CHEMISTRY

QUESTION SET-5

1. Which of the following oxides is amphoteric in character?

a) CaO b)CO₂ c)SiO₂ d)SnO₂

2. The oxidation state of Cr in $[Cr(NH_3)_4Cl_2]^+$ is

a) +3 b)+2 c)+1 d)0

3. Hydrogen bomb is based on the principle of

c) nuclear fusion d)artificial radioactivity

4. An ionic compound has a unit cell consisting of A ions at the corners of a cube and B ions on the centres of the faces of the cube. The empirical formula for this compound would be

a)AB	b)AB ₃	$c)A_2B$	d)A ₃ B

5. Which of the following is a polyamide?

a)Teflon	b)nylon-66	c)terylene	d)Bakelite
6. Which one of the following types of drugs reduces fever?			
a)analgesic		b) antipyretics	
c)anti biotics		d)tranquiliser	
7. The highest electrical conductivity of the following aqueous solution is of			
a)0.1M acetic acid	b) 0.]	M chloroacetic ac	id
c) 0.1M fluoroacetic acid	d)	0.1M difluoroace	ic acid
8. Aluminium oxide may be electrolysed at 1000° c to furnish aluminium metal (at.mass =27amu,1 faraday =96,500coulomb.The cathode reaction is $Al^{3+}+3e^{-} \rightarrow Al^{\circ}$. To prepare 5.12 kg of aluminium metal by this method would require			

a) 5.49×10^7 C of electricity	b) 1.83×10^7 C of electricity
c)5.49x10 ⁴ C of electricity	d)5.59x10 ¹⁰ C of electricity

9. Consider the reaction $N_2+3H_2 \rightarrow 2NH_3$, carried out at constant tempreture and pressure. If ΔH and ΔU are the enthalpy and internal energy changes for the reaction, which of the following expression is true?

a) $\Delta H=0$ b) $\Delta H=\Delta U$

c) Δ H smaller than Δ U d) Δ H greater than Δ U

10. Benzene and toluene form nearly ideal solutions.At 20 0 C, the vapour pressure of benzene is 75 torr and that of toluene is 22 torr.The partial vapour pressure of benzene at 20 0 C for a solution containing 78g of benzene and 46 g of toluene in torr is

a)50	b)25
c)37.5	d)53.5
11 .A reaction involving two	o different reactants can never be
a)unimolecular reaction	b)first order reaction
c) second order reaction	d)bimolecular reaction
12 .Heating mixture of Cu ₂ C	and Cu ₂ S will give
a)Cu+SO ₂	b)Cu+SO ₃
c)CuO+CuS	d)Cu ₂ SO ₃
13 . Which of the following c	compounds shows optical isomerism
a) $[Cu(NH_3)_4]^{2+}$	b) $[ZnCl_4]^{2-}$
c)Cr(C ₂ O ₄) ₃] ³⁻	d) $[Co(CN)_{6}]^{3-}$
14.2-Methylbutane on react	ing with bromine in the presence of sunlight gives mainly
a)1-bromo-2-methylbutane	b)2-bromo-2-methylbutane
c) 2-bromo-3-methylbutane	d) 1-bromo-3-methylbutane
15. The best reagent to conv	ert pent-3-en-2-ol into pent -3-en-2-one is
a)acid permanganate	b)acidic dichromate
c)chromic anhydride in glac	cial acetic acid d)pyridinium chloro chromate
16.Tertiary alkyl halides are	e practically inert to substitution by SN_2 mechanism because of
a)insolubility	b)instability

c)inductive effect	d)steric hinderance	
17. Among the following acid which has the lowest pKa value?		
a)CH ₃ COOH	b)HCOOH	
c)(CH ₃) ₂ CH-COOH	d)CH ₃ CH ₂ COOH	
18.Elimination of bromine from 2-bromobutane results in the formation of		
a)equimolar mixture of 1 and 2-butene	b)predominantly 2- butane	
c) predominantly 1- butane	d) predominantly 2- butyne	
19 . The value of the spin only magnetic moment for one of the following configuration is 2.84BM. The correct one is		
a)d ⁴ (in strong ligand field)	b)d ⁴ (in weak ligand field)	
c)d ³ (in weak as well as in strong field)	d)d ⁵ (in strong ligand field)	
20.Equivalent weight of anhydrous oxalic acid is		
a)45	b)54	
c)36	d)60	

ANSWERS OF SET-5

Questions	Answer
1	D
2	В
3	D
4	В
5	А
6	В
7	В
8	А
9	А
10	С

11	А
12	Α
13	Α
14	В
15	В
16	С
17	D
18	В
19	В
20	D