



**University of Rajasthan
Jaipur**

SYLLABUS

PH.D.

(ENVIRONMENTAL STUDIES)

Examination 2020-21

Raj/Tai
Dy. Registrar (Acad.)
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

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Paper I: Research MethodologyMax Mark:100
40 hrs.

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.

Techniques and preparation of abstract, manuscript, dissertation, thesis and report. International and national journals related to environmental science, selection of journals, citations, impact factor and h-index, ISBN / ISSN No.

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 LiteratureMax Mark:100
40 hrs.

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

Paper III: Biodiversity and Natural ResourcesMax Mark:100
40 hrs.

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 TechniquesMax Mark:100
40 hrs.

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.

Land pollution, noise pollution and radiation:Land pollution-causes, sources and adverse impacts on human health. Noise Pollution- Sources, causes and effects of noise pollution on humans and environment. Sources and impacts of radiations on Environment and human beings.

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

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