

UNDERGRADUATE PROGRAMME IN HOME SCIENCE

LIFE SCIENCES

SEMESTER - IV

THEORY

Paper no	: 10
Max.marks	: 100
Credits	: 4
Teaching periods	: 4+ 1students' presentation / week
Teaching load	: 56+14 students' presentation periods / semester

Objectives

1. To introduce the basic concept of Botany from cell to plant.
2. To make students aware about seed and vegetative propagation.
3. To familiarize students with animal diversity and their role as parasites.
4. To learn the basics of biotechnology and genetics

SECTION A - BOTANY

Contents	Periods
Unit I: Introduction to Plant Kingdom	7
<ul style="list-style-type: none">• Classification of Plant Kingdom• Angiospermic plants (Flower with details of its parts)• Formation of fruit, seed and embryo• Structure of monocot and dicot seed and seed germination	
UNIT II: Propagation of plants – seed and vegetative	7
<ul style="list-style-type: none">• Seed Propagation• Cuttings – stem, leaf and root• Layering• Grafting	
Unit III: Types of Garden	7
<ul style="list-style-type: none">• Ornamental garden• Kitchen garden• Herbal Garden	

Unit IV: Economic Botany**6**

- Vegetables-Cauliflower/carrot/tomato
- Fruits-papaya/mango
- Spices and Condiments-clove , pepper, cardamom, cumin, Coriander, asafoetida
- Ornamental and Foliage plants-Rose, Bougainvillea, China rose, fern, asparagus

Recommended Readings

1. Chadha K.L.2012. Handbook of Horticulture. ICAR Publication.
2. Raven P. and Johnson G. 2010. Biology. Mc Graw Hill Science.
3. Soni N.K. and Soni V. 2010. Fundamentals of Botany. Tata Mc Graw Hill Education.
4. H.T. Hartman and D. Kester:Plant Propagation, Principles and Practices Prentice Hall of India Pvt. Ltd. New Delhi 1986)
5. Gopaldaswamianger K.S. 1991, Complete gardening in India, Messers Nagaraj And Co. Madras

SECTION B- ZOOLOGY

Contents	Periods
Unit I	7
<ul style="list-style-type: none">• Classification of animal kingdom• Chordates up to 5 major classes, characteristics with examples• Non chordates up to phyla, characteristics with examples• Cell theory, electron microscopic structure and function of a cell	
Unit II	7
<ul style="list-style-type: none">• Parasites and human diseases• Plasmodium, Giardia, Entamoeba, Taenia, Ascaris etc• Economics importance and control of common household pests• Insects as a resource	
Unit III	5
<ul style="list-style-type: none">• Introduction to Biotechnology• Significance of biotechnology to humans• Recent trends in biotechnology•	
Unit IV	6
<ul style="list-style-type: none">• Basics of Genetics• Genetic disease and sex linked inheritance• Importance of Genetic counseling	
Unit V	2
<ul style="list-style-type: none">• Vermicompositing	

- Technology, importance and its relevance
- How to start a unit at home
- Maintenance and propagation

Recommended Readings

1. Jordan and Verma, 1998, Invertebrate Zoology, S. Chand and Co. Ltd
2. Kotpal, 2000, Modern Textbook of Zoology, Rastogi Publications
3. Winchester, A.M. 1967, Genetics, Oxford and IBH Publishing Company
4. Vij and Gupta (2011) Applied Zoology Phoenix Publishing House

LIFE SCIENCES

PRACTICAL

Paper no	:
Max. marks	: 50
Credits	: 2
Teaching periods	: 4/week
Teaching load	: 28 practicals /semester (2 periods each)

SECTION A- BOTANY

Contents	Practicals
• Floral description of few angiospermic families	4
• Propagation of plants by seed and vegetative methods	6
• Identification and classification of economically important plants	4

SECTION B- ZOOLOGY

Contents	Practicals
• Survey of animal kingdom (2-3 specimens from each class/ phylum)	6
• Study of cells – neurons, blood cells, cheek cells	5
• Vermi composting	3