

DEPARTMENT OF ZOOLOGY

SYLLABUS FOR VALUE ADDED COURSE (UG LEVEL)

VERMICOMPOSTING



RAMA DEVI WOMEN'S UNIVERSITY
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VERMICOMPOSTING

Course code- VAC-ZOO-02

Course outcome (CO)

HOURL-36hours

Students/farmers by using vermicomposting in their field can increase the crop yield. By developing and propagating vermicompost technology students will directly or indirectly help to prevent

CO1: environmental pollution, by using vermicompost in the field and thereby increasing crop yield.

CO2: will lead towards organic farming and healthy food.

CO3: recycling of garbage has become necessary in order to sustain our health and environment, which can be achieved through vermicomposting.

Unit I: Biology and types of earthworms and their economic importance

Earthworm Species -Endemic and Exotic. Classification of Earthworms-epigeic, anecic and endogeic. Biology of earthworms-*Lampitomauriti* and *Eudrilus eugenia*. In sustainable agriculture, soil fertility and texture, soil aeration, water impercolation, decomposition and moisture, bait and food. Uses of earthworms in food and medicine.

Unit II: Vermicomposting materials and methods

Vermicomposting materials, Vermicomposting methods-pit method, roof shed method, tank method, ground heaps, field pits. Small scale and large scale Factors affecting vermicomposting - pH, moisture, temperature. Physical, chemical and biological changes caused by earthworms.

Unit III: Vermiculture and Vermicompost

Definition and concept of vermiculture. Monoculture and Polyculture, vermiculture unit-materials required and maintenance. Problems in vermiculture and remedial solutions. Harvesting of vermicompost - quality, properties and advantages over chemical fertilizers. Packaging and marketing-cost benefit analysis. Vermiwash and its applications.

Text Books

1. Sultan Ahmad Ismail, 2005. The earthworm book, Second revised edition. Other India Press, Goa, India.
2. Bhatnagar and Patla, 2007. Earthworm vermiculture and vermicomposting, Kalyani Publishers New Delhi.

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SYLLABUS FOR VALUE ADDED COURSE (UG LEVEL)

AQUARIUM KEEPING



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AQUARIUM KEEPING

Course code- VAC-ZOO-01

Course Outcome (CO)

After completion of this course, students will be able

CO1: To learn the biology & rearing of ornamental fishes and maintain Home aquaria.

CO2: To develop Entrepreneurial skill and thereby become fit to earn their livelihood.

CO3: To inculcate the importance and methodology of ornamental fish farming and the various techniques of handling up to marketing.

CO4: To diagnose the common aquarium fish diseases.

Unit-I : Maintenance of aquarium and its importance

The potential scope of aquarium keeping- Characteristics of ornamental fishes- Types of aquaria- Aquarium maintenance. Setting of aquarium of different sizes.

Unit- II : Biology and types of aquarium fishes

Aquarium fishes: Gold fish- Angel fish- Molly- Tiger Barb- Zebra fish- Guppy- Common aquarium plants and their multiplication. Aerators and filters. Different types of ornamental freshwater species, their breeding habits and lifehistory: Rearing of larvae and adults.

Unit- III : Fish feeds, diseases and marketing

Fish feeds – Supplementary feed– Formulation- Live feeds. Diagnosis of common Aquarium fish diseases- Protozoan, bacterial & viral and treatment. Packaging and transport of aquarium species – Export units – Marketing strategy-Regulations for export of fish.

Field visit to the local aquaria

Text Books:

Q Bone and R Moore (2008), Biology of fishes, Taylor and Francis group, CRC Press, UK
S.S. Khanna and H.R. Singh (2014) A textbook of fish biology and fisheries, Narendra Publishing House, 3rd edition.

References Books :

Jhingran, V. G. and Sehgel, K. H. 1994. Coldwater fisheries of India, Inland Fish.Soc., India, pp.239.

Sehgel, K. H., Sports fisheries of India, ICAR publication, New Delhi.

D H Evans and J D Claiborne, The Physiology of fishes, Taylor and Francis group, CRC, UK