CAREER POINT

JEE Main Online Exam 2019

Questions & Solutions

8th April 2019 | Shift - II

(Memory Based)

CHEMISTRY

Q.1 Which one of the following has sp^3d^2 hybridization -

(1) ICl_2^- (2) ICl_4^- (3) BrF_2^- (4) ICl_6^-

Ans. **[2]**

Q.2 Which is covalent metal halide ?

(1) BeX_2 (2) SrS_2 (3) CaX_2 (4) BaX_2

Ans. **[1]**

Q.3 Which of the following metal is purified by using Mond's process .....

(1) Ni (2) Mo (3) Cr (4) Fe and Cr

Ans. **[1]**

Q.4 Geometry of ICl_5 and ICl_4^- ?

(1) ICl_5 = square pyramidal ; ICl_4^- = Tetra7ydral

(2) ICl_5 = Trigonal bipyramidal ; ICl_4^- = Tetrahydral

(3) ICl_5 = square pyramidal ; ICl_4^- = square planar

(4)) both are isostructural

Ans. **[3]**

Q.5 $S + O_2 \rightarrow SO_2$ $k_1 = 10^{52}$

$2S + 3O_2 \rightarrow 2SO_3$ $k_2 = 10^{129}$

Which one is true for equilibrium constant for

$2SO_2 + O_2 \rightarrow 2SO_3$

(1) 10^{25} (2) 10^{24} (3) 10^{20} (4) 10^{30}

Ans. **[1]**

Q.6 Which of the following species has least bond length and diamagnetic in nature -

(1) C_2^{2-} (2) N_2^{2-} (3) O_2^{2-} (4) O_2

Ans. **[1]**

Q.7 Which is used for the treatment of cancer -

(1) trans[Pt(Cl) $(NH_3)_2$] (2) trans[$Pd(Cl)_2$ $(NH_3)_2$]

(3) cis[$Pt(Cl_2)$ $(NH_3)_2$] (4) cis[$Pd(Cl_2)$ $(NH_3)_2$]

Ans. **[3]**

Q.8 0.027 gm acid is disolved in 100 ml of water. 10 ml of solution is taken over round plate. Distance from the centre of edge of round plate is 10 cm. solvent is evaporated & only acid remains. If density of the acid is 0.9 gm/cc, height of acid will be- (π =3)

(1) 10^{-5} cm (2) 10^{-6} cm (3) 10^{-4} cm (4) 10^{-2} cm

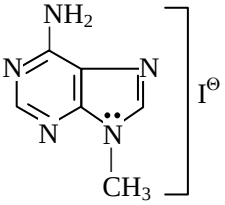
Ans. **[3]**

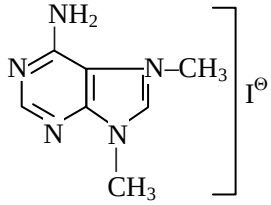
Q.9 '11.2V' H_2O_2

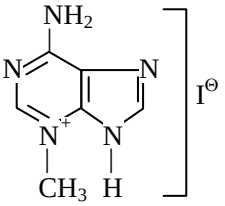
(1) 3.4 % (2) 1.7 % (3) 2.4 % (4) 3.2 %

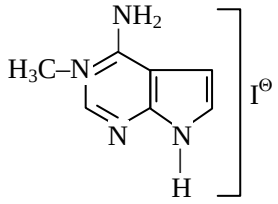
Ans. **[1]**

Q.10 Adenine + CH_3I $\longrightarrow$ Major product ?

(1) 

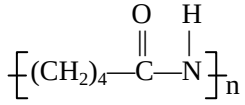
(2) 

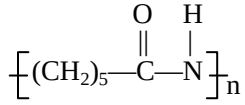
(3) 

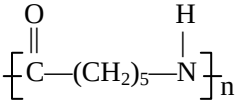
(4) 

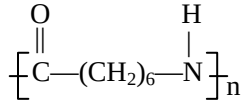
Ans. **[3]**

Q.11 Which of the following is Nylon-6 ?

(1) 

(2) 

(3) 

(4) 

Ans. **[3]**

Q.12 Polysubstitution is a major drawback of -

(1) Freidal craft acylation (2) Nitration on aromatic ring (3) F.C. Alkylation (4) F.C. Acylation

Ans. **[3]**

Q.13 If the reduction potential for different electrodes is given as below-

$E^\circ_{Ag^+/Ag} = x$

$E^\circ_{Fe^{+2}/Fe} = y$

$E^\circ_{Fe^{+3}/Fe} = z$

the potential of cell reaction will be $Ag^+ + Fe^{+2} \rightarrow Fe^{+3} + Ag$ -

(1) x – z (2) x – y (3) x + y – z (4) x + 3y –2z

Ans. **[4]**

Q.14 If mass m has a dibroglie wave length λ_A It is dissociated into two equal masses m_B and m_C both these masses moves in opposite directions with velocity $V_C = \frac{V_B}{2}$. Find relationship between λ_B, λ_A & λ_C

(1) $\lambda_B = \frac{\lambda_A}{2}, \lambda_C = \lambda_A$ (2) $\lambda_B = \lambda_A, \lambda_C = \lambda_A$

(3) $\lambda_B = 2\lambda_A, \lambda_C = \lambda_A$ (4) $\lambda_B = \lambda_{A/2}, \lambda_C = 2\lambda_A$

Ans. **[1]**

Q.15 5 mol of an ideal gas having temperature changes from 200 K to 300 K then ΔU and ΔPV, if C_{vm} is 28 and R is 8 J/mol-K :

(1) 10 kJ/mol, 4 kJ/mol (2) 4 kJ/mol, 14 kJ/mol

(3) 12 kJ/mol, 6 kJ/mol (4) 6 kJ/mol, 12 kJ/mol

Ans. **[1]**

Q.16 For a substance if de-Broglie wavelength is λ and momentum is P then find new wavelength when momentum become 1.5 P ?

(1) $\lambda/3$ (2) $2\lambda/3$ (3) $3\lambda/2$ (4) λ

Ans. **[2]**

Q.17 Mole % of carbon in CH_4 is …… -

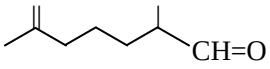
(1) 20% (2) 80% (3) 75% (4) 25%

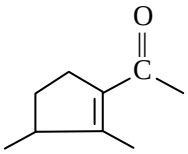
Ans. **[1]**

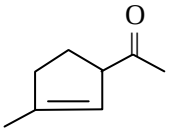
Q.18 What will be the concentration of Cu in drinking water -

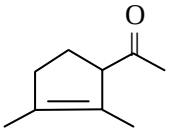
(1) 5 ppm (2) 0.5 ppm (3) 0.005 ppm (4) 3 ppm

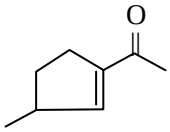
Ans. **[4]**

Q.19  Dil NaOH Product is -

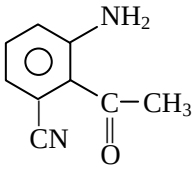
(1) 

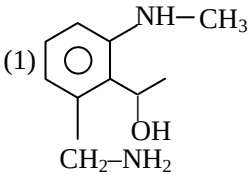
(2) 

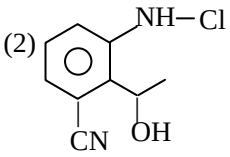
(3) 

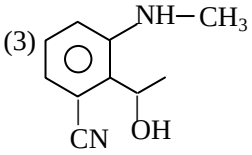
(4) 

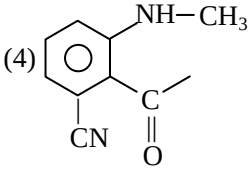
Ans. **[4]**

Q.20  (i) $CHCl_3$, KOH (ii) H_2 | Pd–C Product is ?

(1) 

(2) 

(3) 

(4) 

Ans. **[1]**

Q.21 Glucose and fructose can be disntuguish by

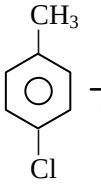
(1) Barfords' test

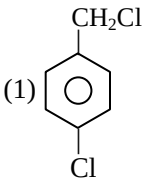
(2) Benedict solution test

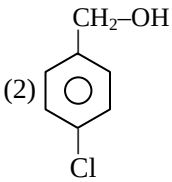
(3) Fehling solution test

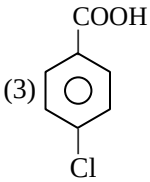
(4) Seliwan off's test

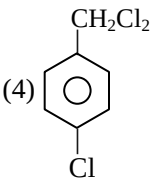
Ans. **[4]**

Q.22  (i) $Cl_2/h\nu$ (ii) H_2O/Δ Product ?

(1) 

(2) 

(3) 

(4) 

Ans. **[2]**

Q.23 Which of the following alkene will give anti markowinkoff product as major product ?

(1) $Cl–CH=CH_2$ (2) $NH_2–CH=CH_2$ (3) $CF_3–CH=CH_2$ (4) $MeO–CH=CH_2$

Ans. **[3]**

Q.24 Max. Enol content is -

(1) $CH_3–\overset{\overset{O}{\|}}{C}–CH_2–\overset{\overset{O}{\|}}{C}–CH_3$

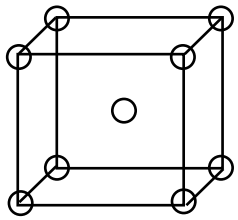
(2) $CH_3–\overset{\overset{O}{\|}}{C}–CH_2–\overset{\overset{O}{\|}}{C}–NH_2$

(3) $CH_3–\overset{\overset{O}{\|}}{C}–CH_2–\overset{\overset{O}{\|}}{C}–O–CH_3$

(4) $CH_3–\overset{\overset{O}{\|}}{C}–CH_3$

Ans. **[1]**

Q.25 Radius of central atom is doubled with respect to corner atom, then packing efficiency is -



(1) 68% (2) 90% (3) 75% (4) 48%

Ans. **[2]**

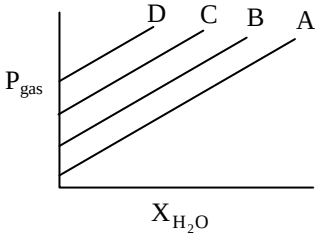
Q.26 $A \xrightarrow{k_1} B \xrightarrow{k2} C$ If all reactions are Ist order reaction, $\frac{dB}{dt} = 0$, determine [B]

(1) $(k_1 + k_2)$ [A] (2) $\frac{k_1}{k_2^2}$ [B] (3) $\frac{k_1}{k_2}$ [A] (4) (k_1k_2) [A]

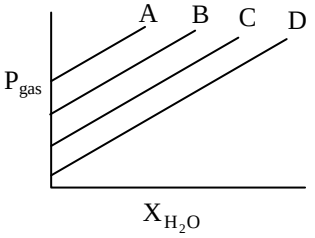
Ans. **[3]**

Q.27 Henry's constant for gases ABCD are 0.5, 2, 35, 40 bar respectively, then select correct graph

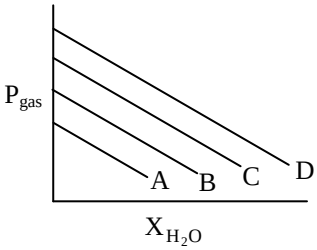
(1)



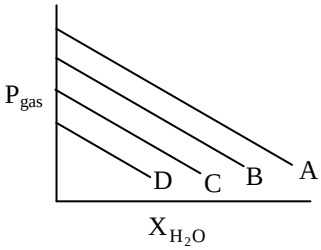
(2)



(3)



(4)



Ans. **[4]**

Q.28 What is the value of spin only magnetic moment of anionic and cationic parts of complex $[Fe(H_2O)_6]_2\ [Fe(CN)_6]$

(1) 4.9 B.M. & zero (2) zero and 4.9 B.M. (3) 2.9 BM and 0 (4) 0 and 2.9 B.M.

Ans. **[2]**

Q.29 Which of the following is incorrect about interstitial compounds -

(1) Very reactive (2) Hight metallic conducting

(3) Very hard (4) High melting point

Ans. **[1]**

Q.30 IUPAC symbol of atomic no. 119.

(1) Unh (2) Uun (3) Uue (4) Uub

Ans. **[3]**