Shiksha Mandal's
Bajaj College of Science, Wardha (Autonomous)
Department of Biotechnology
B.Sc. Semester- I
Generic Elective Course I (GE I)
Wild Vegetable Diversity of Wardha District
[30 Hrs- 2 Credit]

General elective in "Wild vegetable diversity of Wardha district" for students wants to pursue knowledge of wild vegetable and their nutritional and medicinal properties. The important feature of the elective course is to identification and conservation of indigenous Wild vegetable diversity of wardha district.

Course Objectives:

1. To explore the diversity of wild vegetables in the Wardha district.
2. To establish a seed bank for wild vegetable genotypes from Wardha.
3. To implement diverse strategies for conserving the wild vegetable genotypes within the Wardha district.

Expected Course Outcomes:

1. Students will attain expertise in identifying various wild vegetables.
2. Students will gain the skills necessary to maintain a seed bank containing wild vegetable genotypes.
3. Students will acquire the ability to apply a range of conservation strategies to preserve wild vegetable genotypes.

Sr. No.	Unit Number	Wild Vegetable Diversity of Wardha District (GE/OE)	Time Hrs.
1	I	Concept of edible wild plants, medicinal properties of wild vegetables, Diversity of wild vegetable. Nutritional value of wild vegetable, Commercial uses of wild vegetables.	8
2	II	Important and easily available wild vegetable and their uses –Tarota (*Cassia tora*), Patli Musli (*Chlorophytum borivillianum)*Tavakila (*Curcuma angustifolia),* Baboo shut/ Bans (*Dendrocalamus strictus*) Matadu (*Dioscorea bulbifera*), Awla (*Emblica officinalis*), Umbari (*Ficus racemosa*) Karvand (*Flacourtia indica), etc.*	12
3	III	Important threats for wild vegetable diversity, conservation strategies of wild vegetable genotypes, Collection, identification, conservation of wild vegetable. Re-habitation of wild vegetable with help of seed ball.	10

References:-

1) Ambasta S.P. (2000). The useful plants of India, Publication and information Directorate, CSIR, New Delhi.
2) Chopra R.M.; Chopra S.L.; Handa K.L.; Kapur L.D.(1982). Indigenous Drugs of India (Second Edi.- Repr.) Academic Publishers, New Delhi
3) Sharma, B.D., Karthikeyan, S., Singh, N.P., & Lakshminarasimhan, P. (1996). Flora of Maharashtra State.
4) Badhe, P.D and Pande, V.K. (1999) Medicinal Plants of Nagpur and Wardha Forest Divisions, Maharashtra. Central Council for Research in Ayurveda and Siddha (India).
5) Dhale D.A (2022). Medicinal Plants of Maharashtra.

Shiksha Mandal's

Bajaj College of Science, Wardha (Autonomous)

Department of Biotechnology

B.Sc. Semester- II

Generic Elective Course II (GE II)

Indian Farming System

[30 Hrs- 2 Credit]

Indian Farming systems syllabus focus on human and natural resource management strategies and farm designed to achieve both economic viability and sustainable development in rural area. The syllabus is designed to improve student's skills, knowledge, and resources.

Course Objective:

1. To get knowledge reading various agriculture system used by Indian farmers
2. To understand impact of agriculture on common population.
3. To get knowledge about advance technologies used in farming.

Expected Course Outcomes:

1. Student will be able to develop integrated farming system.
2. Students will be able to develop new strategies for improvement in farming.
3. Student will able to apply advance knowledge in traditional farming system.

Sr. No.	Unit Number	Indian Farming System (GE)	Time Hrs.
1	I	Farming system:- Concept, Organic farming, Dairy farming, Poultry, Duck and quails farming, Fish farming, Silkworm farming, Hydroponic and Aquaponics, Multiple farming system. Contribution of farming in Indian economy, Major crops in India.	12
2	II	Indian green and white revolution, Sustainable farming-problems and its impact on agriculture, Application of Biotechnology in pests, Diseases and weed management in farming, Other important Biotechnological products in farming.	8
3	III	Plant Breading and Genetics and its impact on farming. MAS (Marker assisted Selection) in crop breading. Devolvement of high yielding verities, Disease resistance crop verities, Insect pest resistance verities, and Herbicide resistances verities.	10

References:-

1) Krishna, K. L., and Uma Kapila (2009). Readings in Indian Agriculture and Industry. Darya Ganj, New Delhi: Academic Foundation. ISBN 8171887384.
2) Aggarwal, P. K. (2008). "Global Climate Change and Indian Agriculture: Impacts, Adaptation, and Migitation" .Indian Journal of Agricultural Sciences. 10: 911–19.
3) Ranjan, Rajiv, and V. P. Upadhyay. "Ecological Problems Due to Shifting Cultivation." ias.ac.in.
4) Gulati, Ashok, P. K. Joshi, and Maurice Landes (2003). "Contract Farming in India: An Introduction." ncap.res.in.
5) Ramesh, P., N. R. Panwar, A. B. Sing, S. Ramana, Sushil Kumar Yadav, Rahul Shrivastava, and A. Subba Rao. "Status of Organic Farming in India." www.ias.ac.in.