**Q1/**Distinguish between the following compounds in each mix. by using

 chemical test :-

1. Carboxylic acid + benzene. b-Bromo benzene + chloro benzene.

**Q2/ What,s mean (acid , base ) according to the following concepts:-**

 **1/ Organic chemistry. 2/ Arrhenius Theory.**

 **Q3/** How you can separate the following mixtures using one or more suitable

 method:-

1. NaCl +H2O b) NaCl + Oil

 c/ NaCl + ether d/ benzophenone + H2O

**Q4/ What are the types of Solubility? With a proper exmple.**

 **Q5 / Determine the solubility class for the following organic compounds:**

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**Q6/Write the suitable equation for the following:-**

 **a/ Adding extra sodium in the sodium melt test. c/ Lassaige,s test.**

 **b/ Adding ethanol in the sodium melt test. d/ detection for sulfer.**

 **Q7/Name the following compounds:-**



***Q8/*** Give the reason for:-

 a/shaking the two layers well in separating funnel.

 b/ Tea leaves bags contain more caffeine than free it

 c/ Use distillation instead of using the heater directly to separate the water from the sugar.

 d/ Filtration is used to separate the benzophenone from the water, while distillation is used to separate it from the ether.

***Q9/***Draw the structure for the following:-

 benzoic acid, aniline, Caffeine , purine, benzophenone

***Q10/***What is the fact which each of the following depends on:-

1/Liquid-liquid extraction 2/Acid-base extraction

***Q11/*** How do you separate benzoic acid from benzophenone in a mixture using ether as a solvent?

***Q12/***Complete the following equations ,then give the reason if it’s necessary :-

1. NaCN + FeSO4  **using heat &Conc.H2SO4**)
2. Na2S + (CH3COO)2Pb 

3)2Na + N + S  **, (** **using excess of Na )**

4)AgCl +NH4OH  **,** AgI+NH4OH 

AgBr + NH4OH  **Explain**

***Q13/*** Determine the solubility class for the following organic

 compounds, using solubility diagram :-

2-Hexanone 2) Phenol 3) 2,4-dinitro phenol 4) benzene

***Q14/*** When a compound soluble in H2O but not in ether, it is expected

 to be.

***Q15*/** Write the detail mechanism for nitration of benzoic acid.

***Q16* /** Define the following:-

1. Extraction 2) Lassaigne's test 3) Solubility

***Q17/***Calculate the value of partition coefficient for salt if (0.1 gr)of it dissolves in (10 ml)

 of water ,but ( 0.4 gm ) dissolves in (10 ml )of oil.

***Q18/***Count four properties of the extracting solvent.

***Q19/***Simply explain how caffeine is extracted from tea leaves

***Q20/***Expected what a compound is to be if it dissolves in:-

 a/ NaOH and in NaHCO3 b/ water and in ether c/ water

***Q21/*** How you can distinguish between the following according to their

 solubility :

a/ H2C=CH2 & H3C-CH3 . b/ 

***Q22/*** What are the compouds that are extracted from tea leaves in water

 when heated?

***Q23/*** What does selected solvent mean?

***Q24/*** What is the basis for the extraction process?

***Q25/*** Name the following shapes :-

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