PVP-19

ENVIRONMNET & ECOLOGY

Course Code	19ES5501D	**Year**	III	**Semester**	I
Course Category	Open Elective I	**Branch**	-	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	-
Continuous Internal Evaluation :	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes	
After successful completion of the course, the student will be able to	
CO1	Understand and integrate information related to structure and functions of ecological units. (L2)
CO2	Apply and communicate the concepts of environment.(L3)
CO3	Analyze various environmental components and demonstrate using technology. (L4)
CO4	Analyze and evaluate policies and frame works for welfare of environment & social sustainability. (L4)
CO5	Apply system concepts for bio-monitoring environmental issues.(L3)

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3						2							
CO2	3						2							
CO3	3						2							
CO4	3						2							
CO5	3						2							
Average* (Rounded to nearest integer)	3						2							

SYLLABUS

UNIT NO	Contents	Mapped COs
I	**Ecology:** Introduction – Biosphere, scope, organisation and significance. Ecosystem concept- structure & function, Factors affecting ecosystem. Evolution: Natural Selection and its ecological significance. Population parameters- growth regulation, relationships between organisms.	CO1 CO2
II	**Natural Resources & Management:** Resource- Definition, category, concept and scarcity of resource. Forests & wild life- Global productivity & human activities (Exploitation). Land resource- use pattern in India, soil & soil Conservation. Water resource- potentials and use with special reference to India, Concept of Integrated Water Resources Management (IWRM). Remote Sensing and GIS: Applications in conserving resources.	CO1 CO2

III	**Environmental Geosciences & Computer Applications** Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere. Scale of meteorology, pressure, temperature, atmospheric stability. Graphical representation of Data, creating Database tables.	CO1 CO3
IV	**Environmental Policy, Education and Ethics** Important national policies: National environmental policy, 2006 & National agricultural policy etc. Legislation: Environment protection Act, 1986. Environmental education: Goals and objectives of environmental education. Environment awareness and action: Role of NGOs in environmental awareness. Environmental movements in India- silent valley movement, Chipko movement, Narmada bachao andolan, Environmental movements in the West- Greenpeace.	CO1 CO4
V	**Environmental monitoring and management** Environmental impact analysis and EMP; Analytical approaches and instrumentation in environmental monitoring; Bio monitoring of air pollution - plants as biomonitors; Bio monitoring of running water pollution.(Software's) Organic farming and its ecological significance.	CO1 CO5

Learning Recourses

Text Books

1. Singh, J.S; Singh, S.P. and Gupta S.R. (2014) Ecology, Environmental Science and Conservation. S.Chand & Company Pvt. Ltd. New Delhi.
2. Sharma, P.D. (2011) Ecology and Environment (11thedn.). Rastogi Publication, Meerut.
3. Bharucha, E. (2013) Text Book of Environmental Studies (2nd edn.). Universities Press, Hyderabad.

Reference Books

1. Nobel, B.J. and Wright, R.T. (1995) Environmental Science. Prentice Hall.
2. Keller, E.A. (2017) Introduction to Environmental Geology (5th edition). Pearson Education, India.
3. Agarwal, S.K. (1991) Pollution Ecology. Himanshu Publication, Udaipur.