

Department of Botany
Name of the Multidisciplinary Course: Plants for Human Welfare

Course Code	23BOT X 01 MD01	Course Credits	3 (L:4 T: 0)
Max. Marks	75 {External (term-end exam) – 50} {Internal – 25}	Time of end term examination	3 Hours
<p>Note: Examiner will set nine questions in total. Answer to question no. 1 shall be compulsory comprising questions from all four units and remaining eight questions shall be set by taking two questions from each unit. The students have to attempt five questions in total, first being compulsory and selecting one from each unit.</p>			
<p>Course Objectives:</p> <ol style="list-style-type: none"> 1. To impart sound knowledge about diversity and uses of edible and underutilized plants 2. To provide an overview of medicinal plants and their utilization in healthcare systems 3. To apprise about different industrial and commercial products obtained from plants 4. To familiarize about various ecological services provided by plants for human welfare 			
<p>Course Outcomes:</p> <ol style="list-style-type: none"> 1. Students will have better understanding about cultivation and uses of food plants 2. Students will take informed decision about uses and conservation of medicinal plants 3. Students will be aware about industrial and commercial products obtained from plants 4. Students will be able to appreciate roles of plants for maintaining ecological balance 			
Unit - I			
<p>Diversity of edible plants at national and international level; Cultivation practices and uses of cereals (Wheat, Rice, Maize and Pearl Millet); pulses (Mungbean, Chickpea, Pigeon pea), vegetables (Potato, Tomato, Brinjal, Carrot), fruits (Apple, Banana, Guava, Mango, Orange); Importance of underutilized edible plants</p>			
Unit - II			
<p>Plants as source of therapeutic agents in traditional and modern healthcare systems, some common medicinal plants of India and their uses; threatened medicinal plants of India and their conservation, bioprospection of medicinal plants, opportunities and constraints in the cultivation and utilization of medicinal plants in India</p>			
Unit - III			
<p>Plants as source of raw materials for industries; introduction about wood and timber; pulp and paper, gums and resins, rubber, dye and fiber yielding plants, overview of perfumery and cosmetic products obtained from plants; byproducts from agricultural residues and biofuel production</p>			

**Unit – IV**

Role of plants in maintaining ecosystem balance and biodiversity conservation, air quality improvement and preventing air pollution, soil quality improvement and reduction in soil erosion; ground water recharging and Phytoremediation, mitigating global warming and climate change

Suggested Readings:

- ❖ Biswas, P. (2021). *Edible Wild Plants of West Bengal, India: A Pictorial Guide*, Notion Press, India
- ❖ Hanif, Muhammad Asif, Haq Nawaz, M. M. Khan, and H. J. Byrne (2020). "Medicinal Plants of South Asia." *Amsterdam: Susan Dennis*.
- ❖ Hassan, B. (Ed.). (2020). *Medicinal Plants: Use in Prevention and Treatment of Diseases*. Intech Open Publisher
- ❖ Kochhar, S. L. (2016). *Economic botany*. Cambridge University Press.
- ❖ Masoodi, M. H., & Rehman, M. U. (Eds.). (2022). *Edible Plants in Health and Diseases*. Springer Singapore.
- ❖ Van Wyk, B. E. (2019). *Food plants of the world: identification, culinary uses and nutritional value*
- ❖ Vantomme, P., Markkula, A., & Leslie, R. N. (2002). *Non-wood forest products in 15 countries of tropical Asia: a regional and national overview*. FAO Regional Office for Asia and the Pacific.
- ❖ Wickens, G. E. (2012). *Economic botany: principles and practices*. Springer Science & Business Media.