

**NAAC Accredited “A” Grade University**  
**Established 1970**

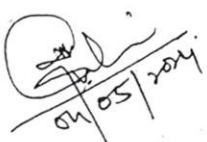


# NEP Syllabus

## Under Graduate (UG) -Botany

## Session 2025-26 Onwards

**Department of Bio-Sciences**  
**Himachal Pradesh University, Summer Hill,**  
**Shimla H.P. 171005**

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# Himachal Pradesh University

## Curriculum and Credit Framework for Under Graduate (UG) - Botany Programme

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# MDC – Multidisciplinary Courses

## Paper: Psychoactive Plants and Society

**Course Code: BBOTMDC – 111; Credits = 3**

**Instructions for paper setter:** For 3 credit course where LTP is divided into 3 0 0, the syllabus and evaluation pattern shall be as follows:

- For the theory course having 3 Sections/ Blocks (I, II, III) in the syllabus following evaluation pattern will be followed:

End Semester Examination : 50 Marks

Internal Assessment : 25 Marks

(Attendance: 05; Class Test: 10; Assignment  
& Presentation: 10)

The end-semester theory paper shall be of 50 Marks and the duration of examination will be of 2 hours. There will be 4 Parts (A, B, C, D) and the examiner shall set 7 questions in total from all four Sections/Blocks (I, II, III) of the syllabus. Part A will have 2 questions of 12 Marks each from Section/Block I of the syllabus and students have to attempt any one. Part B will have 2 questions of 12 Marks each from Section/Block II of the syllabus and students have to attempt any one. Part C will have 2 questions of 12 Marks each from Section/Block III of the syllabus and students have to attempt any one. Part D will have 10 short answer questions of 2 Marks each from all three Section/Block (I, II, III) of the syllabus and students have to attempt 7 questions.

### **Course Objectives**

- Understanding the history, distribution and chemicals in psychoactive plants.
- Understand the morphology and importance of some important psychoactive plants, their physiological action on human body and drug abuse.

### **Learning Outcomes**

On completion of this course, the students will be able to understand:

- Role of psychoactive plants in drug development.
- Economic aspects of psychoactive plants.

### **SECTION - A**

Introduction: historical aspects; definition of psychoactive plants; distribution of psychoactive constituents in plant groups. Type of psychoactive drugs: stimulants, hallucinogens and depressants; medicinal use; designer drugs. Chemical nature of psychoactive drugs: Alkaloids and THC.

## SECTION - B

General account of some important psychoactive plants: *Atropa belladonna*, *Cannabis sativa*, *Datura metel*, *Erythroxylon coca*, *Nicotiana tabacum*, *Papaver somniferum*, *Amanita muscaria*, *Psilocybe mexicana*.

## SECTION - C

Drug Abuse: development of drug abuse and drug addiction, methods of taking drugs (powders and snuffs, smoking and external application), deterioration of health, de-addiction; illegal trade names of Opium; drug trafficking. highlights of NDPS Act - 1985.

### Suggested Readings:

- Kocchar, S.L. 1998. Economic Botany in the Tropics. McMillan India Ltd., New Delhi.
- Sharma, O.P. 1996. Hills Economic Botany (Late Dr. A.F. Hill adapted by Sharma, O.P. 1996), Tata McGraw - Hill Co. Ltd., New Delhi.
- Shultes, R.E. 1976. Hallucinogenic Plants. A Golden Guide. Western Publishing Company.
- Simpson, B.B. and Conner-Ogorzaly, M. 1986. Economic Botany - Plants in our World. McGraw - Hill. New York.

## **Paper: Fundamentals of Horticulture**

**Course Code: BBOTMDC – 121; Credits = 3**

**Instructions for paper setter:** For 3 credit course where LTP is divided into 3 0 0, the syllabus and evaluation pattern shall be as follows:

- For the theory course having 3 Sections/ Blocks (I, II, III) in the syllabus following evaluation pattern will be followed:

End Semester Examination : 50 Marks

Internal Assessment : 25 Marks

(Attendance: 05; Class Test: 10; Assignment  
& Presentation: 10)

The end-semester theory paper shall be of 50 Marks and the duration of examination will be of 2 hours. There will be 4 Parts (A, B, C, D) and the examiner shall set 7 questions in total from all four Sections/Blocks (I, II, III) of the syllabus. Part A will have 2 questions of 12 Marks each from Section/Block I of the syllabus and students have to attempt any one. Part B will have 2 questions of 12 Marks each from Section/Block II of the syllabus and students have to attempt any one. Part C will have 2 questions of 12 Marks each from Section/Block III of the syllabus and students have to attempt any one. Part D will have 10 short answer questions of 2 Marks each from all three Section/Block (I, II, III) of the syllabus and students have to attempt 7 questions.

### **Course Objectives**

- Understanding fundamentals of Horticulture, and its importance.
- Understanding various Horticultural techniques.

### **Learning Outcomes**

On completion of this course, the students will be able to understand:

- Establishment and rejuvenation of orchards.
- Knowledge regarding different propagation methods along with recent application of Horticultural techniques.

### **SECTION – A**

Introduction: Scope and importance, Branches of horticulture; Role in rural economy and employment generation; Importance in food and nutritional security; Urban horticulture and ecotourism. Ornamental plants: Types, classification (annuals, perennials, climbers and trees). Propagation Methods: asexual (grafting, cutting, layering, budding), sexual (seed propagation).

### **SECTION - B**

Botanical classification of fruits. Climatic fruit zones of Himachal Pradesh and fruits grown therein. Establishment of orchards; Selection of site, systems of planting and Orchard soil management. Fruit drop - its causes and measures to control it.

## **SECTION - C**

Rejuvenation of orchards; Horticultural techniques: Application of manure, fertilizers, nutrients and PGRs; Irrigation methods (drip irrigation, surface irrigation, furrow and border irrigation); Hydroponics.

### **Suggested Readings:**

- Bird, C. (2014). The Fundamentals of Horticulture. Royal Horticultural Society, Cambridge.
- Sankar et al. (2021). Fundamentals of Horticulture. Rudra Publications, India
- Singh, J. (2020). Fundamentals of Horticulture. Kalyani Publishers, India