SEMESTER I

Value-Added Course

SL. NO.	CODE	NAME OF THE COURSE (VAC) SEM I
1.	VAC 140	ENVIRONMENT STUDIES

VAC-140: ENVIRONMENTAL SCIENCE

(Contact Hours: 45, Credits:3)

Course Objective: To introduce the basic concepts of environment, natural resources, biodiversity and its conservation and concepts and components of environmental pollution and social issues.

Learning Outcomes: Student should be able to gain the knowledge about the environment, its component, natural resources, biodiversity conservation, environmental pollution and social issues pertaining to environmental pollution.**(Contact hours: 15 hrs.)**

Unit I: Environment: Definition, Components of Environment; Natural resources (Renewable and Non-renewable) their conservation and management: Forest resources, Water resources, Mineral resources, Energy resources, Land resources. Soil erosion and desertification.**(Contact hours: 15 hrs.)**

Unit II: Ecosystems: Concept, Structure and Functions. Food Chain and Food web.Energy flow in an ecosystem and biogeochemical cycle.Biodiversity: definition and concepts, biodiversity hot-spots. Conservation of biodiversity: *In-situ* and *ex-situ* conservation.**(Contact hours: 15 hrs.)**

Unit III: Environmental Pollution and Social Issues: Definition, causes, effects and control measures for Air pollution, Water pollution, Soil pollution, Noise pollution; Important issues of environmental pollution: Climate change (Greenhouse effect & Global warming), acid rain, ozone layer depletion; Environmental Legislation: Salient features of Environmental Protection Act, Air (Prevention & Control of Pollution) Act, Water (Prevention & Control of Pollution) Act; Sustainable development; Role of Information Technology in Environment, Environmental ethics and movements.**(Contact hours: 15 hrs.)**

Suggested Readings: (All latest edition)

Botkin, D.B. and Keller, E.A. Environmental Science: Earth as a Living Planet. John Wiley and Sons, New Delhi.
Chapin III, F.S., Matson, P.A. and Vitousek, P.M. Principles of Terrestrial Ecosystem Ecology.Springer, New Delhi.
Purohit, S.S., Shammi, Q.J. and Agarwal, A.K.A Textbook of Environmental Science. Students Edition, Jodhpur.
Sharma, P.D. Ecology and Environment.Thirteenth Edition.Rastogi Publication, Meerut.
Odum, E.P. Fundamentals of Ecology.Nataraj Publisher, DehraDun.
Rana, S.V.S. Essentials of Ecology and Environmental Science.Prentice Hall of India, New Delhi.
De, A.K.Environmental Chemistry. New Age International Pvt. Ltd., New Delhi.
Viswanatha, C.R., Hegadal, R.V. and Hegadal, S.V. Disaster Management. Himalaya Publishing House