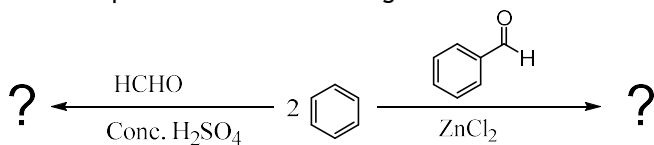
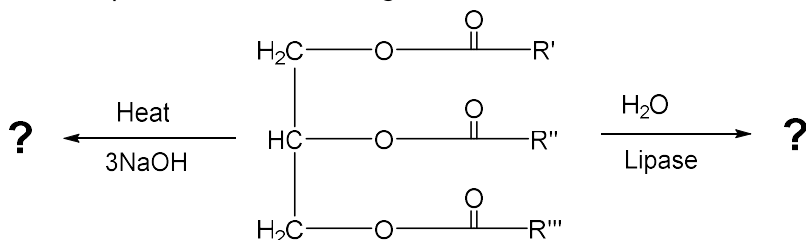




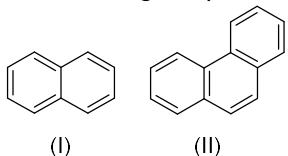
H. Draw the products of the following reactions.



I. Draw the products of the following reactions.



J. Write the names of the following polynuclear aromatic hydrocarbon compounds. Give examples of one drug containing the following compounds.



#### PART-II

##### Short Answers

(Instruction: Answer seven out of nine questions)

(7 x 5 = 35 Marks)

- Q2. Write the Diels-Alder method of synthesis of cycloalkane.  
 Q3. Write the Howarth method of synthesis of Naphthalene.  
 Q4. Explain and draw the mechanism of Hofmann's Rearrangement of benzamide.  
 Q5. Define and explain the various mechanisms of rancidification of fats.  
 Q6. Define, classify, and write down the significance of the hydrogenation of oil.  
 Q7. Explain and draw the mechanism of Friedel-Crafts alkylation of benzene.  
 Q8. Explain the effect of substituents on the basicity of aromatic amines.  
 Q9. Write the definition and Wij's method of determining the iodine value of fats and oils.  
 Q10. Write the Kolbe Reaction. Give one example of the use of this reaction in the pharmaceutical industry.

#### PART-III

##### Long Answers

(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

- Q11. Explain why phenols are more acidic than alcohol but less acidic than carboxylic acid. Your answer should contain the canonical/resonance structures of phenol and carboxylic acid.  
 Q12. Explain the Bayer strain theory. Your answer should include the structures of cycloalkanes and calculations of their bond angle and angle strain. Write the limitations of the Bayer strain theory.  
 Q13. Explain the effect of substituents in aromatic electrophilic substitution reactions towards the disubstitution of benzene. Your answer should include the canonical structures of benzene.

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