

- N.B. :**
- 1) All questions are compulsory**
  - 2) Figures to the right indicate full marks.**
  - 3) Use of log tables/non-programmable calculator is allowed.**
  - 4) Answers to the two section should be written on the same answerbook**

Q1.	A	Explain SN <sup>1</sup> reaction.	3
	B	Answer any <b>three</b> of the following:	
	i	Explain wagner meerwein rearrangement.	4
	ii	Discuss aldol addition reaction.	4
	iii	Discuss structure of carbene.	4
	iv	Explain Huckel's rules of aromaticity.	4
	v	Explain tautomerism.	4
Q 2.	A i	Why is phenol acidic in nature ?	2
	ii	What are oxiranes?	1
	B	Answer any <b>three</b> of the following :	
	i	Explain chlorination of toluene with Cl <sub>2</sub> /FeCl <sub>3</sub> .	4
	ii	Write a note on 1.Fries rearrangement reaction. 2. Claisen rearrangement reaction.	2 2
	iii	How will you prepare alkyl arenes using olefins.	4
	iv	What is action of hot and cold HI on ethyl methyl ether.	4
	v	Give the reactions for the following conversions: 1.Ethylene oxide to 3-methyl-1-butanol. 2.Propene to 3-hydroxy butanoic acid.	4
Q 3.	A	What are the nonrenewable sources of organic compounds.	3
	B	Answer any <b>three</b> of the following :	
	i	Explain coal tar refining with diagram .	4
	ii	Discuss catalytic reforming .	4
	iii	Explain conversion of methane into methanol.	4
	iv	Explain manufacture of bioethanol from molasses by fermentation .	4
	v	Explain unit process of nitrogen with mechanism.	4
Q 4	A	Explain reduction of nitrocompound in alkaline medium.	3

	B	Answer any <b>three</b> of the following :	
	i	Explain Gatterman-Koch reaction .	4
	ii	Explain diazotization reaction.	4
	iii	Explain Reimer-Tiemann reaction .	4
	iv	Explain Friedel-Crafts acylation.	4
	v	Discuss benzoin condensation.	4
Q 5	A	What is ipso substitution ?	2
		Which rule is used to distinguish enantiomers.	1
	B	Answer any <b>three</b> of the following	
	i	What is esterification ? Describe acid catalysed esterification .	4
	ii	What is sulphonation? Discuss mechanism of sulphonation of benzene.	4
	iii	Write a note on stereochemistry of cyclic compounds.	4
	iv	Explain different types of degradative reactions.	4
	v	Write a note on stereochemistry of 2-butene.	4
Q 6	A	What is atom economy?	3
	B	Answer any <b>three</b> of the following :	
	i	What are auxiliary substances?	4
	ii	Explain manufacture of phenol from cumene .	4
	iii	Give chemical reactions in preparations of sodium dodecyl benzene Sulphonate.	4
	iv	Explain manufacture of phenol from chlorobenzene -(Dow's process).	4
	v	Explain manufacture of ethylene oxide.	4