COURSE: ENVS2AECC2
ENVIRONMENT SCIENCE (THEORY)

Year end Examination: 100 marks

Note: The Examiner will set a total of nine (9) questions covering all topics/units of the prescribed course by setting at least two questions from each unit. Out of the nine questions, one question containing ten (10) short-answer type questions of two marks each that will cover entire course will compulsory. The candidate will attempt a total of five questions (one from each unit) including the compulsory question. All questions will carry equal marks.

Unit 1
Introduction to environmental studies & Ecosystems: Multidisciplinary nature of environmental studies: Scope and importance; what is an ecosystem? Structure and function of ecosystem, Energy flow in an ecosystem, food chains, food webs and ecological succession, Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems; Levels of biological diversity: genetic, species and ecosystem diversity, Biogeographic zones of India, Biodiversity patterns and global biodiversity hot spots, India as a mega-biodiversity nation, Endangered and endemic species of India, Threats to biodiversity, Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions, Conservation of biodiversity, In-situ and Ex-situ conservation of biodiversity, Concept of sustainability and sustainable development.

(20 Periods)

Unit 2
Natural Resources & its management and conservation: Land resources and landuse change: Land degradation, soil erosion and desertification; Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations; Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state); Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

(15 Periods)

Unit 3

(15 Periods)

Unit 4
Environment & Social Issues: Human population growth: Impacts on environment, human health and welfare; Resettlement and rehabilitation of project affected persons; case studies; Disaster management: floods, earthquake, cyclones and landslides; Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan; Environmental ethics: Role of Indian and other religions and cultures in environmental conservation; Environmental communication and public awareness, case studies

(10 Periods)

Suggested Readings:
2. Gadgil, M., & Guha, R. 1993. This Fissured Land: An Ecological History of India. Univ. of
California Press.
GENERAL INSTRUCTION/GUIDELINES FOR EXECUTION OF CURRICULUM

- **Ability Enhancement Compulsory Courses [AECC]:** A total of 2 courses will be offered as Ability Enhancement Compulsory Courses [AECC] with $4 \times 2 = 8$ credits for AECC.
- The AECC courses are the mandatory courses based upon the content that leads to knowledge enhancement; i. Environment Science and ii. English/ Hindi/ MIL Communication. All these are mandatory courses for obtaining a B.Sc. (Honors) degree in the concerned subject. These courses are mandatory for all disciplines.
- Environment Science (Course: ENVS2AECC02 Theory) is mandatory course for all disciplines.
- Set a total of nine (9) questions covering all topics/units of the prescribed course by setting at least two questions from each unit. Out of the nine questions, one question containing ten (10) short-answer type questions of two marks each that will cover entire course will compulsory. The candidate will attempt a total of five questions (one from each unit) including the compulsory question. All questions will carry equal marks.
- Classroom Attendance: 75% class attendance is compulsory for every student.