

## **SEMESTER-III (Pool-B)**

### **COURSE NAME: INNOVATIVE SOLUTIONS FOR VERMICOMPOSTING (CHOI-B04)**

**Number of Credit: - 02**

**Maximum marks: 50**

#### **UNIT-I**

General Vermiculture/ Vermicompost: Introduction to vermiculture. definition, meaning, history, economic important, their value in maintenance of soil structure, role as four r's of recycling reduce, reuse, recycle, restore. Role in bio transformation of the residues generated by human activity and production of organic fertilizers.

#### **UNIT-II**

Earthworm Biology and Rearing: Key to identify the species of earthworms. Biology of *Eisenia fetida*. Taxonomy Anatomy, physiology, and reproduction. Vital cycle of *Eisenia fetida*.

#### **UNIT-III**

Vermicompost Technology (Methods and Products): Small Scale Earthworm farming for home gardens, Earthworm compost for home gardens

#### **UNIT-IV**

Conventional commercial composting- Earthworm Composting larger scale - Earthworm Farming (Vermiculture), Extraction (harvest), vermicomposting harvest and processing.

#### **UNIT-V**

Nutritional Composition of Vermicompost for plants, comparison with other fertilizers. Vermiwash collection, composition & use. Enemies of Earthworms, Sickness, and worm's enemies.

#### **Reference books:**

1. Bhatt J.V. & S.R. Khambata (1959) "Role of Earthworms in Agriculture" Indian Council of Agricultural Research, New Delhi
2. Dash, M.C., B.K. Senapati, P.C. Mishra (1980). "Vermis and Vermicomposting" Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.

3. Lee, K.E. (1985) "Earthworms: Their ecology and Relationship with Soils and Land Use" Academic Press, Sydney.
4. Satchel, J.E. (1983) "Earthworm Ecology" Chapman Hall, London.