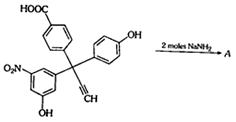
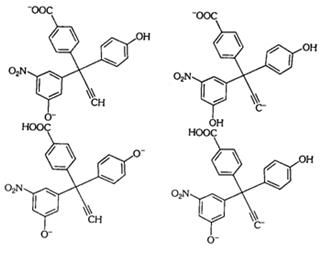
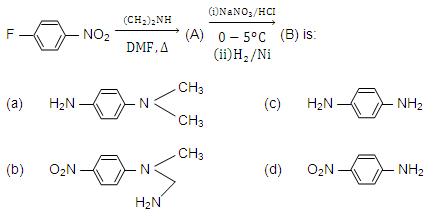
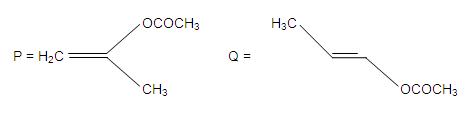
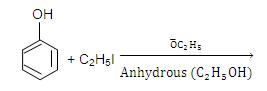
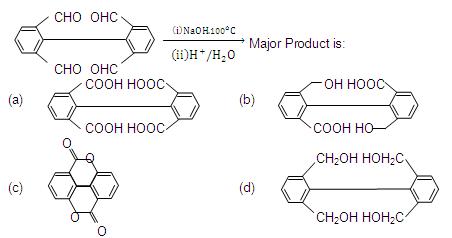
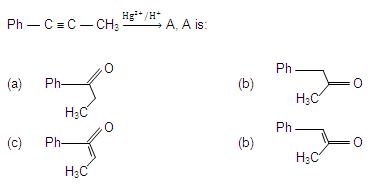
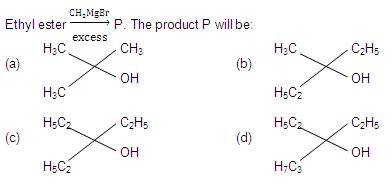
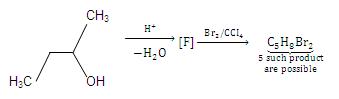
**IIT-JEE-Chemistry-Screening-2003**

**SCREENING** **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   
 **1.**         Among the following the molecule with the highest dipole moment is :   
            (a)       CH3CI                                                   
            (b)       CH2CI2   
            (c)       CHCI3                                                  
            (d)       CCI4   
    
 **2.**         Which of the following are isoelectronic and isostructural?   
            NO3-, C O32-, CI O3-, SO3   
            (a)       N O3-, C O32-                                         
            (b)       SO3, N O3-   
            (c)       CI O3-, C O32-                                        
            (d)       C O32-, SO3   
    
 **3.**   
            
    
            The product A will be   
     
           
    
 **4.**       [X] + H2SO4 → [Y] a colourless gas with irritating smell   
            [Y] + K2CrO7 + H2SO4 ® green solution   
            [X] and [Y] is:   
            (a)       S O32-, SO2                                           
            (b)       CI-, HCI   
            (c)       S2-, H2S         
            (d)       C O3-, CO2   
    
 **5.**       For H3PO3 and H3PO4 the correct choice is:   
            (a)       H3PO3 is dibasic and reducing   
            (b)       H3PO3 is dibasic and non-reducing   
            (c)       H3PO4 is tribasic and reducing   
            (d)       H3PO3 is tribasic and non-reducing   
    
 **6.**      When MnO2 is fused with KOH, a coloured compound is formed, the product and its colour is :   
            (a)       K2MnO4, purple green       
            (b)       KMnO4, purple   
            (c)       Mn2O3, brown        
            (d)       Mn3O4 black

**7.**      Rate of physiorption increases with :   
            (a)       decrease in temperature    
            (b)       increase in temperature   
            (c)       decrease in pressure   
            (d)       decrease in surface area   
    
 **8.**       Which of the following represent the given mode of hybridization   
sp2 - sp2 - sp - sp from left to right?   
            (a)       H2C = CH - C ≡ N         
            (b)       HC ≡ C - C ≡ CH   
    
            (c)       H2C = C = C = CH2           
            (d)         
                      hibridization   
    
 **9.**      
          
    
 **10.**    The product of acid hydrolysis of P and Q can be distinguished by :   
                 
           
  
            (a)       Lucas Reagent                             
            (b)       2, 4-DNP   
            (c)       Fehling's solution       
            (d)       NaHSO3   
    
 **11.**         
              
    
            (a)       C6H5OC2H5                                  
            (b)       C2H5OC2H5   
            (c)       C6H5OC6H5        
            (d)       C6H5I   
    
 **12.**       Which has maximum number of atoms?   
            (a)       24g of C (12)                                 
            (b)       56 g of Fe (56)   
            (c)       27g of AI (27)                            
            (d)       108 g of Ag (108)

**13.**        
    
 **14.**     In the electrolytic cell, flow of electrons is from :   
            (a)       cathode to anode in solution   
            (b)       cathode to anode through external supply   
            (c)       cathode to anode through internal supply   
            (d)       anode to cathode through internal supply   
    
 **15.**      In a first order reaction the concentration of reactant decreases from 800 mol/dm3 to 50 mol/dm3 is 2 × 104 sec. The rate constant of reaction in sec-1 is :   
            (a)       2 × 104                                
            (b)       3.45 × 10-5   
            (c)       1.386 × 10-5                        
            (d)       2 × 10-4   
    
 **16.**      During depression of freezing point in a solution the following are in equilibrium :   
            (a)       liquid solvent, solid solvent             
            (b)       liquid solvent, solid solute   
            (c)       liquid solute, solid solute              
            (d)       liquid solute solid solvent   
    
 **17.**      H3BO3 is :   
            (a)       Monobasic and weak Lewis acid   
            (b)       Monobasic and weak Bronsted acid   
            (c)       Monobasic and strong Lewis acid   
            (d)       Tribasic and weak Bronsted acid   
    
 **18.**    
          
 **19.**     
          
    
 **20.**      Mixture X = 0.02 mol of [Co(NH3)5 SO4]Br and 0.02 mol of [Co(NH3)5Br]SO4 was prepared in 2 litre of solution.   
                        1 litre of mixture X + excess AgNO3 → Y   
1 litre of mixture X + excess BaCI3 → Z   
Number of moles of Y and Z are :   
            (a)       0.01, 0.01                                  
            (b)       0.02, 0.01   
            (c)       0.01, 0.02                           
            (d)       0.02, 0.02   
    
 **21.**      Which of the reaction defines ΔHf0:   
            (a)       Cdiamond + O2(g) → CO2(g)           
            (b)       1/2 H2(g) + 1/2 F2(g) → HF(g)   
            (c)       N2(s) + 3H2(g) → 2NH3(g)              
            (d)       CO(g) + 1/2 O2(g) → CO2(g)   
    
 **22.**       23Na is the more stable isotope of Na. Find out the process by which 24Na11 can undergo radioactive decay:   
            (a)       b- emission                         
            (b)       a emission   
            (c)       b+ emission                       
            (d)       K electron capture   
    
 **23.**      (Me)2 SiCI2 on hydrolysis will produce :   
            (a)       (Me)2 Si(OH)2                   
            (b)       (Me)2 Si = O   
            (c)       -[-O-(Me)2 Si-O-]n-           
            (d)       Me2SiCl(OH)   
    
 **24.**      A solution which is10-3 M each in Mn2+, Fe2+, Zn2+ and Hg2+ is treated with 10-16 M sulphide ion. If Ksp of MnS, FeS, ZnS and HgS are 10-15, 10-23, 10-20 and 10-54 respectively, which one will precipitate first?   
            (a)       FeS                           
            (b)       MgS   
            (c)       HgS                           
            (d)       ZnS   
 **25.**      In the process of extraction of gold,   
            Roasted gold ore + CN- + H2O → O2 → [X] + OH-   
            [X] + Zn → [Y] + Au   
            Identify the complexes [X] and [Y] :   
            (a)       X = [Au(CN)2]-, Y = [Zn(CN)4]2-   
            (b)       X = [Au(CN)4]3-, Y = [Zn(CN)4]2-   
            (c)       X = [Au(CN)2]-, Y = [Zn(CN)6]4-   
            (d)       X = [Au(CN)4]-, Y = [Zn(CN)4]2-   
    
 **26.**     Positive deviation from ideal behaviour takes place because of :   
            (a)       Molecular interaction between atom and PV/nRT > 1.   
            (b)       Molecular interaction between atom and PV/nRT < 1.   
            (c)       Finite size of atom and PV/nRT > 1   
            (d)       Finite size of atoms and PV/nRT < 1   
    
    
 **27.**        
           
    
            How many structures of F is possible?   
            (a)       2                                           
            (b)       5   
            (c)       6                                                
            (d)       3   
    
 **28.**      An enantiomerically pure acid is treated with racemic mixture of an alcohol having one chiral carbon. The ester formed will be:   
            (a)       Optically active mixture           
            (b)       Pure enantiomer   
            (c)       Meso Compound                  
            (d)       Racemic mixture