

*Placed at the meeting of
Academic Council
held on 26.03.2018*

APPENDIX - BL
MADURAI KAMARAJ UNIVERSITY
(University with Potential for Excellence)

**Revised Syllabus for
Environmental Studies (2 Credits)**

**For All U.G. Courses in Fifth Semester w.e.f. 2018 onwards
Semester – V**

Contact classes per week - 2 hours & Contact classes per Semester - 30 hours.

A. Objectives

- To create awareness on Environment, ecosystem, energy flow, food chain, food web and Biogeochemical cycles
- To understand the sustainable agriculture and exploitative human activity in polluting the environment locally and globally
- To provide awareness about issues relating to drinking and driving, Road safety rules and Traffic signals
- To create awareness on disasters through intensive public education
- To create awareness on village adoption towards clean, green infrastructure, education, health, drinking water supply, etc

Plan of Teaching and Evaluation

Allotted hours : Total 30 Hours, 25 hours may be allotted for theory and 5 hours for field study / report writing / internal assessment.

Evaluation Total 100

External 75

Internal 25

Scheme for Internal Exam (for 25 marks)

Field Trip and Report / Case Study and Report (Assignment) 10 Marks

Continuous Assessment Test 5 Marks

Seminar / Quiz / CD 5 Marks

Peer-Team Teaching 5 Marks

Unit I. Earth and its Environment

- a) Earth formation and Evolution of Earth over time – Structure of earth and its components : Atmosphere, Lithosphere, Hydrosphere and Biosphere
- b) Resources – Renewable and Non- renewable resources.

Unit II. Ecology and Ecosystem concepts

- a) Ecology definition – ecosystem – definition – structure and function –energy flow- food chain and food web – one example for an ecosystem
- b) Biogeochemical cycles – Nitrogen, Carbon, Phosphorous, Water

Unit III. Biodiversity and India

- a) Introduction- definition- values of biodiversity- threats to biodiversity- conservation of biodiversity
- b) Biodiversity of India – as a mega diversity nation-bio-geographical distribution – hot spots of biodiversity- national biodiversity conservation board and its function.

Unit IV. Pollution and Global Issues

- a) Definition, causes, effects and control measures of air, water, soil, marine, noise, thermal and nuclear pollution.
- b) Global issues : Global warming and Ozone layer depletion.

Unit V. Development and disaster management

- a) Sustainable Development - sustainable agriculture – organic farming, irrigation – water harvesting and waste recycling – cyber waste and management.
- b) Disaster management – Flood and Drought – Earthquake and Tsunami – Landslides and Avalanches – Cyclones and Hurricanes – Precautions, Warnings rescue and Rehabilitation.
- c) Road safety rules – Traffic signals – Conduct of road safety awareness programme.
- d) Role of the Colleges, Teachers and Students in village adoption towards clean, green and make in villages in various aspects.

Text Books

1. Arumugam, N, 2016, Concepts of Ecology. Saras publication, Nagercoil

Reference Books

1. Odum E.P., 1971, Fundamentals of ecology, W.B. Saunders Company, London.
2. Verma and Agarwal, 2003, Principles of Ecology, S.Chand& Company. New Delhi,
3. Ecology for Environmental science. Biosphere- Anderson J.M. 1981
4. Water pollution and Management- C.K.Varshney, 1984
5. Environmental Biology- P.D.Sharma, 2005
6. Natural disaster-A guide for relief workers- JAC Adliyatmasadhana Kendra.
7. Disaster planning- the preservation of life and property, Foster,H.D
8. India Disaster report: towards a policy initiative, Parasuraman.s, 2000
9. Disaster Management, Mukesh Kapoor, 2009
10. Textbook of Highway and Traffic Engineering,Saxena S.C, 2005
11. Road safety management issues and perspectives, Prabha shastri ranade, 2010
12. Safety and Disaster Management, O.P. Dutta, 2014. Methods, Techniques, Recent Approach, Major Events & Exist Framework Hazardous Material
13. The Indian Ocean Tsunami: The Global Response to a Natural Disaster By Pradyumna P. Karan, Shanmugam P. Subbiah, 2011
14. Village Adoption & Development Programme guidelines, 2016, National Institute of Rural Development & Panchayati Raj (NIRD&PR) Ministry of Rural Development, GoI Rajendranagar Hyderabad – 500030