



## CHEMISTRY

### BOOKS - SAI CHEMISTRY (TELUGU ENGLISH)

#### EAMCET -2016 (AP)

#### Chemistry

1. An element has  $[Ar]3d^1$  configuration in its +2 oxidation state. Its position in the periodic table is

A. period -3, group -3

B. period-3,group -7

C. period-4,group-3

D. period-3,group-9

**Answer: C**



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2. In which of the following molecules all bond length are not equal ?

A.  $SF_6$

B.  $PCl_5$

C.  $BCl_3$

D.  $CCl_4$ .

**Answer: B**

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**3.** In which of the following molecules maximum number of lone pairs is present on the central atom ?



**Answer: D**

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4. Which one of the following is the kinetic energy of a gaseous mixture containing 3 g of hydrogen and 80 g of oxygen at temperature  $T(K)$  ?

A.  $3RT$

B.  $6RT$

C.  $4RT$

D.  $8RT$

**Answer: B**



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5. A,B,C and D are four different gases with critical temperature 304.1,154.3,405.5 and 126.0K respectively.

While cooling the gas which gets liquified first is

A. B

B. A

C. D

D. C

**Answer: D**



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6. 40 mol of  $\underline{x}KMnO_4$  solution is required to react completely with 200 ml of 0.02 M oxalic acid solution in acidic medium. The value of  $\underline{x}$  is

A. 0.04

B. 0.01

C. 0.03

D. 0.02

**Answer: A**



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7. Give that  $C_s + O_{2g} \rightarrow CO_{2(g)}$ ,  $\Delta H^0 = -xkJ$

$2CO_{(g)} + O_{2(g)} \rightarrow 2CO_{2(g)}$ ,  $\Delta H^0 = -ykJ$ .

A.  $\frac{y - 2x}{3}$

B.  $\frac{y - 2x}{2}$

C.  $\frac{2x - y}{2}$

D.  $\frac{x - y}{2}$

**Answer: B**



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8. At 400K, in a 1.0L vessel  $N_2O$  is allowed to attain equilibrium  $N_2O_{4(g)} \rightleftharpoons 2NO_{2(g)}$ . At equilibrium the

total pressure is 600 mm Hg, when 20 % of  $N_2O_4$  is dissociated. The  $K_p$  value for the reaction is

- A. 50
- B. 100
- C. 150
- D. 200

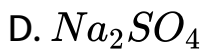
**Answer: B**



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9. In which of the following salts only cationic hydrolysis is involved ?



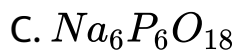
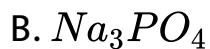
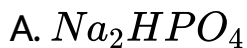


**Answer: C**



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**10. Calgon is**



D.  $NaH_2PO_4$ .

**Answer: C**



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**11.** Consider the following statements.

(I) Cs' ion is more highly hydrated than other alkali metal ions

(II) Among the alkali metals, only lithium forms a stable nitride by direct combination with nitrogen.

(III) Among alkali metals, Li,Na,K,Rb, the metal, Rb has the highest melting point

(IV) Among alkali metals Li,Na,K,Rb only Li forms peroxide when heated with oxygen.

A. I

B. II

C. III

D. IV

**Answer: B**



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**12.** Assertion (A):  $AlCl_3$  exists as a dimer through halogen bridged bonds.

Reason ( R ) :  $AlCl_3$  gets stability by accepting electrons from the bridged halogen.

- A. Both (A) and ( R) are true and ( R) is the correct explanation of (A) .
- B. Both (A) and ( R) are true but ( R) is not the correct explanation of ( A).
- C. ( A) is true, but ( R) is not true
- D. ( A) is not true, but ( R) is true .

**Answer: A**



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**13. Which of the following causes "Blue baby syndrome"**

- A. High concentration of lead in drinking water

- B. High concentration of sulphates in drinking water
- C. High concentration of nitrates in drinking water
- D. High concentration of copper in drinking water .

**Answer: C**

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**14.** Which of the following belongs to the homologous series of  $C_5H_8O_2N$  ?



D.  $C_6H_{10}O_2N$ .

**Answer: D**



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**15.** In Dumas method , 0.3 g of an organic compound gave 45 ml of nitrogen at STP. The percentage of nitrogen is

A. 16.9

B. 18.7

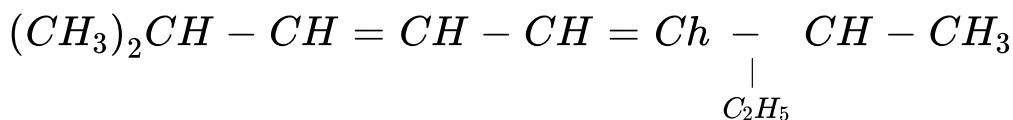
C. 23.2

D. 29.6

**Answer: B**

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16. The IUPAC name of



is

- A. 2,7- dimethyl-3,5-nonadiene
- B. 2,7- dimethyl -2-ethylheptadiene
- C. 2-methyl-7-ethyl-3,5-octadiene
- D. 1,1-dimethyl-6-ethyl-2,4-heptadiene

**Answer: A**



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17. The vapour pressures of pure benzene and toluene are 160 and 60 mm Hg respectively. The mole fraction of benzene in vapour phase in contact with equimolar solution of benzene and toluene is

A. 0.073

B. 0.027

C. 0.27

D. 0.73

**Answer: D**



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18. 6 g of a non volatile, non electrolyte X dissolved in 100g of water freezes at  $-0.93^{\circ}C$ . The molar mass of X in  $g\ mol^{-1}$  is ( $K_f\ of\ H_2O = 1.86\ kg\ mol^{-1}$ ).

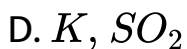
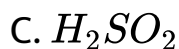
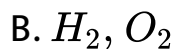
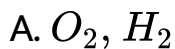
- A. 60
- B. 140
- C. 180
- D. 120

**Answer: D**



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19. The products obtained at the cathode and anode respectively during the electrolysis of aqueous  $K_2SO_4$  solution using platinum electrodes are



**Answer: B**



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20. The slope of the graph drawn between  $\ln k$  and  $1/T$  as per Arrhenius equation gives the value ( $R$  = gas constant,  $E_a$  = Activation energy) .

A.  $\frac{R}{E_a}$

B.  $\frac{E_a}{R}$

C.  $\frac{-E_a}{R}$

D.  $\frac{-R}{E_a}$

**Answer: C**



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21. Which is not the correct statement in respect of chemisorption ?

- A. Highly specific adsorption
- B. Irreversible adsorption
- C. Multilayered adsorption
- D. High enthalpy of adsorption

**Answer: C**



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22. Which of the following is carbonte ore ?

A. Cuprite

B. Siderite

C. Zincite

D. Bauxite

**Answer: B**



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**23.** Which one of the following statements is not correct ?

A.  $O_3$  is used as germicide

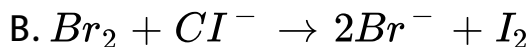
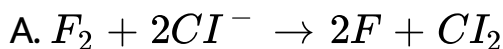
- B. In  $O_3$ ,  $O - O$  bond length is identical with that of molecular oxygen
- C.  $O_3$  is an oxidising agent
- D. The shape of  $O_3$  molecule is angular

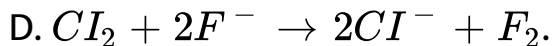
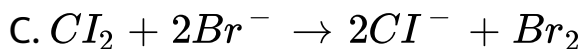
**Answer: B**



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24. Which of the following reactions does not take place ?





**Answer: D**



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25. Which of the following statements regarding sulphur is not correct ?

A. At about 1000K, it mainly consists of  $S_2$  molecules.

B. The oxidation state of sulphur is never less than +4 in its compounds

C.  $S_2$  molecule is paramagnetic

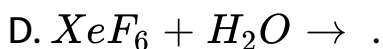
D. Rhombic sulphur is readily soluble in  $CS_2$ .

**Answer: B**



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26. Which of the following reactions does not involve, liberation of oxygen ?



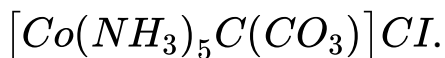
**Answer: D**





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27. Select the correct IUPAC name of



- A. Penta ammonia carbonate cobalt (III) chloride
- B. Pentammine carbonate cobalt chloride
- C. Pentanmine carbonate cobalt (III) chloride
- D. Cobalt (III) pentammine carbonate chloride.

**Answer: C**



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28. Which of the following characteristics of the transition metals is associated with their catalytic activity ?

- A. Colour of hydrated ions
- B. Diamagnetic behaviour
- C. Paramagnetic behaviour
- D. Variable oxidation states

**Answer: D**



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29. Observe the following polymers

*PHBV*      Nylon 2-nylon 6      Glyptal      Bakelite  
(A)                      (B)                      (C)                      (D)

Biodegradable polymer(s) from the above is/are.

A. (C)

B. (A),(B)

C. (D)

D. (C) , (D)

**Answer: B**



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**30.** Observe the following statements

(i) Sucrose has glycosidic linkage

(ii) Cellulose is present in both plants and animals

(iii) Lactose contains D-galactose and D-glucose units

The correct statements are .

A. (i),(ii),(iii)

B. (i),(ii)

C. (ii),(iii)

D. (i),(iii)

**Answer: D**



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31. Identify the antioxidant used in foods

- A. Aspartame
- B. Sodium benzoate
- C. Ortho-sulpho benzimide
- D. Buthylated hydroxy toluene

Answer: B



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32. What is Z in the following sequence of reactions ? 2-

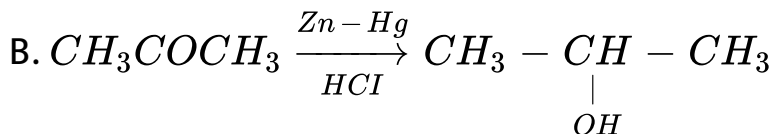


- A. Propane
- B. 2-methyl propene
- C. 2-methyl propane
- D. 2-methyl butane

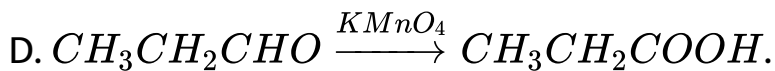
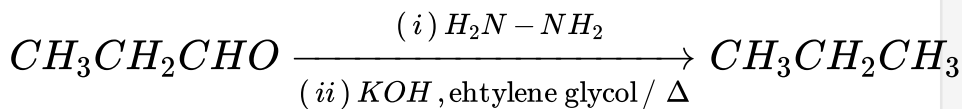
**Answer: C**

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**33.** In which of the following reactions the product is not correct ?



C.

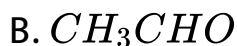
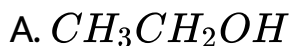
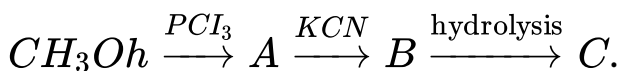


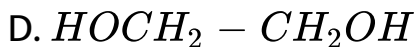
**Answer: B**



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**34.** Which is C in the following sequence of reactions ?



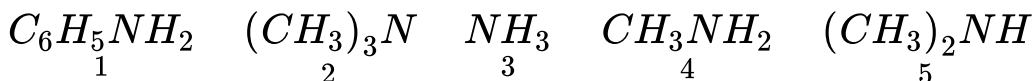


Answer: C



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35. The order of basic strength of the following in aqueous solution is .



A.  $4 > 1 > 5 > 3 > 2$

B.  $2 > 5 > 4 > 3 > 1$

C.  $5 > 4 > 2 > 3 > 1$

D.  $4 > 3 > 5 > 2 > 1$ .



**Answer: C**

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**36.** Yellow dye can be prepared by a coupling reaction of benzene diazonium chloride in acid medium with X.

Identify X from the following .

A. Aniline

B. Phenol

C. Cumene

D. Benzene

**Answer: A**





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