

Department of Botany
Discipline Specific Minor Course
(Semester-II)

Year	Semester	Course Type	Course Code	Course Title	Theory/ Practical	Credits	No. of Theory/ Practical to be conducted	Page No.
1 st	II	DSC (Minor)	BO-MN-126T	Agricultural Botany	Theory	2	30L	2-4

DISCIPLINE SPECIFIC MINOR COURSE(BO-MN-126T):
Agricultural Botany

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
BO-MN-126T- Agricultural Botany	2	2	---

LEARNING OBJECTIVES:

The Learning Objectives of this course are as follows:

- To get thorough knowledge about agriculture and techniques to improve agriculture.
- Graduates will be engaged in independent and life-long learning in the ever-changing agricultural production system or enterprise.
- Graduates will be able to develop entrepreneurial skills, creativity, and innovation in the field of agricultural science.

COURSE OUTCOMES:

After completion of this course student will able to;

CO-1: Able to deal with all aspects of crop cultivation and production.

CO-2: A study of agronomy often involves a summoning of resources from related disciplines such as Botany, Soil Science, Irrigation, plant protection, Plant Genetics and Breeding, Agro-meteorology etc. which will be helpful for students to get detailed knowledge.

CO-3: Get knowledge about Indian Agriculture, seasons and importance, present status, scope, and future prospect.

CO-4: Get aware about cropping seasons of India and concepts like soil formation, classification, physical and chemical properties of soil, Identification of important crops and crop seeds.

CO-5: Able to chose a agriculture as a source of income with improve and modern technology.

SYLLABUS OF BO-MN-126T:**[30 Hours]****Unit-I: GENERAL AGRICULTURE****[3 Hours]**

1. Introduction, definition, and scope of Agriculture.
2. General principles of land use
3. Principles of agricultural economics

Unit-II: SOIL**[6 Hours]**

1. Soil formation, Soil types, composition, texture and temperature.
2. Soil Testing, Soil fertility.
3. Soil erosion and soil conservation.

4. Drainage and irrigation.

Unit-III: WATER ANALYSIS**[3 Hours]**

1. Physical parameters (EC, Colour, Taste, Temp., Turbidity etc)
2. Chemical Parameters-(Acidity, Alkalinity, Chlorine, hardness, Dissolve Oxygen, Biological Oxygen Demand)
3. Water Cycle

Unit-IV: PRINCIPLES OF PLANT GROWTH**[4 Hours]**

1. Plant growth- introduction
2. Phases of growth,
3. Movement of materials through plants.
4. Reproduction in plants.
5. Germination.

Unit V: CROP PRODUCTION**[7 Hours]**

1. Land preparation, Cultivation of cash crops, Sowing of Seeds.
2. Irrigation.
3. Classification of Crops- Rabi crops, Kharif crops and Zaid crops.
4. Application of manure, pesticides, and fertilizers to the crops.
5. Protecting and Harvesting Crops.
6. Storage and preserving the produced Crops.

Unit VI: INTRODUCTION TO HORTICULTURE**[4 Hours]**

1. Introduction, definition, and scope and Importance of Horticulture
2. Present status of horticultural crops in India
3. Branches of Horticulture
4. Important horticultural operations

Unit VII: CROP PROTECTION**[3 Hours]**

1. Crop Rotation.
2. Weed control.
3. Pest control.
4. Disease control.
5. The use of farm chemicals.

ESSENTIAL / RECOMMENDED READINGS:

- 1) Introduction to Agricultural Botany by M. Pandiyan
- 2) An Elementary Text-Book of Agricultural Botany by Michael Cresse Potter
- 3) The Botany of Crop Plants: A Text and Reference Book (Classic Reprint): Wilfred William

- 4) Fundamentals of Agronomy SR REDDY
- 5) An Introduction To Integrated Pest And Disease Management | Ramesh Arora, Sushma Sharma | Kalyani Publishers
- 6) Objective Agricultural Microbiology | N. Ramanathan | Kalyani Publishers
- 7) Economics Of Farm Production And Management | V. T. Raju, D. V. S. Rao | Cbs
- 8) Agarwal RL. 1997. Seed Technology. 2nd Ed. Oxford & IBH. Chhabra AK. 2006.
- 9) Practical Manual of Floral Biology of Crop Plants. Dept. of Plant Breeding CCS HAU, Hisar.
- 10) Desai BB. 2004. Seeds Handbook. Marcel Dekker. Kelly AF. 1988. Seed Production of Agricultural Crops. Longman.
- 11) McDonald MB Jr & Copeland LO. 1997. Seed Production: Principles and Practices. Chapman & Hall.
- 12) Musil AF. 1967. Identification of Crop and Weed Seeds. Handbook No. 219, USDA, Washington, DC, USA.
- 13) D. P Singh 2015. Fruit Crops : Published by Agrotech Press, Jaipur & New Delhi
- 14) Jitendra singh 2014. Basic Horticulture, Published by Kalyani Publishers
- 15) S.N Gupta 2015. Instant Horticulture, 11th Edition, published by Jain Brothers.
- 16) Kunte Y. N, M. P Kawthalkar and K.S Yawalkar, 2005, Principles of Horticulture and Fruit
- 17) Growing 10th edition, published by Agro-horticulture Publishing House, New Delhi
- 18) George Acquah, 2009. Horticulture: Principles & Practices, published by PHI Learning Pvt.Ltd.

