

School of studies in Environment Management
Vikram University, Ujjain



According to Ph.D. Ordinance No. 11 New

Course Work

(Syllabus)

Syllabus for Ph.D. (Environment Management)

Session 2019-20

**School of Studies in Environment Management
Vikram University, Ujjain
According to Ph.D. Ordinance No. 11 New
Course work**

Syllabus for Ph.D. (Environment Management)

**First Semester
Session 2019-20
Scheme of Papers/ Examination**

Paper	Title of Paper	Maximum Marks			Credits
		End-Semester Examination	CCE	Total	
EM Ph.D. - 01	Research Methodology	60	40	100	4
EM Ph.D. - 02	Review of Published research in relevant field	(60 written report + 40 Oral Presentation)		100	3
EM Ph.D. - 03	Computer Applications	60	40	100	3
EM Ph.D. - 04	Environment Management	60	40	100	3
EM Ph.D. - 05	Comprehensive Viva-voce			100	3
	Total			500	16

Notice:

- 1) The candidate has to obtain a minimum of 55% of marks or its equivalent grade point in the course works in order to be eligible to continue in the Ph.D. Programme. The candidate will be declared as failed.
- 2) If a student obtains 'F' or 'Ab' grade in the course/subject, he/she will be treated to have failed in that course. He/she has to reappear in the examination in the next semester.
- 3) If candidate further fails in the course, he/she shall not be given another chance and shall be out of the Ph.D. Programme.

Course Work for Ph.D. in Environment Management

As per new Ordinance No.11 (2018)

	Credits
Course I. Research Methodology	4
Course II. Review of published research in the relevant field	3
Course III. Computer Applications	3
Course IV. Advance course in relevant subject	3
Course V. Comprehensive viva voce	3
TOTAL	16

Course I. Research Methodology

Credits 4

Quantitative Techniques

Aims and objectives of Research work

Introduction and need of quantitative techniques.

Frequency distribution. Measures of Central value.

Normal and Binomial distributions.

Sampling techniques.

Testing of significance.

Experimental designs.

Correlation and Regression.

Course II. Review of published research in the relevant field **Credits 3**

Submission of written document (based on at least 10 research papers)

Viva voce

Course III. Computer Applications **Credits 3**

Introduction to computers.

Structural and functional aspects.

Commonly used programmes and packages.

Internet and its applications in research.

Important softwares used in environmental studies.

Course IV. Advance course in relevant subject **Credits 3**

Research Methodology in Botany)

UNIT-1

1. Water Pollution studies- Monitoring and Analysis of different qualitative and quantitative parameters.
2. Microbial and biological studies in water pollution. Media Preparation, Protocols for different culture, Sterilization methods. MPN techniques.
3. Concept of Bio-remediation of waste water. Zero Effluent Discharge concept.

UNIT-2

1. Air Pollution studies- Monitoring and Analysis of different qualitative and quantitative parameters.
2. Air pollution control equipments- Principles and technology.
3. Indoor air pollution – causes, effects and control.

UNIT-3

1. Soil Pollution studies- Monitoring and Analysis of different qualitative and quantitative parameters.
2. Soil remediation through microbes, Organic Farming, Vermi-composting.
3. Solid and Hazardous waste management.

UNIT-4

1. Remote Sensing and Geographical Information System- applications in the field of environment management.
2. Basics of Environmental Impact Assessment (EIA) and Environmental Audit (EA).
3. Integrated Resource Management- concept and utility in environment management.

UNIT-5

1. Principle of spectroscopy and its use in environmental field..
2. Nano technology in the field of environment.
3. LASER, LIDAR and SODAR based techniques in environmental studies.

Course V. Comprehensive viva voce

Credits 3