

JEE Main Online Exam 2019

Questions & Solutions

9th April 2019 | Shift - II

(Memory Based)

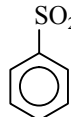
CHEMISTRY

- Q.1** Amorphous form of silica ?
(1) Quartz (2) Tridymite (3) Cristobalite (4) Kieselghur
Ans. [4]
- Q.2** $P = \frac{RT}{V - b} = V$ & P curve become more increasing steeper slope curve ?
(1) Ne (2) Ar (3) Kr (4) Xe
Ans. [4]
- Q.3** HF have highest boiling among the hydrogen halides -
(1) Strong H-bonding (2) Vander wall
(3) Low ionization enthalpy (4) low ionic character
Ans. [1]
- Q.4** Which of the following ore does not contain carbonate -
(1) Siderite (2) Calamine (3) Bauxite (4) Malachite
Ans. [3]
- Q.5** He^+ have ionization enthalpy in 1st excited state ?
(1) 13.6 eV (2) 54.4 eV (3) 48.4 eV (4) 6.08 eV
Ans. [2]
- Q.6** Which of the following is diamagnetic -
(1) NO (2) CO (3) O₂ (4) B₂
Ans. [2]
- Q.7** 10-50 km which atmospheric layer lies -
(1) Troposphere (2) Stratosphere (3) Mesosphere (4) Thermosphere
Ans. [2]

Q.8 Hinsberg reagent is -

(1) Sulphuryl chloride SO_2Cl_2

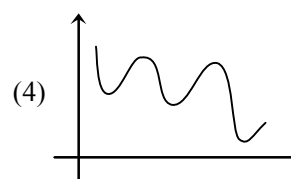
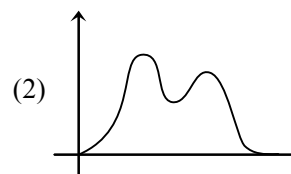
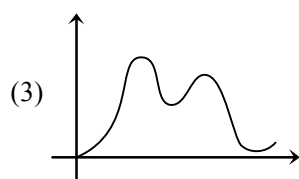
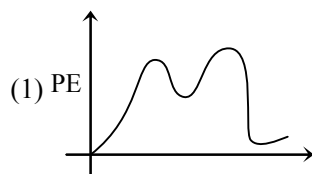
(3) $\text{SO}_2 + \text{Cl}_2$

(2) Benzene sulphonyl chloride 

(4) SOCl_2

Ans. [2]

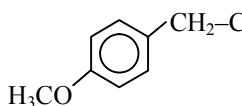
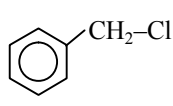
Q.9 SN^1 reaction correct graph ?



Ans. [3]

Q.10 Rate of SN^1 order

(A) $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{Cl}$ (B) $\text{CH}_3 - \text{CH}_2 - \text{Cl}$

(C)  (D) 

(1) $C > D > B > A$

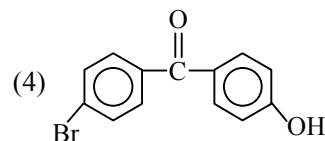
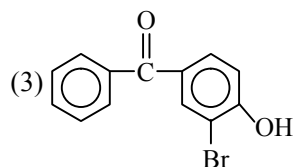
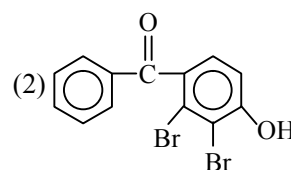
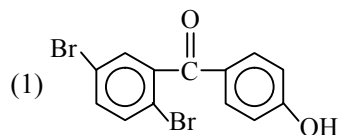
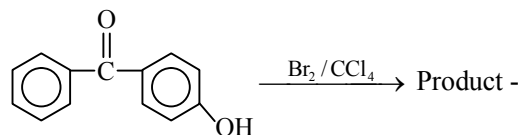
(2) $C > B > A > D$

(3) $A > B > C > D$

(4) $D > C > A > B$

Ans. [1]

Q.11 p-Hydroxy benzophenone :



Ans. [3]

Q.12 For a dipeptide amino acid gives following test

(A) Ceric ammonium nitrate

(B) Carbyl amine test

(1) Ser-lys

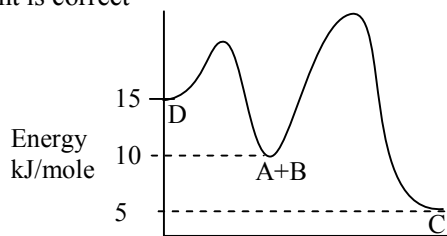
(2) Fer

(3) Gly-hys

(4) Lys

Ans. [1]

Q.13 Which of the following statement is correct -



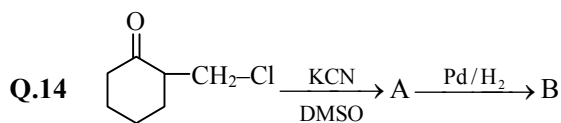
(1) D is kinetically most stable

(2) C is thermodynamically most stable

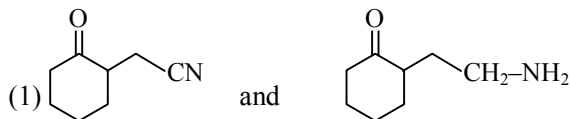
(3) Activation energy of D to A + B = 5 kJ/mol

(4) Enthalpy of formation of C is 5 kJ less than enthalpy of formation of D by A + B

Ans. [4]

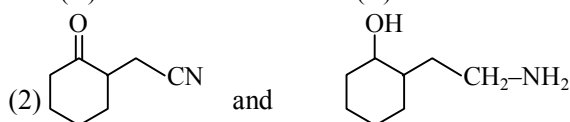


A and B will be -



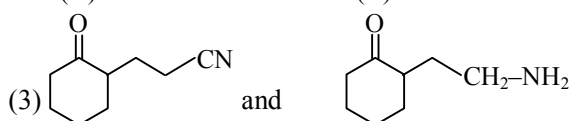
(A)

(B)



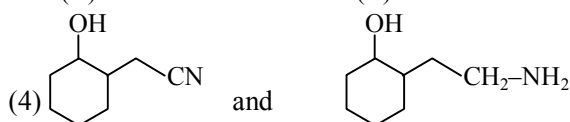
(A)

(B)



(A)

(B)



(A)

(B)

Ans. [4]

Q.15 Molecules from 10 ml of m molar solution are adsorbed on 0.24 cm² area forming unimolecular layer. Adsorbed molecules are cubic in shape determined the edge length of cube -

(1) 0.1 pm

(2) 1 pm

(3) 2 pm

(4) 2 pm

Ans. [3]

Q.16 Maximum oxidation state is shown by which of the actinides -

(1) Tr, AC

(2) Pu, Np

(3) Bk, Cm

(4) No, Lr

Ans. [2]

- Q.17** **Statement-1** : Colour of the complex is explained by VBT.
Statement-2 : Magnetic properties can be explained by VBT.
Statement-3 : By VBT we can distinguish strong and weak ligand.
Which of the following is correct -
(1) 1, 2 (2) T, 3 (3) 1, 2, 3 (4) 2, 3

Ans. [1]

- Q.18** **Assertion** : For extraction of Iron haematite ore is used.
Reason : Because haematite is carbonate ore.
(1) Assertion only is correct
(2) Reason only is correct
(3) Both assertion and reason are correct and reason is correct explanation of assertion
(4) Both A and R are correct and reason is not a correct explanation

Ans. [1]

- Q.19** 20 % w/w KI solution molality = ?
(1) 1.5 (2) 1.7 (3) 2 (4) 3

Ans. [1]

- Q.20** **Statement-1** : B_2O_3 is acidic.
Statement-2 : Al_2O_3 and Ga_2O_3 are Amphoteric.
Statement-3 : In_2O_3 and Tl_2O are basic in nature.
No. of correct statements are -
(1) 1, 2 (2) 2, 3 (3) 3, 1 (4) 1, 2, 3

Ans. [4]

- Q.21** Which of the following is diamagnetic in nature -
(1) NO (2) CO (3) O_2 (4) B_2

Ans. [2]

- Q.22** Calculate the depression in freezing point if $0.03 \frac{\text{mole}}{\text{kg}}$ K_2SO_4 is completely dissociated $K_f = 4 \text{ km}^{-1}$.

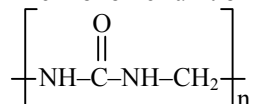
(1) 1.2 K (2) 0.36 K (3) 3.6 K (4) 12 K

Ans. [2]

- Q.23** How many moles of Ni are deposited by 0.1 F charge or $Ni(NO_3)_2$.
(1) 5 mole (2) 0.05 mole (3) 2 mole (4) 10 mole

Ans. [2]

- Q.24** The monomer unit of the following polymer will be :



(1) Methylamine (2) N-Methylurea (3) Ammonia (4) Formaldehyde

Ans. [4]

Q.25 Acetone (i) Pr opionaldehyde (ii)

With alcohols form acetal and ketal rate of reaction will be -

- (1) Same for (i) and (ii) (2) ii > i (3) i > ii (4) not possible

Ans. [2]

Q.26 For 1s orbital incorrect option is (a_0 = Bohr's radius)

- (1) Probability of finding e^- at $2a_0$ distance is maximum.
 (2) Probability of finding e^- at a_0 distance is maximum.
 (3) Energy is maximum at a_0
 (4) Probability of finding e^- near Nucleus is maximum

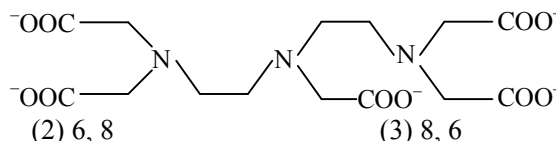
Ans. [1]

Q.27 $BeCl_2$ in vapour state and solid state -

- (1) Chain, dimeric (2) Dimeric, dimeric (3) Dimeric, chain (4) Chain, chain

Ans. [1]

Q.28 What is denticity of ligand for transition and innertransition element -



- (1) 8, 8 (2) 6, 8 (3) 8, 6 (4) 6, 6

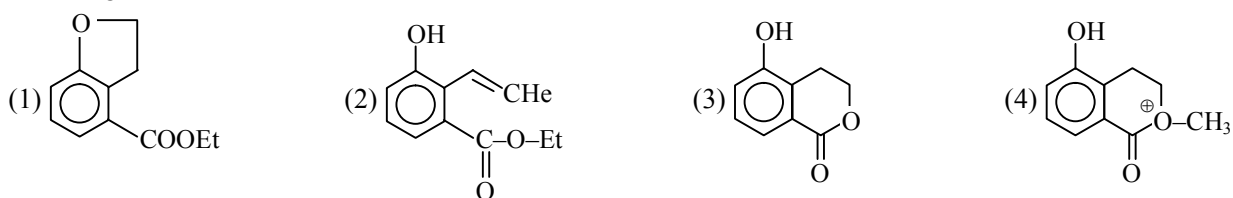
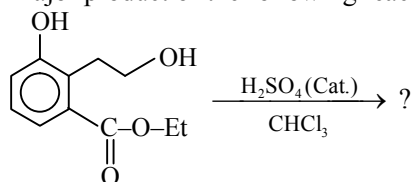
Ans. [2]

Q.29 Noradrenalin is one of the example of -

- (1) Anti histamine (2) Anti depresant
 (3) Antacid (4) Neurotransmitter

Ans. [4]

Q.30 Major product of the following reaction is :



Ans. [3]