

**SCHOOL OF ENVIRONMENTAL SCIENCES
MAHATMA GANDHI UNIVERSITY
KOTTAYAM**

Syllabus for Open Course

ES M21 O 98- Environment and Sustainable Development

Unit – I Environment Science -introduction

Environment – Principles, Variables, Trophic structure and Energy flow
Earth as a System of Interacting Components, Materials of the earth, Lithosphere,
Atmosphere, Hydrosphere and Biosphere,
Biodiversity – status and services
Resource Conservation - Renewable and non-renewable resources,
Tools for the management of natural resources.
Conservation strategies – International, National and Regional perspective
History of environment protection

Unit – II Global Environmental Issues

Pollution - Air, water, Soil, Marine, Noise and Nuclear hazards
Biodiversity depletion – Consequences and Management issues
Climate change – Vulnerabilities, Mitigation and Adaptations
Scientific considerations
Disasters: Natural and Anthropogenic – Consequences and Management
Linkage between economic development and pollution
Case studies: International, National and Regional perspective

Unit – III: International Movements for environmental protection

International conventions and conferences, Treaties,
IPCC – Reports and Disputes, Kyoto protocol, UCNFCC, UNRED
Role of persons and international organisations

Unit IV: Sustainable development (SD)

Definition, World Commission on Environment and Development
SD Policies - at international and national levels
International (UN) initiatives on SD – Brundtland to Johannesburg
Indicators of SD
Criteria – Strategies for measurement of SD
Sustainable human development index and Sustainability pillars
Community participation in resource management – case studies
SDGs

Unit – V: Education for Environmental Sustainability

Environmental degradation and threats – Kerala scenario
Depletion of natural resources – management of natural resources – related studies
Environmental Impact Assessment for sustainable development
Environmental Education for sustainable development
Education for sustainable consumption

References:

1. Blackburn R.W. (2007). The sustainability Handbook. Earthscan, UK.
2. Dalal-Clayton Barry Bass Stephen (2002). Sustainable Development Strategies – A Resource Book, Earth Scan, London.
3. Dayanandan R. (2005). Sustainable development opportunities and challenges, Serials Publications, New Delhi.
4. Graede E.T. & Voet van Der Ester (2010). Linkage of sustainability. Massachusetts Institute of Technology Press, Massachusetts, USA.
5. Lawn Philip (2006). Sustainable development indicators in ecological economics, Edward Eglar UK.
6. Peacock W. Kathy (2010). Natural resources and Sustainable Development. Viva Book Pvt. Ltd., New Delhi.
7. Srikumar Chattopadhyay, Sharma H S. (1998). Sustainable development: issues and case studies, Concept Publishing Company, New Delhi
8. Susan Baker (2006). International engagements in sustainable development- Challenges in the III World. Routledge Publications, New York.
9. World Bank (2003). Sustainable Development in a Dynamic world, World development Report, World Bank, Washington.