

| Course Code | Course Name              | Credits |
|-------------|--------------------------|---------|
| 26BY900     | PLANTS AND HUMAN SOCIETY | 04      |

### Course Objectives

- To introduce students to plant diversity and its significance in human life, culture and society.
- To develop understanding of plants as sources of food, nutrition and economic resources.
- To highlight the role of plants in human health, traditional knowledge systems and societal practices.
- To create awareness about environmental services of plants and the need for sustainable resource management.

### Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Describe plant diversity and explain its relevance to food, culture and livelihoods.
- Identify major plant-based food sources and their socio-economic importance.
- Analyze the role of plants in health care, including medicinal and toxic plants.
- Evaluate the ecological and social importance of plants and suggest sustainable practices.

### Unit 1 - Plant Diversity and Human Nutrition (12 Hrs.)

Introduction to plant diversity and its relevance to human life; Overview of flowering and non-flowering plants; Edible plant parts: leaves, stems, roots, tubers and fruits; Plants as a primary source of human nutrition and food security.

### Unit 2- Plants as Source of Food and Agriculture (12 Hrs.)

Origin and centers of plant domestication (N. I. Vavilov concept); Importance of grasses (cereals) as staple food crops; Role of legumes in human diet; Starchy staples: modified stems and roots (potato, cassava, taro, yams). Impact of globalization on food crops and dietary patterns; Traditional agricultural practices and indigenous knowledge systems.

### Unit 3 - Economic Botany and Plant-Based Industries (12 Hrs.)

Commercial plant products: beverages, spices (common name, scientific name and parts used); Plant-derived fibers, dyes and their applications; Plants as sources of wood, biofuels; Role of plant resources in rural livelihoods.

### Unit 4- Plants and Human Health (12 Hrs.)

Significance of traditional medicinal system; Medicinal plants used in treating hypertension, diabetes, skin problem and oral health. Psychoactive plants and their socio-cultural implications; Common allergenic plants.

### Unit 5 - Plants, Environment and Society (12 Hrs.)

Ecosystem services provided by plants: Air purification, carbon sequestration, Climate regulation, Water management and soil fertility; Forests as biodiversity reservoirs; Forests and ecotourism.

### Reference Books:

1. N. I. Vavilov, N. I. (1992). Origin and geography of cultivated plants. Cambridge, UK: Cambridge University Press.
2. Michael J. Balick, M. J., & Paul Alan Cox, P. A. (1996). Plants, people, and culture: The science of ethnobotany. New York, NY: Scientific American Library.
3. Gary J. Martin, G. J. (2004). Ethnobotany: A methods manual. London, UK: Earthscan.
4. P. C. Trivedi, P. C. (2006). Medicinal plants: Utilization and conservation. Jaipur, India: Pointer Publishers.
5. B. P. Pandey, B. P. (2010). Economic botany. New Delhi, India: S. Chand Publishing.
6. V. Verma, V., & V. K. Agarwal, V. K. (2013). Economic botany. Jaipur, India: Rastogi Publications.
7. S. L. Kochhar, S. L. (2016). Economic botany in the tropics. New Delhi, India: Macmillan India.
8. J. S. Singh, J. S., S. P. Singh, S. P., & S. R. Gupta, S. R. (2017). Ecology, environmental science and conservation. New Delhi, India: S. Chand Publishing.