

## Course Outcomes and Course Content

Semester	III
Paper Code	<b>BOOE – VI</b>
Paper Title	<b>Narcotic Plants</b>
Number of teaching hours per week	03
Total number of teaching hours per semester	45
Number of credits	03

### Objective of the Paper:

To understand the principles, objectives, and scope of Narcotic plants as Medicine. To identify various Narcotic plants and their properties in medicine. To formulate plant based Narcotic drugs. To Analysis and testing methods of Plant based Narcotic drugs. To prepare the students for Drug Inspector or Drug Analyst exam. To motivate the students to take up Narcotics plants for research in further education.

<b>Content of Theory Course 1</b>		<b>45 Hrs</b>
<b>Unit I</b>		<b>7 hours</b>
<b>Chapter 1</b>	General Drugs, Designer Drugs, Drugs of abuse, mode of administration and pharmacological action of drugs of forensic importance. Drugs Act, Excise Act and NDPS Act.	<b>7</b>
<b>Unit II</b>		<b>21 hours</b>
<b>Chapter 2</b>	Narcotics drugs and psychotropic substances: Definition, types, appearance, production and chemical characteristics. Common terminology of various drugs. Drug action on central nervous system. Sampling and analytical techniques for qualitative & quantitative analysis.	<b>10</b>
<b>Chapter 3</b>	General account of sedative, depressants, stimulants and opiates. Narcotic alkaloids- Morphine, Codeine, Brucine, Strychnine, Nicotine, Atropine, Hyoscyamine, Cocaine, Heroin and Datura alkaloids.	<b>11</b>
<b>Unit III</b>		<b>10 hours</b>
<b>Chapter 4</b>	Plants of Narcotic importance and their characteristics, phytochemical analysis and study of the active constituents of <i>Papaver somniferum</i> , <i>Cannabis sativa</i> , <i>Cococa</i> , <i>Aconitum</i> and <i>Artemisia</i> . Brief account of Psychotropic substances: Amphetamines, Benzodiazepines and their derivatives. Barbiturates, Lysergides, Mescalines and Psilocybin.	<b>10</b>
<b>Unit IV</b>		<b>7 hours</b>
<b>Chapter 5</b>	Brief study of prescription and non-prescription products available in the market. Useful and toxic effects of Narcotics. Brief account on Narcotics Control Board. Good Manufacturing Practices: WHO guidelines, US FDA Guidelines, TGA guidelines, and ICH guidelines	<b>7</b>

**Suggested Readings:**

1. Naturals and Cosmetics – by Dr. Satish Sakharwade
2. Materia Medica – By Nadkarni.
3. Wealth of India – CSIR
4. Handbook on herbal products.( Vol.1 and 2) NIIR Board of Technologists, New Delhi.
5. Theory and Practice of Industrial Pharmacy by Leon Lachman.
6. Indian Herbs by Chopra
7. Hand book of Indian Medicinal plants by M.C. Joshi
8. Medicinal Plants of South Asia: Novel Sources for Drug Discovery by Muhammad Hanif, Haq Nawaz, Muhammad Khan, Hugh Byrne