



**SARVODAYA KELAVANI SAMAJ MANAGED,  
SHREE MANIBHAI VIRANI & SMT. NAVALBEN VIRANI SCIENCE  
COLLEGE**

AN AUTONOMOUS COLLEGE- AFFILIATED TO SAURASHTRAUNIVERSITY, RAJKOT

Re-accredited at the 'A' Level (CGPA 3.28) by NAAC  
'STAR' College Scheme & Status by MST-DBT  
A College with Potential for Excellence - CPE (Phase-II) by UGC  
UGC-DDU KAUSHAL Kendra  
Accredited at the G-AAA Highest Grade 'A-1' Level by KCG, Govt. of Gujarat  
UGC-DDU KAUSHAL Kendra  
GPCB-Government of Gujarat approved Environment Audit Centre

**Enclosure I (F)**

**DSE – Allied ZOOLOGY  
SEMESTER – III**

<b>19UMBDA303</b>	<b>Sustainable Management</b>	<b>3Hrs/wk</b>	<b>3 Credits</b>
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**Objectives:**

This course is designed to provide awareness and importance about

- Environment, its condition and its impact globally and locally
- Need for sustainable management
- Agricultural biodiversity in sustainable growth
- Role of society, corporate and government in sustainable management

**Unit 1: Introduction to Sustainable Management**

**(9Hrs)**

- What is Sustainable Management?
- Sustainable development and Green Climate Fund.
- Introduction to Corporate Social Responsibility and ISO 14001.

- Brief account on SDGs (Sustainable Development Goals)
- Agenda 21, MDGs (Millennium Development Goals) and UNDP

**Unit 2: Basic concepts of Biodiversity (9Hrs)**

- Biodiversity – Definition, Types and importance of Biodiversity.
- Global Distribution of Biodiversity
- Biodiversity Hotspots and Endemism.
- Biodiversity in India and Global biodiversity.
- Biodiversity and Wetland management.
- Marine Environment and biodiversity.

**Unit 3 : Agro biodiversity and Food Security (9Hrs)**

- Scope and importance of agricultural biodiversity and food Security.
- The decline of biodiversity.
- Agro ecosystems v/s natural ecosystems.
- Issues in sustainable agriculture
- Food Security and sustainability in India

**Unit 4: Threats to Biodiversity and impact of Biodiversity loss on sustainability (9Hrs)**

- Extent of Biodiversity Loss
- Biodiversity Threats
- The Indian Scenario
- Protected Areas.
- Countering Biodiversity Loss.

**Unit 5: Sustainable use of Biodiversity (9Hrs)**

- Sustainable use of Biodiversity.
- National Instruments Relating to Biodiversity Management.
- International Instruments Relating to Biodiversity Management.
- Gender and Biodiversity in India
- Conservation Measures of Biodiversity.

**Reference Books:**

- IGNOU Study Materials
- Verma, P.S., Agrawal, V.K. (2005). Ecology, Cell Biology, Molecular Biology, Genetics. New Delhi: S. Chand and Company Limited.

### **PRACTICALS:**

<b>19UMBDA304</b>	<b>Sustainable Management Practical</b>	<b>6 hrs/wk</b>	<b>2 Credits</b>
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### **Objectives:**

- To provide Practical grips and knowledge for sustainable management.
- To orient the students by diversity its roll, importance and roll in nature.

1. Isolation of micro organism forms various soil samples.
2. Isolation of micro organism forms various water samples.
3. Herbarium preparation for agro diversity.
4. Study of Legumes agro diversity.
5. Study of Cereals agro diversity.
6. Agro diversity study among Bagayati diversity.
7. Study of Insect diversity part I.
8. Study of Insect diversity part II.
9. Pathogenic insects and its effect on the crop.
10. Animal diversity of Invertebrate animals.
11. Animal diversity of lower Chordate.
12. Animal diversity of Higher Chordate.
13. Preparation of permanent slide by Single staining method.
14. Preparation of permanent slide by Double staining method.
15. Study of Agro ecology to compare natural ecosystem.
16. Biochemical test of Adulteration in powder form agro-product.
17. Biochemical test of Adulteration in addible liquids.
18. Group discussion.
19. Case study.
20. Field visit.

**References:**

- Verma, P.S., Agrawal, V.K. (2005). Ecology, Cell Biology, Molecular Biology, Genetics. New Delhi: S. Chand and Company Limited.