

ChemGuru

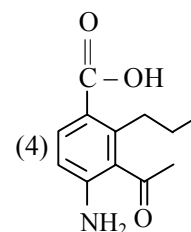
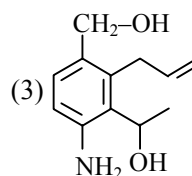
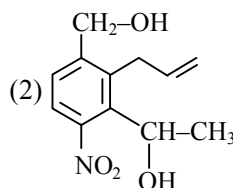
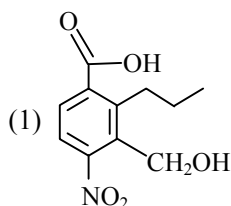
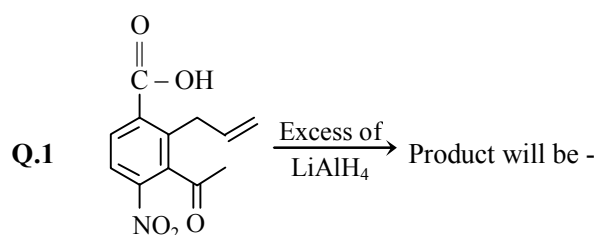
JEE Main Online Exam 2019

[Memory Based Paper]

Questions & Answer

11th January 2019 | Shift - II

CHEMISTRY



Ans. [3]

Q.2 What is the reason for fading (dullness) of colour of the Taj Mahal -

(1) air pollution

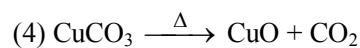
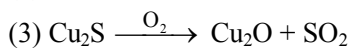
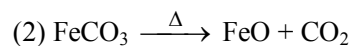
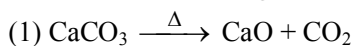
(2) Water pollution

(3) Soil pollution

(4) Acid Rain

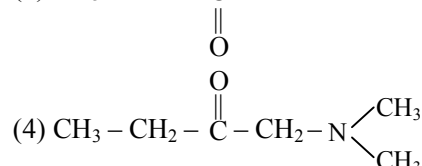
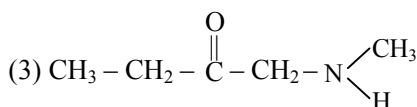
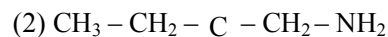
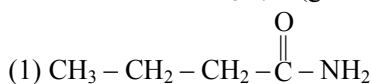
Ans. [4]

Q.3 Which of the following is roasting process -



Ans. [3]

Q.4 $\text{X} \xrightarrow{\text{Br}_2/\text{NaOH}} \text{C}_3\text{H}_9\text{N}$ (gives carbylamine test) What is the structure of compound X -



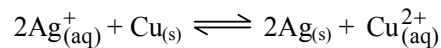
Ans. [1]

Q.5 Which of the following order of E.N. is correct according to Pauling scale -

- (1) Al > Si (2) Se < Te (3) Ge > Ga (4) P > S

Ans. [3]

Q.6 For the following cell reaction at equilibrium



if $K_c = 10^{16}$

Calculate E_{Cell}°

- (1) 0.342 V (2) 0.472 V (3) 0.538 V (4) 0.424 V

Ans. [2]

Q.7 Which gas causes stiffness of flower buds -

- (1) CO₂ (2) CO (3) SO₂ (4) N₂

Ans. [3]

Q.8 In which of the following trend +1 oxidation state stability increase -

- (1) Tl < In < Ga < Al (2) Al < Ga < In < Tl
(3) Tl < Al < Ga < In (4) Ga < Tl < In < Al

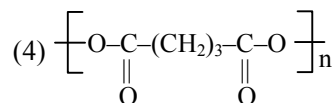
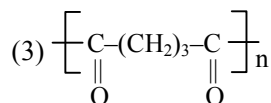
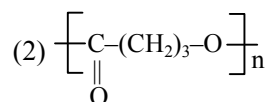
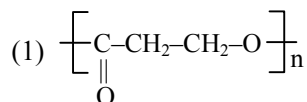
Ans. [2]

Q.9 Which of the following compound is not electron deficient

- (1) B₂H₆ (2) AlH₃ (3) SiH₄ (4) GaH₃

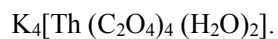
Ans. [3]

Q.10 Polymer of 4-Hydroxy butanoic acid -



Ans. [2]

Q.11 What is the coordination number of



(Given that charge on oxalate ion is -2).

- (1) 8 (2) 6 (3) 12 (4) 10

Ans. [4]

Q.12 A ball of certain radius is placed on the edge of B.C.C. lattice. What will be its maximum radius without any distortion in B.C.C. structure. Assuming 'a' is edge length of unit cell -

- (1) $0.067 a$ (2) $0.057 a$ (3) $0.060 a$ (4) $0.67 a$

Ans. [1]

Q.13 What is the Van't Hoff's factor of $K_2[HgI_4]$ if % dissociation is 40 %

- (1) 1.8 (2) 1.6 (3) 2.2 (4) 2.0

Ans. [1]

Q.14 $2X \rightarrow Y$

if $[X] = 0.2 \text{ M}$ and $t_{1/2} = 6 \text{ hr}$. Assuming zero order reaction, how much time is required to change the concentration of X from 0.5 M to 0.2 M

- (1) 18 hrs (2) 15 hrs (3) 20 hrs (4) 16 hrs

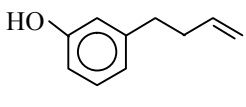
Ans. [1]

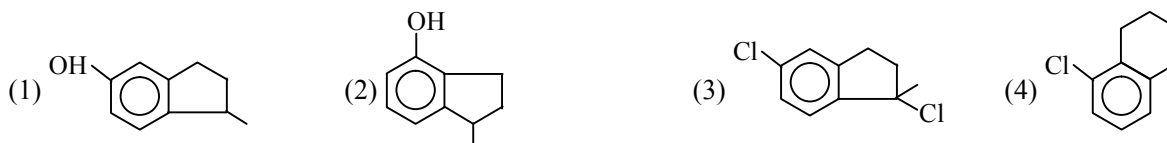
Q.15 If $\Delta S = 198 \text{ J}$ and $\Delta H = 491.1 \text{ kJ}$

Upto which maximum temperature (in Kelvin) reaction is feasible -

- (1) 2480.3 (2) 2400 (3) 2200 (4) 2300

Ans. [1]

Q.16  Major (P) will be -



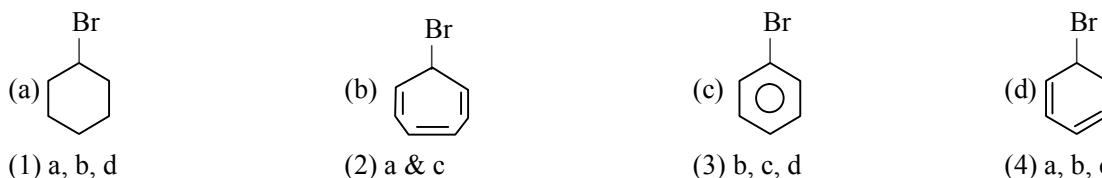
Ans. [1]

Q.17 Which one of the following is correct for cheese, milk and smoke -

- (1) liquid in solid, solid in gas, liquid in liquid (2) liquid in solid, solid in gas, liquid in liquid
(3) liquid in solid, liquid in liquid, solid in gas (4) liquid in liquid, liquid in solid, solid in gas

Ans. [3]

Q.18 Which of the following gives precipitate with $AgNO_3$?



Ans. [1]

Q.19 $\Delta G = a - bT$

Which one is true -

- (1) $a < 0$ process is endothermic (2) $a < 0$ process is exothermic
 (3) $a < 0$ and $b > 0$ process is endothermic (4) $a > 0$ and $b < 0$ process is exothermic

Ans. [2]

Q.20 0.1, 30ml Na_2CO_3 react with 25 ml HCl, then how much volume of HCl is required to completely neutralise 0.2 M, 30 ml NaOH

- (1) 25 (2) 35 (3) 50 (4) 20

Ans. [1]

Q.21 Photons of ν frequency fall on the metal surface having threshold frequency ν_0 it result in emission of electron whose de-Broglie wavelength is λ then which one is correct -

- (1) $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{2}}$ (2) $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{4}}$ (3) $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^2$ (4) $\lambda \propto \left(\frac{1}{\nu - \nu_0}\right)^{\frac{1}{8}}$

Ans. [1]

Q.22 If $2\text{H}_2\text{O} \rightleftharpoons \text{H}_3\text{O}^+ + \text{OH}^-$

at equilibrium for above reaction determine value of ΔG° if temperature is 298 K -

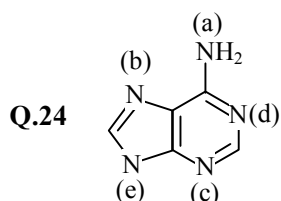
- (1) + 80 kJ (2) - 80 kJ (3) + 100 kJ (4) -100 kJ

Ans. [1]

Q.23 (i) Washing soda (P) $\text{Ca}_2\text{Al}_2\text{O}_6$
 (ii) Temporary hardness (Q) Solvay process
 (iii) NaOH (R) Castner Kellner Cell
 (iv) Cement (S) $\text{Mg}(\text{HCO}_3)_2$

- (1) (i) - Q ; (ii) - S ; (iii) - R ; (iv) - P (2) (i) - S ; (ii) - R ; (iii) - P ; (iv) - Q
 (3) (i) - R ; (ii) - Q ; (iii) - P ; (iv) - S (4) (i) - R ; (ii) - P ; (iii) - S ; (iv) - S

Ans. [1]



At which of the following site protonation take place easily -

- (1) a, d (2) a, c (3) b, c, d (4) b, d, e

Ans. [3]

Q.25 How many bridging CO ligand are present and how many Co-Co bonds are present in $\text{Co}_2(\text{CO})_8$

- (1) 4, 1 (2) 0, 2 (3) 2, 1 (4) 2, 0

Ans. [3]

- Q.26** (i) Poison (P) Some drug bind to different site of Enzyme.
 (ii) Competitive inhibitor (Q) Drug inhibit binding site of the enzyme.
 (iii) Allosteric site (R) Drug compete with the natural substrate for their attachment on the active site.
 (iv) Receptor (S) Macromolecule which are crucial to communication system
- (1) (i) – P ; (ii) – Q ; (iii) – S ; (iv) – R (2) (i) – Q ; (ii) – R ; (iii) – P ; (iv) – S
 (3) (i) – Q ; (ii) – P ; (iii) – S ; (iv) – R (4) (i) – S ; (ii) – P ; (iii) – R ; (iv) – Q

Ans. [2]

- Q.27** Which of the following is correct ?

Test		Amino acids	
(a)	Ester test	(i)	Arg
(b)	Carbylamine test	(ii)	Asp
(c)	Phenolphthalene dye test	(iii)	Tyr
		(iv)	Ser

- (1) a – (i) ; b – (ii) ; c – (iv) (2) a – (ii) ; b – (i) ; c – (iii)
 (3) a – (i) ; b – (iii) ; c – (ii) (4) a – (iii) ; b – (ii) ; c – (i)

Ans. [2]

- Q.28** Which of the following react with Et-mg-Br and also give Br₂ / H₂O test -



Ans. [4]