6. PetterMoris and RikiTherivel. 2009. Methods of Environmental Impact Assessment, 3rdEd., Taylor & Francis Groups.
7. Rau, J.G. and Woefen, D.C. 1980. Environmental Impact Analysis Handbook.
8. Shrivastava, A.K. 2003. Environment Impact Assessment, A.P.H Publishing Corporation, NewDelhi.
9. ValliManickan and Anjaneyalu, M. 2011. Environmental Impact Assessment – Methodologies, B.S. Publication.

ESS517 HUMAN POPULATION AND ENVIRONMENT 39 hrs.

Course Outcomes:

CO1 Discuss the association between population growth and dissemination of environmental pollutants.
CO2 Understand the role of medicinal plants in the control of human diseases.
CO3 Discuss the role of human society in the conservation of natural resources.
CO4 Understand traditional ecological knowledge.
CO5 Understand the role of women in environmental conservation.

UNIT I (13 hours)

Population status in India and the world, population growth and explosion, family welfare programme. Measurement of population - Natality and Mortality, Population density, pattern of population distribution; population dispersal - Emigration, Immigration and Migration; Environmental problems of population growth.

UNIT II (13 hours)

Environment and human health, human rights, value education, women and child welfare, role of environmental education in the management of environment, Environmental Education Programmes. Global Environmental problems - Ozone depletion, greenhouse gases, eutrophication, their causes and effects. Drug abuse and alcoholism as a threat to environment. Environmental ethics - stewardship ethics and lifeboat ethics of Garret Hardin.

UNIT III (13 hours)

Role of natural resources in the human development, role of human society in the conservation of forest, river, ponds and other natural resources, role of women in environmental conservation; medicinal plants and their role to control human population from disease. Traditional ecological knowledge.

References:

1. Agrawal, K.C.2001. Fundamentals of Environmental Biology, Nidhi Publishers, Bikaner, India.
2. Agarwal, K. M. Sikdar, P. K. and Deb, S. C. 2002. A text book of Environment, MacMiller India Ltd., Calcutta.
3. Botkin, D.B. 1989. Changing the Global Environment, Academic Press, San Diago.

4. Don Melnick. 2005. Environment and Human Well-being - A Practical Strategy, Earthscan.
5. Lori M. Hunter. 2000. The Environmental Implications of Population Dynamics, Rand Corporation.
6. Nanda, A.N. 1996. Environmental Education.
7. Sharma, P.D. 2012. Ecology and Environment, Rastogi Publications, Meerut.
8. Tyler Miller Jr. G. 1996. Living in the Environment - Principles, Connections and Solutions, Wadsworth Publishing Co., New York.

PRACTICAL COURSES

ESP518 WATER AND WASTEWATER MANAGEMENT LAB.

Course Outcomes:
CO1 Learn the methodology of determination of physico-chemical parameters of water.
CO2 Learn different methods to assess soil quality.
CO3 Visit to water purification and wastewater treatment plants
CO4 Enhance their knowledge about water and wastewater management.
CO4 Describe infiltration and runoff characteristics of water.
CO5 Learn techniques of water and wastewater analysis which help in employability.

1. Determination of DO in water and wastewater.
2. Determination of BOD in water and wastewater.
3. Determination of COD in water and wastewater.
4. Determination of porosity and permeability of different soils.
5. Determination of infiltration and runoff characteristics.
6. Determination of nitrite content in water.
7. Determination of sulphate content in water.
8. Determination of silicate content in water
9. Determination of phosphate content in water.
10. Visit to water & wastewater treatment plants.

ESP519 SOLID WASTE MANAGEMENT LAB.

Course Outcomes:
CO1 Characterize solid waste from different sources.
CO2 Conduct the experiments using leachate prepared from solid waste.
CO3 Learn compost analysis.
CO4 Know the method of determination of chemicals in solid waste.
CO5 Learn solid waste management methods which develops skills