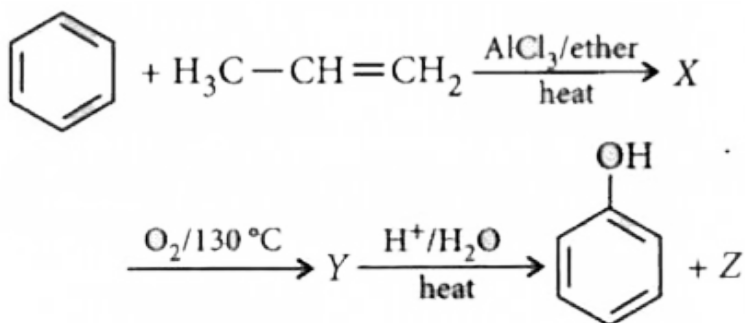
C. inductive effect

D. steric hindrance.

Answer: D

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55. The products X and Z in the following sequence are

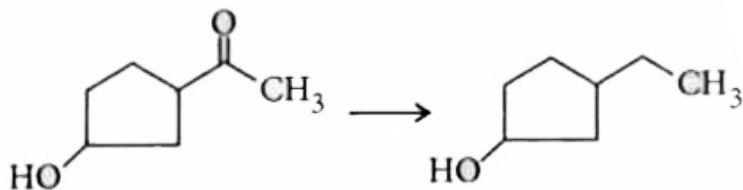


- A. iso - propyl benzene and acetone
- B. cumene peroxide and acetone
- C. iso - propyl benzene and iso - propyl alcohol
- D. phenol and acetone.

Answer: A

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56. The appropriate reagent for the following transformation is



A. Zn - Hg/HCl

B. $H_2N - NH_2$ KOH /ethylene glycol

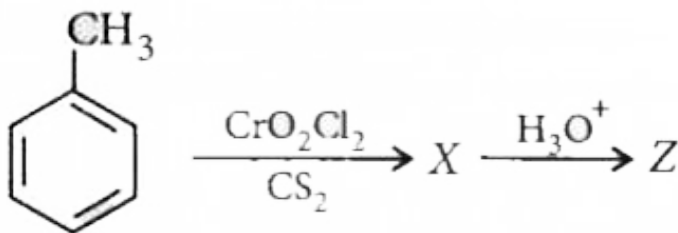
C. Ni / H_2

D. $NaBH_4$

Answer: B

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57. In the following reaction,



the compound Z is

- A. benzoic acid
- B. benzaldehyde
- C. acetophenone
- D. benzene .

Answer: B



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58. The reaction of Benzenediazonium chloride with aniline yields yellow dye. The name of the yellow dye is

- A. p-hydroxyazobenzene
- B. p - aminoazobenzene
- C. p - nitroazobenzene
- D. o - nitroazobenezene

Answer: B



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59. The glycosidic linkage involved in linking the glucose units in amylose part of starch is

A. $C_1 - C_4\beta$ - linkage

B. $C_1 - C_6\alpha$ - linkage

C. $C_1 - C_6\beta$ - linkage

D. $C_1 - C_4\alpha$ - linkage

Answer: D



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60. Ziegler-Natta catalyst is used to prepare

A. low - density polythene

B. teflon

C. high - density polythene

D. nylong - 6

Answer: C



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