

NEET-2020 Model Paper-4

Chemistry

1) Solubility of sulphates of group-2 elements decreased down the group due to

1. decreasing hydratom energy
2. high IE
3. increase in MP
4. All of these

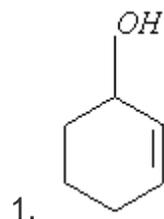
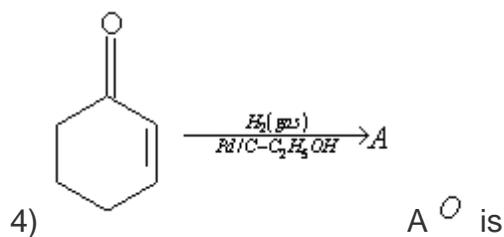
2) In photo chemical smog, when unburnt hydrocarbons react with NO_2 and O_3 chemical that are formed

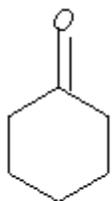
1. For maldehyde
2. Acrolein
3. PAN
4. All of these

3) $XeF_6 + 3H_2O \rightarrow A$; $XeF_6 + H_2O \rightarrow B$; $XeF_6 + 2H_2O \rightarrow C$

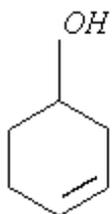
The A,B and C respectively are

1. XeO_2F_2 , $XeOF_4$, XeO_3
2. $XeOF_4$, XeO_3 , XeO_2F_2
3. XeO_3 , $XeOF_4$, XeO_2F_2
4. $XeOF_4$, XeO_2F_2 , XeO_3

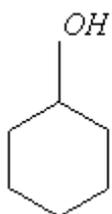




2.



3.



4.

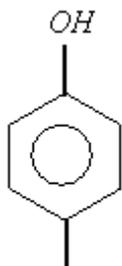
5) The lattice energy and hydration Enthalpy of four compounds are given below

Compound	L.E (in KJ/mol)	H.E (in KJ/mol)
P	+780	-920
Q	+1012	-812
R	+828	-878
S	+632	-600

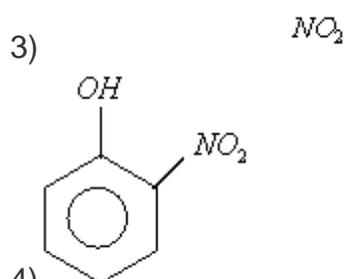
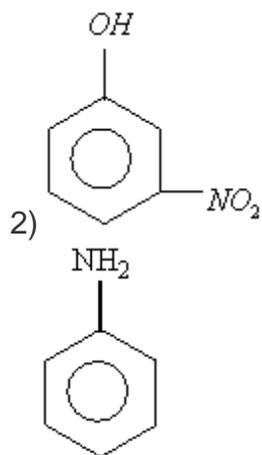
The pair of compounds which is soluble in water is

1. P and Q
2. Q and R
3. R and S
4. P and R

6) The correct order of B.P. is



1)



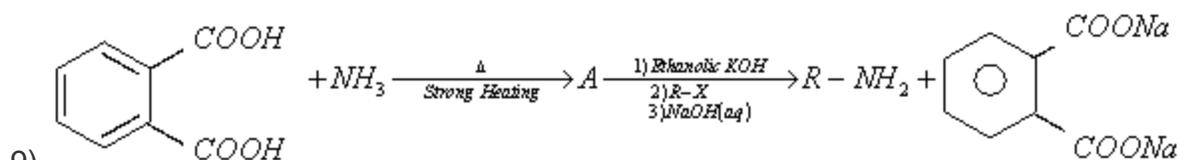
- 4)
1. $3 > 1 > 4 > 2$
 2. $1 > 2 > 3 > 4$
 3. $4 > 1 > 2 > 3$
 4. $1 > 2 > 4 > 3$

7) If the mol.wt of $\text{Na}_2\text{S}_2\text{O}_3$ and I_2 are M_1 and M_2 respectively then what will be the equivalent weights of $\text{Na}_2\text{S}_2\text{O}_3$ and I_2 in the following reaction $2\text{S}_2\text{O}_3^{2-} + \text{I}_2 \rightarrow \text{S}_4\text{O}_6^{2-} + 2\text{I}^-$

1. M_1, M_2
2. $M_1, \frac{M_2}{2}$
3. $2M_1, M_2$
4. $M_1, 2M_2$

8) The incorrect statement(s) regarding HClO(I) , $\text{HClO}_2(\text{II})$, $\text{HClO}_3(\text{III})$ and $\text{HClO}_4(\text{IV})$ is/ are

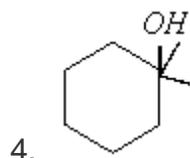
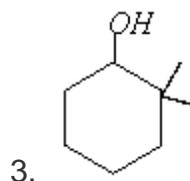
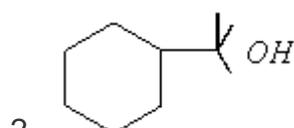
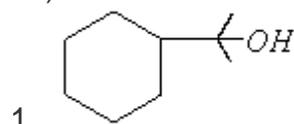
1. The no. of $\text{Cl}=\text{O}$ bonds in II and III together is three
2. The no. of lone pair of electrons on Cl in (II) and (III). Together is three
3. The hybridization of Cl in IV is sp^3
4. Amongst I to IV, the strongest acid is (I)



The reaction is called

1. Williamson's synthesis
2. Riemer-Tiemann's reaction
3. Gabriel phthalimide synthesis
4. Wurtz-fittig reaction

10) What will be the product in the following reaction



11) Which of the following species do not exist

1. PbI_4
2. SiCl_6^{2-}
3. BF_6^{3-}
4. All the above

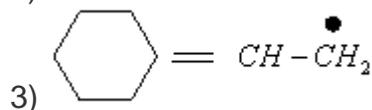
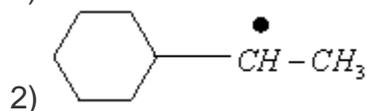
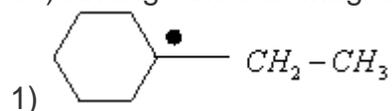
12) Which set of polymers has Homopolymers only

1. Neoprene, Starch, Nylon-6
2. Buna-S, Nylon-6, Terylene
3. Neoprene, Nylon-6,6, Buna-N
4. Starch, Nylon-6,6, Polythene

13) Incorrect match in the following

1. 2-oxy-4 amino pyrimidine Thymine
2. 5-Methyl-2,4-dioxy pyrimidine Uracil
3. 2,4- dioxy pyrimidine cytosine
4. All are incorrect

14) Arrange the following radical in order of decreasing stability

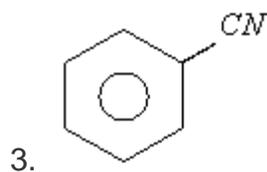
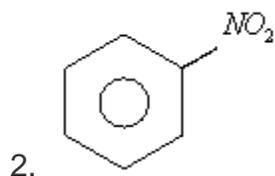
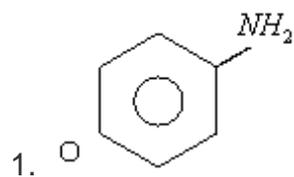


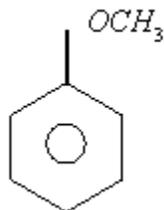
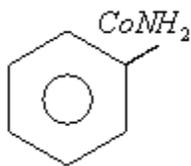
1. $2 > 1 > 3$
2. $1 > 2 > 3$
3. $3 > 2 > 1$
4. $3 > 1 > 2$

15) Photo electric emission is observed from a surface for frequencies ν_1 and ν_2 of incident radiations ($\nu_1 > \nu_2$). If maximum K.E of photo electrons in the two cases are in the ratio 1:2, then frequency is given by

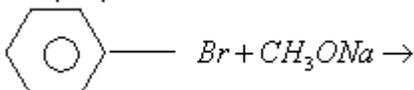
1. $\nu_2 - \nu_1$
2. $\nu_1 - \nu_2$
3. $2\nu_2 - \nu_1$
4. $\frac{\nu_2 - \nu_1}{2}$

16) A given nitrogen-containing aromatic compound 'A' reacts with Sn/HCl followed by HNO_2 to give an unstable compound B. B on treatment with phenol forms a beautiful coloured compound 'c' with the M.F. $C_{12}H_{10}N_2O$. The structure of compound 'A' is





17) To prepare anisole, which is the best method?



- 1.
2. $C_6H_5ONa + CH_3Cl$
3. $C_6H_5OH + CN_2N_2 \rightarrow$
4. $C_6H_5Na + CH_3OBr \rightarrow$

18) The central dogma of molecular genetics states that the genetic information flows from

1. Amino acids \rightarrow proteins \rightarrow DNA
2. DNA \rightarrow -carbohydrates \rightarrow -Proteins
3. DNA \rightarrow -RNA \rightarrow -Proteins
4. DNA \rightarrow -RNA \rightarrow -Carbohydrates

19) An organic compound of M.F $C_4H_{10}O$ does not react with Na. With excess of HI, it gives only one type of alkyl Halide the compound is

1. Ethoxy Ethane
2. Methoxy propane
3. 1-Methoxy Propane
4. 1-Butanol

20) $A + 2B + 3C \rightarrow AB_2C_3$. Reaction of 6 grams of A, 6.02×10^{23} atoms of B and 0.036 moles of C yields 4.8 gram of compound AB_2C_3 . If atomic mass of A and C are 60 and 80 amu respectively, the atomic mass of B is

1. 70 amu
2. 60 amu
3. 50 amu
4. 40 amu

21) $[Fe(H_2O)_6]^{2+}$ and $[Fe(CN)_4]^{-}$ differ in

1. Geometry, magnetic moment
2. Geometry, hybridization
3. Magnetic moment, color

4. Hybridisation, no. of d-electrons

22) Which of the following statements is correct

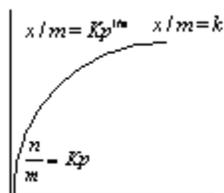
1. He has the lowest M.P and B.P
2. He can diffuse through rubber, pvc and even glass
3. Ar, Kr, and Xe form clathrate compounds
4. All the above statements are correct

23) Assertion(A): Henry's law and Raoult's law are not independent i.e. one can be derived from the other.

Reason(R): The partial pressure is directly proportional to the molefraction of the concerned species for ideal solutions.

1. Both A and R are correct and R is the correct explanation of A
2. Both A and R are correct and R is not the correct explanation of A
3. A is correct R is incorrect
4. A is incorrect and R is correct

24) Which one is not correct about Freundlich isotherm

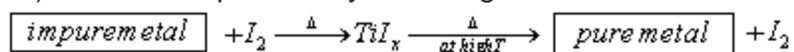


1. $n = \frac{1}{\tan \theta}$ at average pressure
2. $\theta = 45^\circ$ at low pressure
3. $\theta = 45^\circ$ at high pressure
4. None of these

25) Which of the following statements is incorrect

1. Pka value of HI (strongest halogen acid)
2. Ka value of Hx is in order $HF < HCl < HBr < HI$ is most positive.
3. High H-F bond strength makes H-F a weak acid in dilute aqueous solution
4. He and Ne do not form clathrates

26) Titanium is purified by following method



The value of 'x' is

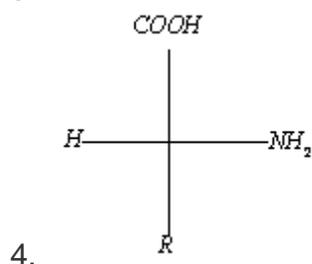
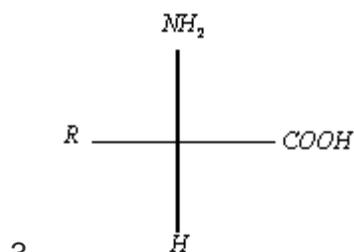
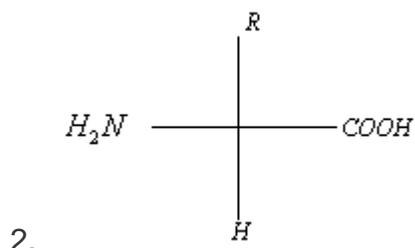
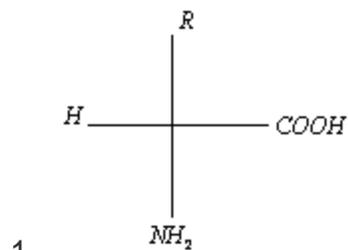
1. 1
2. 2
3. 4
4. 3

27) If the ratio of $\frac{A+G}{T+C}$ on one strand of DNA is 1.25, then the ratio of the same on the complementary strand is

1. 0.8

2. 1.5
3. 1.25
4. 2.5

28) Which of the following structures represents an L-amino acid



29) The formation of PH_4^{\oplus} is difficult compared to NH_4^{\oplus} because

1. lone pair of 'P' is optically inert
2. lone pair of 'P' resides in almost pure 'P' orbitals
3. lone pair of P resides in sp^3 orbital
4. lone pair of P resides in almost pure 's' orbitals

30) Resistance of a decimolar solution between two electrodes 0.02 metre apart and 0.004 m^2 in area was found to be 50, Ohm. Specific conductance (k) is

1. 0.1 sm^{-1}
2. 1 sm^{-1}
3. 10 sm^{-1}

4. $4 \times 10^{-4} \text{ s m}^{-1}$

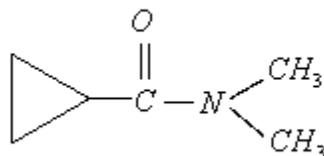
31) Hucke's rule states that a monocyclic conjugated compounds will be aromatic if it contains

1. $(4n + 2\pi)$ electrons
2. $(4\pi + 2\pi)$ Electrons
3. 4π Electrons
4. $(4n + 2)\pi$ Electrons

32) Which of the following is not a Bacteriostatic Antibiotics

1. Erythromycin
2. Chloromphenicol
3. Ofloxacin
4. Tetracycline

33) The IUPAC Name of given compound is



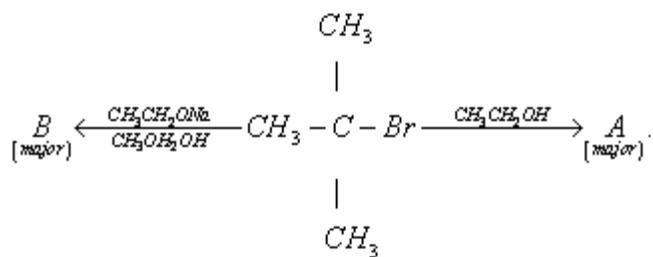
1. N,N- Dimethyl cyclopropane
2. N- methyl carboxamide
3. Cyclopropanamide
4. None of these

34) $4 \times 10^{-2} (W/V)\%$ solution of polymer 'X' is isotonic with $2 \times 10^{-2} (W/V)\%$ solution of polymer having number average molecular weight of 60,000. Then the number average molecular weight of polymer 'X' (the two polymer solutions are ideal solutions)

1. 30,000
2. 1,20,000
3. 90,000
4. 60,000

35) Equimolar solutions of two non-electrolytes in the same solvent have

1. same B.P's but different freezing points
2. same freezing point but different boiling points
3. Same B.P's and freezing points
4. different B.P's and freezing points



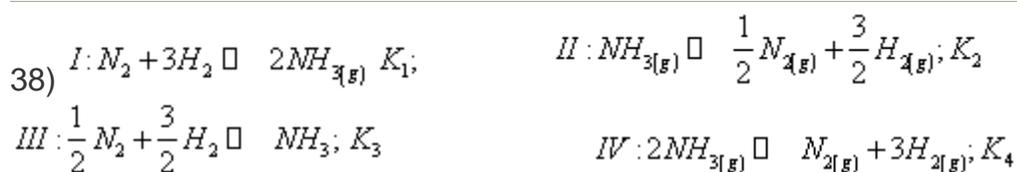
36)

Identify A and B

- Both A and B are $(\text{CH}_3)_3\text{COCH}_2\text{CH}_3$
- Both A and B are $(\text{CH}_3)_2\text{C}=\text{CH}_2$
- A is $(\text{CH}_3)_3\text{COCH}_2\text{CH}_3$ and B is $(\text{CH}_3)_2\text{C}=\text{CH}_2$
- A is $(\text{CH}_3)_2\text{C}=\text{CH}_2$ and B is $(\text{CH}_3)_3\text{COCH}_2\text{CH}_3$

37) A mineral MX_2 crystallises in ccp of M^{2+} ions whereas X^- ions occupy the tetrahedral voids. The no. of cations, anions per unit cell, the coordination of cation and percent of tetrahedral voids occupied are

- 4,8,8,100%
- 4,8,8,50%
- 8,4,8,50%
- 8,4,8,110%



If $\mathbf{K}_1 = \mathbf{K}_2^x = \mathbf{K}_3^y = \mathbf{K}_4^z$, then correct values of x,y and z are respectively

- 2,1,-2
- 1,2,-2
- 2,2,1
- +2,2,-1

39) Two solutions of KNO_3 and CH_3COOH are prepared separately Molarity of both is 0.1 M and osmotic pressures are P_1 and P_2 respectively. The correct relationship between osmotic pressures is

- $P_1 - P_2$
- $P_1 > P_2$
- $P_2 > P_1$
- $\frac{P_1}{P_1 + P_2} \neq \frac{P_2}{P_1 + P_2}$

40) An oxide of a non-metal has the following properties

- It acts both as a proton donor as well as proton acceptor
- It reacts readily with basic and acidic acids
- It oxidizes Fe at its boiling point

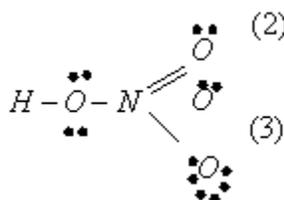
The oxide is

- P_2O_5
- SiO_2
- H_2O
- CO_2

41) When $BaCl_2$ is heated with $K_2Cr_2O_7$ in the presence of H_2SO_4 , a red gas (A) is evolved. The gas when passed through NaOH, solution turns it yellow (B), which gives yellow ppt (C) with $Pb(CH_3COO)_2$. Then which of the following is correct

1. A is CrO_2Cl_2
2. C is PbO_2
3. B is Cr_2O_3
4. C is $PbCrO_2$

42) In the following is Lewis structure of HNO_3 the formal charge on O(3) atom is



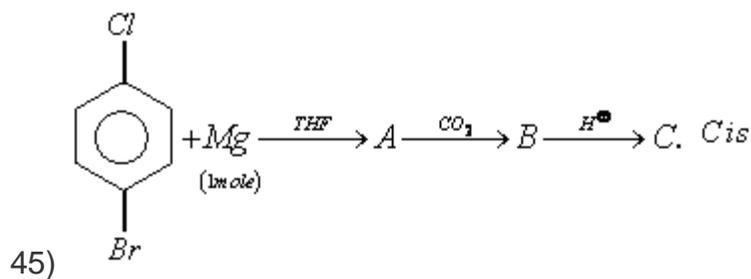
1. 0
2. -1
3. -2
4. +1

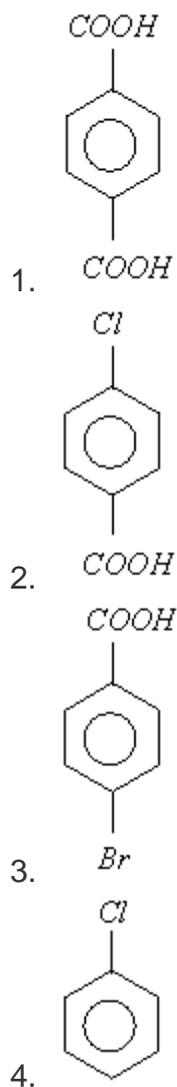
43) Which is wrongly reported

1. Spelter- impure zinc
2. Pig iron-impure iron
3. Sphalerite -Zno
4. Blister copper- impure copper

44) The std. enthalpies of formation at 300K for CCl_4 , $H_2O_{(g)}$, $CO_{2(g)}$ and $HCl_{(g)}$ are - 107, -242, -394 and -93KJ/mol respectively. The value of ΔU^0_{300K} for the reaction $CCl_4 + 2H_2O_{(g)} \rightarrow CO_{2(g)} + 4HCl_{(g)}$ is

1. -170 KJ/mol
2. -175 KJ/ mol
3. -182.5 KJ/mol
4. -282.5 KJ/mol





NEET-4 Answers

Chemistry

1) 1 2) 4 3) 3 4) 2 5) 1 6) 2 7) 2 8) 4 9) 3 10) 1 11) 4 12) 1
 13) 4 14) 4 15) 2 16) 2 17) 2 18) 3 19) 1 20) 3 21) 3 22) 4 23) 2 24) 3
 25) 1 26) 3 27) 1 28) 2 29) 2 30) 2 31) 4 32) 3 33) 1 34) 2 35) 3 36) 3
 37) 1 38) 4 39) 2 40) 3 41) 1 42) 2 43) 3 44) 3 45) 2

