UNIVERSITY OF RAJASTHAN
JAIPUR
SYLLABUS
PH.D.
ENVIRONMENTAL STUDIES
(Semester Scheme)
2019-20
INDIRA GANDHI CENTRE FOR HUMAN ECOLOGY,  
ENVIRONMENTAL AND POPULATION STUDIES,  
UNIVERSITY OF RAJASTHAN, JAIPUR

Ph.D. COURSE WORK OF ENVIRONMENTAL SCIENCE

PAPER- I  : Research Methodology  
            M.M.100  
            40 hrs

PAPER- II : Review of Literature  
            M.M.100  
            40 hrs

PAPER-III : Biodiversity and Natural Resources  
            M.M.100  
            40 hrs

PAPER-IV : Environmental Pollution and Analytical Techniques  
            M.M.100  
            40 hrs

Dy. Registrar (Academic-I)  
University of Rajasthan  
Jaipur
Paper I: Research Methodology

Postulation of hypothesis and sampling, basic components of a research proposal, how to write Introduction, Objectives, Review, Material and Methods, Observations, Results, Discussion and References.


Statistics for environmental science: frequency distribution, Measures of central tendency, Standard deviation, Standard Error. Test of Significance: Null hypothesis, student’s ‘t’ test, Chi square test, F-test, ANOVA, Regression and correlation analysis.

Paper II: Review of Literature

Review of literature of published work in the relevant field under supervision of chosen/Assigned supervisor.

Paper III: Biodiversity and Natural Resources

Biodiversity: identification and taxonomic studies of fauna, flora, causes of loss of biodiversity, impacts of loss of biodiversity.

In-situ biodiversity conservation, conservation of biodiversity in Biosphere Reserves, Reserve Forests, National Parks, Tiger Projects, Sanctuaries, places around shrines, sacred grooves, Ex-situ conservation of biodiversity, gene bank, germ plasm storage, live museum etc., Biotechnology and its application in biodiversity conservation.

Bio-geographical zones of India, Diversity and distribution of major forests at National and Global level, Status of biodiversity in India, Agro-ecological regions of crop diversity in India, Biodiversity conservation in folk-beliefs in Rajasthan.

Classification of resources: renewable resources, non-renewable resources, classes of earth resources, Resources regions: definition and criteria, resource conservation.

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Paper IV: Environmental Pollution and Analytical Techniques

Air Pollution: sources and types of air pollutants, air pollution and impacts on plants, animals, human health, buildings and monuments.

Water pollution: sources and types of water pollutants, adverse impacts of water pollution on plants, animals and human health, water standards for different kinds of uses.


Analytical techniques used in environmental research: Principle and application of Spectrophotometry, Titrmetric, Gravimetric, Colorimetry and Chromatography.

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