COURSE	**FACULTY OF PHYSIOTHERAPY**
PROGRAM	**BACHELOR OF PHYSIOTHERAPY**
SEMESTER	**1**
COURSE TITLE	**ENVIRONMENTAL STUDIES**
COURSE CODE	**17PT0106**
COURSE CREDITS	**2**

Course Outcomes: After completion of this course, student will be able to:

1 Be aware of the environment around us and develop an understanding of sustainable development Acquire a basic scientific understanding of environmental issues and their possible solutions.

Pre-requisite of course: TO LEARN ASPECTS OF ENVIRONMENTAL SCIENCES

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
40	0	0	0	0	0	0	0

Contents : Unit	Topics	Contact Hours
1	**MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES** Definition, scope and importance , Need for public awareness	5
2	**NATURAL RESOURSES** Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people., Water resources: Use and over-utilization of surface and ground water, Floods, drought, conflicts over water, dams-benefits and problems., Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies, Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water Logging, salinity, case studies, Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies, Land resources: Land as a resource, land degradation, man induced Landslides, soil erosion and desertification, Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles.	5
3	**ECOSYSTEM** Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers. , Energy flow in the ecosystem. , Ecological succession. , Food chains, food webs and ecological pyramids. , Introduction, types, characteristic features, structure and function of the following ecosystem: • Forest	5

	ecosystem • Grassland ecosystem • Desert ecosystem • Aquatic 5ecosystems (ponds, streams, lakes, rivers, oceans, estuaries	
4	**BIODIVERSITY AND ITS CONSERVATION** Introduction – Definition: genetic, species and ecosystem diversity, Bio-geographical classification of India , Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values , Biodiversity at global, National and local levels. , Inida as a mega-diversity nation , Hot-sports of biodiversity. , Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts. , Endangered and endemic species of India , Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity	5
5	**ENVIRONMENTAL POLLUTION** Definition, Cause, effects and control measures of: Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste Management: Causes, effects and control measures of urban and Industrial wastes, Role of an individual in prevention of pollution, Pollution case studies, Disaster management: floods, earthquake, cyclone and landslides	5
6	**SOCIAL ISSUES AND THE ENVIRONMENT** From Unsustainable to Sustainable development , Urban problems related to energy , Water conservation, rain water harvesting, watershed management , Resettlement and rehabilitation of people; its problems and concerns, Case Studies , Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear , Accidents and holocaust. Case Studies, Wasteland reclamation, Consumerism and waste products, Environment Protection Act. l) Air (Prevention and Control of Pollution) Act. m) Water (Prevention and control of Pollution) Act n) Wildlife Protection Act o) Forest Conservation Act p) Issues involved in enforcement of environmental legislation. q) Public awareness	5
7	**HUMAN POPULATION AND THE ENVIRONMENT** Population growth, variation among nations. , Population explosion – Family Welfare Programme, Environment and human health, Human Rights, Value Education, HIV/AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health, Case Studies.	5
8	**FIELD WORK** Visit to a local area to document environmental assetsriver/ forest/grassland/hill/mountain, Visit to a local polluted site-Urban/Rural/Industrial/Agricultural, Study of common plants, insects, birds, Study of simple ecosystems-pond, river, hill slopes, etc	5
Total Hours		40

Textbooks:

1. Agarwal, K.C.2001 Environmental Biology, Nidhi Publications Ltd. Bikaner
2. Clark R.S. Marine Pollution, Clanderson Press Oxford

Reference books:

1. Miller T G. Jr Environmental Science, Wadsworth Publishing Co
2. Odum, EP.1971 Fundamentals of Ecology. WB Saunders Co.
Townsend C, Harper J and Michael Begon, Essentials of ecology, Blackwell Science