MONTHLY TEST-AUGUST-2023

CLASS   : XII   TIME   : 1.30 HRS
SUBJECT : CHEMISTRY   UNIT-8,11(125-139)   MARKS : 50

PART-I

Choose the correct answer   **10 x 1 = 10**

1. Carbolic acid is :
   - (a) Phenol   (b) Picric acid
   - (c)   Benzoic acid   (d) Phenyl acetic acid

2. on reacting with neutral ferric chloride. Phenol gives
   - (a) Dark green colour   (b) Red colour
   - (c) No colouration   (d) violet colour

3. Williamson synthesis of preparing dimethyl ether is a/an
   - (a) Electrophilic substitution reaction   (b) S_N1 reaction
   - (c) S_N2 reaction   (d) Electrophilic addition reaction

4. the major product obtained when phenol reacts with corn H_2SO_4 at 280 K is :
   - (a) Salicylic acid   (b) Picric acid
   - (c) O-phenol sulphonicacid   (d) p-phenol sulphonicacid

5. The pH of an aqueous solution is zero. The solution is
   - (a) Neutral   (b) Slightly acidic
   - (c) Basic   (d) stongly acidic

6. Which of these in not likely to act as lewis base ?
   - (a) BF_3 (b) PF_3 (c) CO   (d) F^-

7. Which one of the following will cause common-ion-effect when added to the following dissociation equilibrium reaction ?

   $$CH_3COOH\ (aq) \rightleftharpoons CH_3COO^-(aq)\ +\ H^+(aq)$$

   - (a) CH_3COCl (b) AgCl
   - (c) CH_3Cl (d) HCl

8. The aqueous solutions of sodium formate, anilinium chloride and potassium   cyanide respectively.
   - (a) acidic,acidic,acidic   (b) acidic ,acidic ,basic
   - (c) Basic acidic basic   (d) basic,neutral ,basic

9. The pH of 10^{-3} M KOH solution will be
   - (a) 3   (b) 11   (c) 14   (d) none of these

10. Which one of the following is the strongest acid
   - (a) 2 - nitrophenol   (b) 4 – chlorophenol
   - (c) 4 – nitrophenol   (d) 3 – nitrophenol

PART-II

Answer any five questions. Q.no : 17 is compulsory   **5 x 2 = 10**

11. Define common ion effect with example
12. Define pH
13. What is buffer capacity ? what is buffer index(β)
14. give the uses of diethyl ether
15. Give the coupling reaction of phenol

16. How to differentiate phenol and alcohol
17. What is conjugate Acid-Base pairs ? give example

PART-III
Answer any five questions. Q.no : 24 is compulsory				**5 x 3 = 15**
18. What is buffer solution ? Give an example
19. Define ionic product of water .Give its value at room temperature
20. what are Lewis acid and bases give one example for each
21. How is phenolphthalein is prepared ?
22. Write the kolbes reaction.
23. Write any two methods of preparing of diethyl ether
24. How does diethyl ether react with the following reagent
      a) Cl_2/light			b) dil H_2SO_4			c) PCl_5
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PART-IV
Answer all the questions.						**3 x 5 = 15**
25. a) i) Derive an expression for ostwald dilution law(3)
       ii) What are the limitations of Arrhenius concept ?(2)
                         (OR)
     b) i) Derive the Relation between P^H and P^{OH}(3)
        ii) Write the expression for the solubility product of Hg_2Cl_2 (2)

26. a) i) Derive henderson equation (3)
       ii) Write the relation between ionic product and solubility product(2)
                         (OR)
     b) i) Write a short note on schotten-baumann reaction (2 ½)
        ii) Write note on Reimer Tiemann Reaction (2 ½)

27. a) i) How will you prepare picric acid from phenol(2 ½)
       ii) Write note on Friedel craft's reaction(2 ½)
                         (OR)
     b) i) How will you convert aniline to phenol ? (2)
        ii) Compound (A) of molecular formula C_6H_6O give purple colouration with neutral
           $FeCl_3$. Compound (A) reacts with ammonia to give Compound (B) and it also
           reacts with Zn dust to give Compound (C). Identify the compounds A, B, and C .
           Write down the equations. (3)

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