

ENVIRONMENTAL SCIENCE

Placement: Third semester B.Sc. Nursing

Total hours: 35

Course description: This Course is designed to introduce the concept of environmental science related to ecosystem, social issues and field work in relationship with health in nursing.

Course objective: At the end of the course the students will be able to

1. Understand the concepts of environmental science in nursing
2. Appreciate the various natural resources available in the society
3. Appreciate the concept, scope, functions and types of ecosystem
4. Understand the biodiversity and its conservation.
5. Appreciate the cause, effects and control measures of environmental pollution.
6. Describe social issues and the environment.
7. Develop observation skill in various environmental assets to document.

UNIT	TOTAL HOURS	LEARNING OBJECTIVES	CONTENT	TEACHING LEARNING ACTIVITY	ASSESSMENT METHOD
Unit1	2	Describe the concept, scope of environmental studies	Multidisciplinary nature of environmental studies Definition, scope and importance, need for public awareness	Lecture Discussion	Short Answer and Essay type
Unit2:	5	Describe the renewable and non renewable resources	Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems. a) Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d) Food resources: World food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Every resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. f) 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.	Lecture Discussion	Short Answer and Essay type

Unit	Time (Hrs)	Learning Objectives	Content	Teaching Learning Activity	Assessment method
Unit3:	6		<p>Ecosystems Concept of an ecosystem.</p> <ul style="list-style-type: none"> • Structure and function of an ecosystem. • Producers, consumers and decomposers • Energy flow in the ecosystem. • Ecological succession. • Food chains, food webs and ecological pyramids. • Introductions, types, characteristic features, structure and function of the following ecosystems:- <ol style="list-style-type: none"> a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems(ponds, streams, lakes, rivers, oceans, estuaries) 	Lecture Discussion	Short Answer and Essay type
Unit4:	6	Describe the biodiversity and it's conservation	<p>Biodiversity and its conservation Introduction- Definition: genetic, species and ecosystem diversity.</p> <ul style="list-style-type: none"> • Biogeographical classification of India. • Value of biodiversity: Consumptive use, productive use, social, ethical, aesthetic and option values. • Biodiversity at global, National and local levels. • India as a mega-diversity nation. • Hot-spots 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 conflicts. • Endangered and endemic species of India. • Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. 	Lecture Discussion	Short Answer and Essay type

Unit5:	5	Describe definition ,causes,effect and control measures of environmental pollution	<ul style="list-style-type: none"> • Environmental Pollution Definition • Cause, effects and control measures of :- <ul style="list-style-type: none"> a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. 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. 	Lecture Discussion	Short Answer and Essay type
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Unit6:	5	Describe the social issues and population	<p>Social issues and the Environment From Unsustainable to Sustainable development</p> <ul style="list-style-type: none"> • 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. Cause Studies. • Wasteland reclamation. • Consumerism and waste products. • Environmental protection act • Air (Prevention and Control of Pollution) Act. • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest Conservation Act • Issues involved in enforcement of environmental legislation. Public awareness. 		Short Answer and Essay type
Unit 7 :	3	Describe the concept of human population and the environment	<p>Human Population and the Environment Population growth, variation among nations.</p> <ul style="list-style-type: none"> • 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 	Lecture Discussion	Short Answer and Essay type

Unit 8:	3	Describe concept and scope of field visit	Filed work (Visit to a local area to document environmental assets river/ forest/ grassland/ hill/mountain. <ul style="list-style-type: none"> • 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. (Field work Equal to 5 lecture hours) 	Lecture Discussion	Short Answer and Essay type
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EVALUATION

	Sociology	Total marks	Average out of
Unit Test - I	25	25	--
Pre-Final	75	75	--
Total		100	25
College Examination		75	75

(Send to University 100 Marks)

