

**GROUP - (A) ELECTIVE PAPER
PAPER II. ORGANIC SYNTHESIS I**

M.M. - 75

60 Hrs. (2 Hrs./Week)

Units	Topics	
I	Disconnection Approach An introduction to synthons and synthetic equivalents, disconnection approach, functional group inter-conversions, the importance of the order of events in organic synthesis, one group C-X and two group C-X disconnections, chemoselectivity, reversal of polarity, cyclisation reactions, amine synthesis.	18 Hrs.
II	Protecting Groups Principle of protection of alcohol, amine, carbonyl and carboxyl groups.	5 Hrs.
III	One Group C-C Disconnections Alcohols and carbonyl compounds, regioselectivity. Alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis.	7 Hrs.
	Two Group - C-C Disconnections Diels - Alder reaction, 1,3- difunctionalised compounds, α , β - unsaturated carbonyl compounds, control in carbonyl condensations, 1, 5 - difunctionalised compounds. Micheal addition and Robinson annelation.	10 Hrs.
IV	Ring Synthesis Saturated heterocycles, synthesis of 3-, 4-,5- and 6- membered rings, aromatic heterocycles in organic synthesis.	8 Hrs.
V	Synthesis of Some Complex Molecules Application of the above in the synthesis of following compounds: Camphor, Longifoline, Cortisone, Reserpine, Vitamin D, Juvabione, Aphidicolin and Fredericamycin A.	12 Hrs.