



## Organic Chemistry II

### SWAYAM Prabha Course Code - S17

<b>PROFESSOR'S NAME</b>	Dr. B. S. Balaji
<b>DEPARTMENT</b>	School of Biotechnology
<b>INSTITUTE</b>	Jawaharlal Nehru University, New Delhi
<b>Course Outline</b>	This course will provide students with sufficient understanding of the basic methods of preparation and properties of alkyl halides, Knowledge of the basic mechanisms of substitution and elimination reactions (SN1, SN2 and SNi, E1, E2, E1cb). Students will know how to draw reaction mechanisms for some important reactions, predict or solve reaction and product formation using SN1, SN2 and SNi, E1, E2, E1cb mechanism. The course will impart a working knowledge of some important methods for the preparation of alcohols and ethers, their properties and relative reactivity of 1°, 2°, 3° alcohols. Focus is given to problem solving approaches and many worked out examples are discussed by giving emphasis to underlying basic organic chemistry principles. Additionally, the topics covered include synthesis, properties, and reactivity of carbonyl compounds, acids and their derivatives.

#### COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic
1	LECTURE 1	RX-preparation from ROH
2	LECTURE 2	RX-preparation from alkanes and alkenes
3	LECTURE 3	Preparation-exchange, acid, NBS, haloform
4	LECTURE 4	V1-Nucleophilic substitution part 1
5	LECTURE 5	V2-Nucleophilic substitution part 2
6	LECTURE 6	V3-Nucleophilic substitution part 3
7	LECTURE 7	V4-Nucleophilic substitution part 4
8	LECTURE 8	V5-Nucleophilic substitution reaction-Summary
9	LECTURE 9	V6-Practical experiment and application of Nucleophilic substitution reaction
10	LECTURE 10	V1-General tips for problem solving

11	<a href="#">LECTURE 11</a>	V2-Problems related to SN reactions
12	<a href="#">LECTURE 12</a>	V3-SN <sub>i</sub> mechanism
13	<a href="#">LECTURE 13</a>	V1-E2 elimination
14	<a href="#">LECTURE 14</a>	V2-E1 elimination
15	<a href="#">LECTURE 15</a>	V3-E1CB mechanism, worked out examples
16	<a href="#">LECTURE 16</a>	V1-Properties and general preparation of alcohols
17	<a href="#">LECTURE 17</a>	V2-Reduction and Grignard reaction for preparation of alcohols
18	<a href="#">LECTURE 18</a>	V3-Reactions of alcohols
19	<a href="#">LECTURE 19</a>	V4-Worked out examples related to alcohols
20	<a href="#">LECTURE 20</a>	V5-Preparation and reactions of ethers
21	<a href="#">LECTURE 21</a>	V1-Preparation and properties of aldehydes and ketones
22	<a href="#">LECTURE 22</a>	V2-Reactions of aldehydes and ketones
23	<a href="#">LECTURE 23</a>	V3- Worked out examples related to aldehydes and ketones
24	<a href="#">LECTURE 24</a>	V1-Preparation and reactions of acids
25	<a href="#">LECTURE 25</a>	V2-Preparation of acid derivatives
26	<a href="#">LECTURE 26</a>	V3-Reactions of acid derivatives
27	<a href="#">LECTURE 27</a>	V4-Worked out examples of acids and its derivatives
28	<a href="#">LECTURE 28</a>	V1-Preparation and reactions of aryl halides
29	<a href="#">LECTURE 29</a>	V2-Preparation and reactions of phenols
30	<a href="#">LECTURE 30</a>	V3-Worked out examples of aryl halides and phenols