CHEMISTRY

BOOKS - TS EAMCET PREVIOUS YEAR PAPERS

AP EAMCET (ONLINE QUESTION PAPER 2018 SOLVED)

Chemistry

1. The work functions (W_0) of K, Na, Li, Mg and Cu are 2.25 , 2.30 ,2.42 ,3.70 and 4.80 eV respectively. How many of these metals do not undergo photoelectric effect

when a radiation of wavelength 450 nm is allowed to fall on them ? (1eV = $1.602 \times 10^{-19} J$)

A. 2

B. 1

C. 3

D. 5

Answer: A

▶ **Watch Video Solution**

2. Number of completely filled orbitals in xenon atom (Xe) is
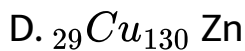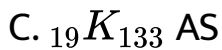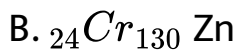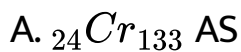
A. 17

B. 18

C. 27

D. 28

Answer: C

▶ **Watch Video Solution**

3. The mass numbers of two elements X and Z are 52 and 75 respectively . X contains 16.6% more neutrons compared to protons . Z contains 27.3% more neutrons compared to protons . X and Z are respectively
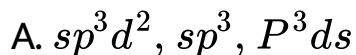
A. $_{24}Cr_{133}$ AS

B. $_{24}Cr_{130}$ Zn

C. $_{19}K_{133}$ AS

D. $_{29}Cu_{130}$ Zn

Answer: A

▶ **Watch Video Solution**

4. An atom in a molecule has electrons in 1s, 2s,2P,3s,3p,3d and 4s orbitals. This atoms can undergo hybridisations of type

A. sp^3d^2, sp^3, P^3ds

B. d^2sp^3, p^2ds, dsp^2

C. sp^3, dsp^2, d^2sp^3

D. sp^3, dsp^2, dsp

Answer: C

▶ **Watch Video Solution**

5. The bond dissociation energy (E) and bond length (R) of O_2, N_2 and F_2 follow the order as :

A. ARH_19Y_SP_24_04_18_01_E03_005

B. ARH_19Y_SP_24_04_18_01_E03_005

C. ARH_19Y_SP_24_04_18_01_E03_005

D. ARH_19Y_SP_24_04_18_01_E03_005

Answer: C

▶ **Watch Video Solution**

---

6. If the RMS speed of nitrogen at a certain temperature is 3000 ms^{-1} the approximate kinetic energy of one mole of nitrogen at that temperature in Kj is (assume nitrogen as ideal gas)

A. 9.0

B. 126.0

C. 90.0

D. 12.6

Answer: B

▶ **Watch Video Solution**

7. $2Cu_2O(s) + Cu_2(s) \rightarrow 6Cu(s) + SO_2(g)$ the oxidant and reductant respectively in the above reaction are

A. oxide of Cu_2O and sulphide of Cu_2S

B. suphide of Cu_3S and oxide of Cu_2O

C. $Cu(I) of Cu_2O$, Cu_2S and sulphide of Cu_2S

D. Cu (I) of Cu_2S, $Cu(I)$ of Cu_2O

Answer: C

8. If 1.5 L of an ideal gas at a pressure of 20 atm expands

isothermally and reversibly to a final volume of 15 L the

work done by the gas in L atm is

A. 69.09

B. 34.55

C. -34.55

D. -69.09

Answer: D

9. At T (K) the equilibrium constant of $H_2(g) + I_2(g) \rightarrow 2HI(g)$ is 49 . If $[H_2], [I_2]$ at equilibrium at the same temperature are 2.0×10^{-2} M and 8.0×10^{-2} M respectively the [HI] at equilibrium in $\text{mol} L^{-I}$ is

A. 2.8

B. 0.28

C. 0.14

D. 1.4

Answer: B

10. If the pH of 0.10 M monobasic acid at 298 K is 5.0 the

value the value of PK_a at the same temperature is

A. 5.0

B. 8.0

C. 9.0

D. 6.0

Answer: C

11. Identify the correct statements from the following .

(i) The number of hydrogen bonded water molecules in copper sulphate pentahydrate is one .

(ii) Lanthanum and zirconium form non-stoichiometric hydrides.

(iii) In solid form of H_2O each oxygen is surrounded by six oxygen in octahedral positions at a distance of 276 pm.
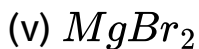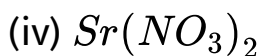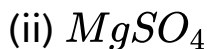
A. i, ii, iii

B. i, ii

C. ii, iii

D. i, ii

Answer: B

12. Observe the following compounds.

(i) $CaCO_3$ (ii) $MgSO_4$

(iii) $BaCI_2$ (iv) $Sr(NO_3)_2$

(v) $MgBr_2$ (vi) $MgCI_2$
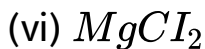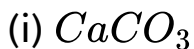
The oxoacid salts of group II elements from the abov list

are

   A. I,ii,iii,iv,v,vi

   B. I, ii, iv

   C. `iii,v,vi,

D. ii, v, vi

Answer: B

---

13. A few grams of borax is dissolved in distilled water .

The pH range of resultant solution is

A. $1 - 4$

B. $4 - 7$

C. $2 - 5$

D. $7 - 14$

Answer: D

14. An element (X) when burnt in oxygen forms neutral XO and acidic XO_2. The element X is

A. Sn

B. C

C. Ge

D. Pb

Answer: A

15. Match the following

|	List-I		List-II
A.	Methemaglobinemia	I.	1 ppm of dissolved oxygen in water
B.	Kidney damage	II.	1000 ppb of lead in drinking water
C.	Bones and teeth damage	III.	BOD of drinking water is 2 ppm
D.	Growth of fish is stopped	IV.	2000 ppm of nitrates in drinking water
		V.	50 ppm of fluoride in drinking water

The correct answer is

A.
A	B	C	D
IV	II	V	I

B.
A	B	C	D
IV	III	V	I

C.
A	B	C	D
IV	II	I	V

D.
A	B	C	D
III	II	I	V

Answer: B

16. In the following three dimensional structure of CH_4

the bods are labelled as W ,X , Y and Z. The bonds
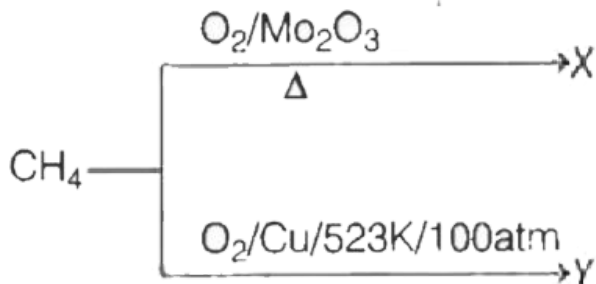
projecting out of the plane are :
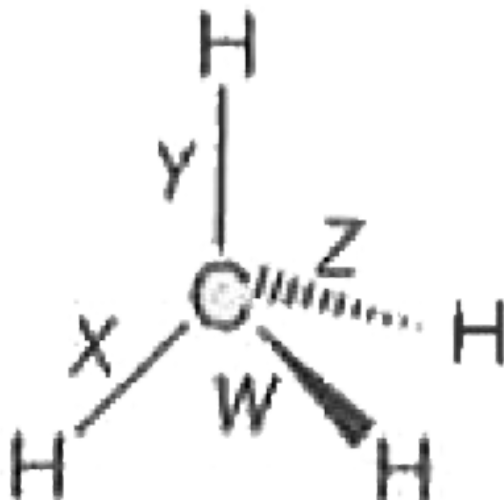
A. X,Y

B. W,Z

C. X,Z

D. W,Y

Answer: D

> ▶ **Watch Video Solution**

---

17. Identify X and Y in the following reactions

$$CH_4 \begin{cases} \xrightarrow[\Delta]{O_2/Mo_2O_3} X \\ \xrightarrow{O_2/Cu/523K/100atm} Y \end{cases}$$

A. CH_3OH HCO_2H

B. HCO_2H CH_2O

C. CH_3OH CH_2O

D. CH_2O CH_3OH

Answer: C

▶ **Watch Video Solution**

18. Which one of the following has highest dipole moment ?

A. cis-but-2-ene

B. trans-1 ,2 -dichloroethene

C. cis -1 , 2-dichloroethene

D. trans -but -2 -ene

Answer: D

19. If the side length of a face centered unit cell of a metal is 400 pm approximate radius of the metal in pm is $\left(\sqrt{2} = 1.414 \right)$

A. 14.14

B. 35.3

C. 176.7

D. 141.4

20. If CO_2 gas having a partial pressure of 1.67 bar is bubbled through 1 L water at 298 K the amount of CO_2 dissolved in water in g L^{-1} is approximately. (Henry's law constant of CO_2 is 1.67 K bar at 298 K)`

A. 24.42

B. 12.21

C. 2.44

D. 1.22

Answer: C

 Watch Video Solution

21. 12.25 g of $CH_3CH_2CHCICOOH$ is added to 250 g of water to make a solution . If the dissociation constant of above acid is 1.44×10^{-3} the depression in freezing point of water in $^{\circ}C$ is $\left(K_f \text{ for water is 1.86 K kg mol}^{-1}\right)$

A. 0.789

B. 0.394

C. 1.183

D. 0.592

Answer: A

▶ **Watch Video Solution**

22. Assertion (A) : The charge on one mole of electrons is one Faraday.

Reason (R) : The quantity of current required to deposit one mole of Mg form Mg^{2+} electrolyte solution is two Faradays. The correct answer is

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 correct but (R) is not correct .

D. (A) is not correct but (R) is correct.

Answer: A

▶ **Watch Video Solution**

23. If the half lives of the first order reaction at 350 K

and 300 K are 2 and 20 seconds respectively the

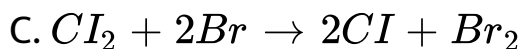activation energy of the reaction in kj mol^{-1} is

A. 40.2

B. 20.1

C. 60.3

D. 30.2

Answer: A

▶ **Watch Video Solution**

---

24. Which one of the following is present in gas mask?

A. Silica gel

B. V_2O_5

C. Activated charcoal

D. Fluorescein

Answer: C

▶ **Watch Video Solution**

25. The pair of oxides which can be leached out when powdered bauxite containing certain impurities is digested with concentrated solution of NaOH at 473-523 K temperature and 35 -36 bar pressure are

A. TiO_2, SiO_2

B. SiO_2, Al_2O_3

C. SiO_2, Fe_2O_3

D. Al_2O_3, Fe_2O_3
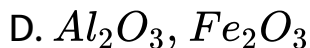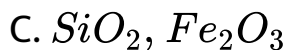
Answer: B

▶ **Watch Video Solution**

26. Nitrous acid was disproportionated to form water HNO_3 and X .In another reaction sodium nitrite was reacted with H_2SO_4 to form $NaHSO_4, HNO_3$ water and Y . What are X and Y respectively?

A. NO, N_2O_3

B. NO, NO
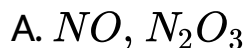
C. N_2O, NO_2

D. NO_2, N_2O_5

Answer: B

▶ **Watch Video Solution**

---

27. Identify the correct statements from the following .

(i) Oxygen shows -2,-1,+1 and +2 oxidation states.

(ii) The thermal stability of H_2O, H_2Se and H_2S follows the order $H_2O < H_2S < H_2Se$.

(iii) The reducing nature of H_2Se, H_2S and H_2 Te follows the order $H_2S < H_2Se < H_2Te$

A. I,ii,iii

B. I,ii

C. I,iii

D. ii,iii

Answer: C

▶ **Watch Video Solution**

---

28. Which one of the following reactions doses not take

place ?

A. $F_2 + 2Br \rightarrow 2F + Br_2$

B. $Br_2 + 2I \rightarrow 2Br + I_2$

C. $CI_2 + 2Br \rightarrow 2CI + Br_2$

D. $Br_2 + 2CI \rightarrow 2Br + CI_2$
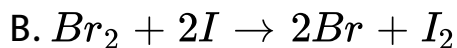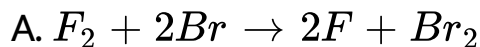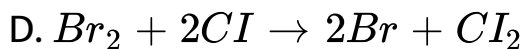
Answer: D

▶ Watch Video Solution

29. Identify the reactions in which dichromate acts as an oxidising reagent .

I. $Cr_2O_7^2 + 6Fe^{2+} + 14H^+ \rightarrow 2Cr^{3+} + 6Fe^{3+} + 7H_2O$

II. $Cr_2O_7^{2-} + 2OH^{-1} \rightarrow 2CrO_4^{2-} + H_2O$

III. $Cr_2O_7^{2-} + 6I + 14H^+ \rightarrow 2Cr^{3+} + 3I_2 + 7H_2O$

IV. $Na_2Cr_2O_7 + 2KCI \rightarrow K_2Cr_2O_7 + 2NaCI$
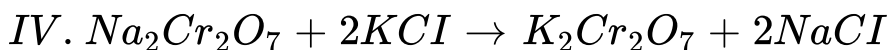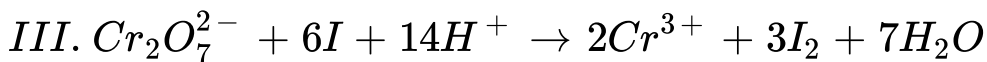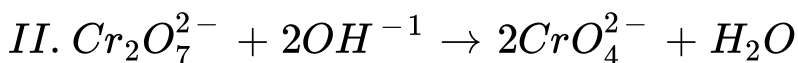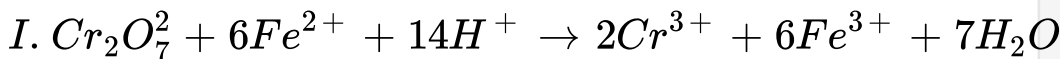
A. I,IV

B. I,III

C. II,III

D. II,IV

Answer: B

▶ **Watch Video Solution**

---

30. The green coloured complex ion of nicked in its aqueous solution is

A. $\left[Ni(en)_3\right]^{2+}$

B. $\left[Ni(H_2O)_2(en)_2\right]^{2+}$

C. $\left[Ni(H_2O)_4(en)\right]^{2+}$

D. $\left[Ni(H_2O)_6\right]^{2+}$

Answer: D

---
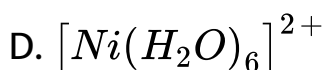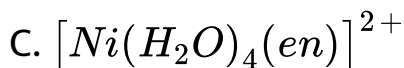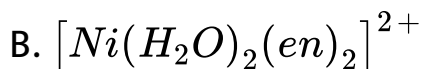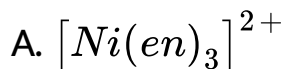
31. Examples of synthetic polymer (X) and semi - synthetic polymer (Y) are

A.
X	Y
Polythene	Rayon

B.
X	Y
Rayon	Nylon6,6

C.
X	Y
Rubber	Polythene

D.
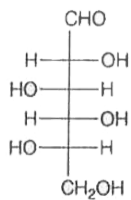| X	Y
Cellulose nitrate	PVC

Answer:

32. Fisher projection formula of L-(-)- glucose is

A.

```
         CHO
   H ────── OH
  HO ────── H
   H ────── OH
   H ────── OH
        CH₂OH
```
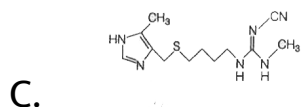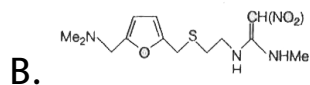
B.

```
         CHO
   H ────── OH
  HO ────── H
  HO ────── H
   H ────── OH
        CH₂OH
```

C.

```
         CHO
   H ────── OH
  HO ────── H
   H ────── OH
  HO ────── H
        CH₂OH
```

D.

```
         CHO
  HO ────── H
   H ────── OH
  HO ────── H
  HO ────── H
        CH₂OH
```
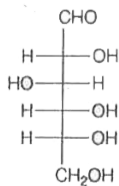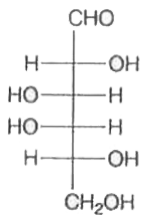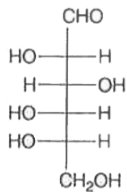
Answer:

33. Structure of ranitidine is

A.

B.

C.

D.
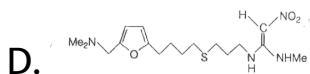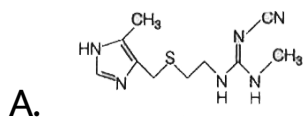
Answer:

34. What are X,Y and Z in the following reaction ?

$$R - OH + PCl_5 \rightarrow X + Y + Z$$

A.

X	Y	Z
$R - Cl$	CHI	$POCl_3$

B.

X	Y	Z
ROR	H_3PO_3	H_2O

C.

X	Y	Z
$R - Cl$	H_2O	$POCl_3$

D.

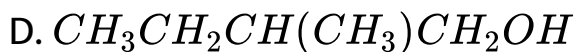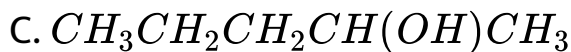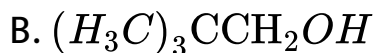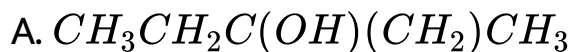| X	Y	Z
ROR	H_2O	$POCl_3$
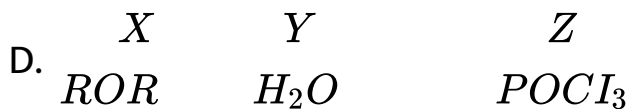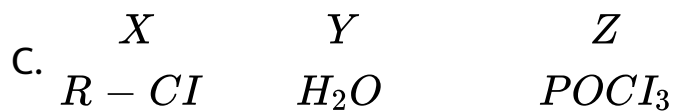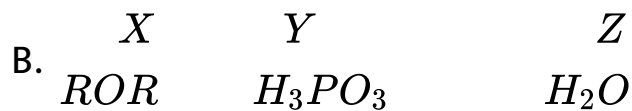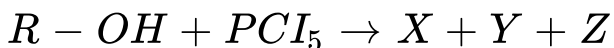
Answer:

▶ Watch Video Solution

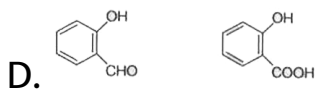**35.** Butanone reacts with methyl magnesium bromide to from an addition product (Z) . On hydrolysis Z gives

A. $CH_3CH_2C(OH)(CH_2)CH_3$

B. $(H_3C)_3CCH_2OH$

C. $CH_3CH_2CH_2CH(OH)CH_3$

D. $CH_3CH_2CH(CH_3)CH_2OH$

Answer:

▶ **Watch Video Solution**

36. What are X and Y in the following reactions ?

Phenol

(i) $CHCl_3$/NaOH
(ii) $H^{\oplus}$ → X

(i) NaOH (ii) CO_2
(iii) $H^{\oplus}$ → Y

A.
X — OH, COOH
Y — OH, CHO
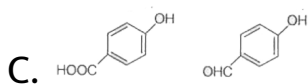
B.
OH, CH_2OH
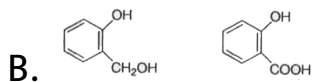OH, COOH

C.
HOOC —— OH
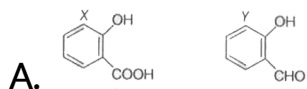OHC —— OH

D.
OH, CHO
OH, COOH
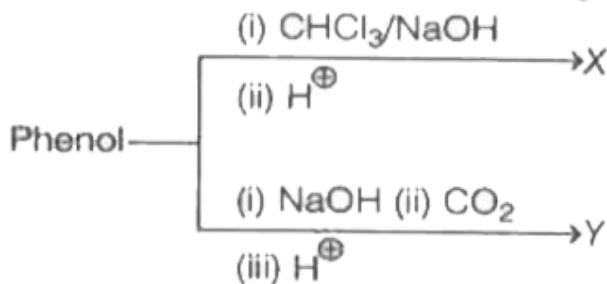
Answer:

▶ **Watch Video Solution**

37. What are X and Y in the following reactions ?
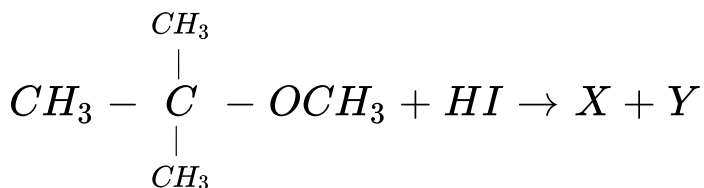
$$CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - OCH_3 + HI \rightarrow X + Y$$

A.
      X Y

   $(H_3C)_3I$ CH_3OH

B.
      X Y

   $(H_3C)_3COH$ CH_3I

C.

D.
         X Y

$CH_3 - \underset{\underset{CH_3}{|}}{C} = CH_2$ CH_2O
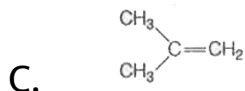
Answer:

38. Reagents used Etard reaction (I) and Stephen reaction (II) are :

	I	II
(a)	PCC	$SnCl_2 / HCl$
(b)	$SnCl_2 / HCl$	CrO_2Cl_2
(c)	CrO_2Cl_2	$SnCl_2 / HCl$
(d)	CrO_2Cl_2	PCC

▶ **Watch Video Solution**

39. What are X and Y in the following reactions ?

$$X - \xrightarrow[(ii)\,H_2O]{(i)\,LiAH_4} RCH_2NH_2 \xleftarrow{H_2/NI} Y$$

$$\quad\quad X \quad\quad\quad\quad\quad\quad Y$$

A.

$$RCO\overset{\ominus}{O}\overset{\oplus}{N}NH_4 \quad\quad\quad RCH_2CN$$

$$\text{B.} \quad \begin{matrix} X \\ RCN \end{matrix} \qquad \begin{matrix} Y \\ RCONH_2 \end{matrix}$$

$$\text{C.} \quad \begin{matrix} X \\ RNHCH_3 \end{matrix} \qquad \begin{matrix} Y \\ RCH_2NC \end{matrix}$$

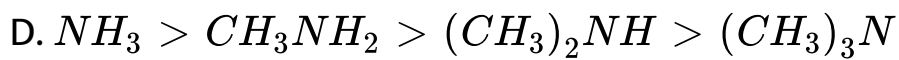$$\text{D.} \quad \begin{matrix} X \\ RCONH_2 \end{matrix} \qquad \begin{matrix} Y \\ RCN \end{matrix}$$
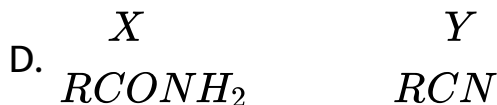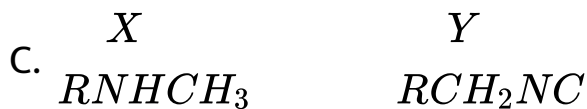
Answer:

> ▶ **Watch Video Solution**

---

40. The order of basic strength of methyl substituted amines and NH_3 in aqueous solution is

A. $(CH_3)_2NH > CH_3NH_2 > (CH_3)_3N > NH_3$

B. $(CH_3)_3N > (CH_3)_2NH > CH_3NH_2 > NH_3$

C. $(CH_3)_2NH > CH_3NH_2 > NH_3 > (CH_3)_3N$

D. $NH_3 > CH_3NH_2 > (CH_3)_2NH > (CH_3)_3N$

Answer:

▶ **Watch Video Solution**