

SYLLABUS & PROGRAMME STRUCTURE

Environmental Science

(General)

(Choice Based Credit System)

(Effective from the Academic Session 2017-2018)

Sixth Semester

MAHARAJA BIR BIKRAM UNIVERSITY
AGARTALA, TRIPURA: 799004

PROGRAMME STRUCTURE

Structure of Proposed CBCS Syllabus for B.A/B.Com (General)

Semester	Core Course (12)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (2)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (2)
1	Compulsory English-1	AECC1 : Environmental Science			
	DSC- 1 A (Paper-I of choice of subject-I)				
	DSC- 2 A (Paper-I of choice of subject-II)				
2	Compulsory English-2	AECC2 : (English/MIL) (English/Bengali/Kok borak/Hindi) (Communication)			
	DSC- 1 B (Paper-II of choice of subject-I)				
	DSC- 2 B (Paper-II of choice of subject-II)				
3	Compulsory MIL-1 (Alternative English/Bengali/Kokborak/Hin di)		SEC1 (From Choice of subject-I)		
	DSC- 1 C (Paper-III of choice of subject-I)				
	DSC- 2 C (Paper-III of choice of subject-II)				
4	Compulsory MIL-2 (Alternative English/Bengali/Kokborak/Hin di)		SEC2 (From Choice of subject-II)		
	DSC- 1D (Paper-IV of choice of subject-I)				
	DSC- 2D (Paper-IV of choice of subject-II)				
5			SEC3 (From Choice of subject-I)	DSE1A (From Choice of subject-I)	GE-1 (From Choice of subject-I)
				DSE2A (From Choice of subject-II)	
6			SEC4 (From Choice of subject-II)	DSE1B (From Choice of subject-I)	GE-2 (From Choice of subject-II)
				DSE2B (From Choice of subject-II)	

PROGRAMME STRUCTURE

Structure of Proposed CBCS Syllabus for B.Sc. (General)

Semester	Core Course (12)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (4)	Discipline Specific Elective (DSE) (6)
1	DSC- 1 A (Paper-I of choice of subject-I)	AECC-1 Environmental Science		
	DSC- 2 A(Paper-I of choice of subject-II)			
	DSC- 3 A(Paper-I of choice of subject-III)			
2	DSC- 1 B(Paper-II of choice of subject-I)	AECC2 (English/MIL (Communication))		
	DSC- 2 B(Paper-II of choice of subject-II)			
	DSC- 3 B(Paper-II of choice of subject-II)			
3	DSC- 1 C(Paper-III of choice of subject-I)		SEC1 (From Subject-1)	
	DSC- 2 C(Paper-III of choice of subject- II)			
	DSC- 3 C(Paper-III of choice of subject- III)			
4	DSC- 1 D(Paper-IV of choice of subject-I)		SEC2 (From Subject-1I)	
	DSC- 2 D(Paper-IV of choice of subject- II)			
	DSC- 3 D(Paper-IV of choice of subject- III)			
5			SEC3 (From Subject-1II)	DSE1A (From Subject-1)
				DSE2A (From Subject-1I)
				DSE3A (From Subject-1II)
6			SEC4 (From any one of Subject-1, II & III) or from the computer course prescribed for BSc (General)	DSE1B (From Subject-1)
				DSE2B (From Subject-1I)
				DSE3B (From Subject-1II)

SEMESTER-VI
DSE – Paper – I (B)
(General)
ENVIRONMENTAL SCIENCE

TOTAL MARKS – 100
(Theory – 70, Practical-30)

Unit – I

WATER RESOURCE MANAGEMENT

Distribution pattern of water resource; concept of integrated water resource management, water scarcity and sustainable development goals; Water quality standards in India; importance of watershed and watershed management; rain water harvesting; Definition of a wetland; types of wetlands (fresh water and marine); ecological and hydrological functions of wetlands; threats to wetlands; wetland conservation and management; Ramsar Convention, 1971; major wetlands of India.

Unit – II

URBAN ECOSYSTEM

Poverty and slums in an urban context; Town planning Acts and their environmental aspects; energy consumption and waste disposal as well as accumulation; environmental costs of urban infrastructure; organization and planning of green spaces such as parks, gardens and public spaces; concept of green belts; urban natural forest ecosystem as green lungs; concept of green building;

Unit – III

SYSTEMATICS AND BIOGEOGRAPHY

Definition of systematics; taxonomic identification; herbarium; museum; botanical gardens; taxonomic literature; nomenclature; Concept of taxa (species, genus, family, order, class, phylum, kingdom); concept of species (taxonomic, typological, biological, evolutionary, phylogenetic); Biogeographical rules - Gloger's rule, Bergmann's rule, Allen's rule, Geist rule; biogeographical realms and their fauna; endemic, rare, exotic, and cosmopolitan species. Application of biogeographical rules in design of protected area and biosphere reserves

Unit – IV

HEALTH AND SANITATION

Concept of health and diseases; communicable and non-communicable diseases; Examples of air borne, water borne, vector borne and food borne diseases; symptoms, life cycle of vector; control measures of Malaria, Dengue and Swine flu. Health programs in India, family planning; nutrition and health; Health education and health care for community.

PRACTICAL
DSE – Paper – I (B)
(General)
ENVIRONMENTAL SCIENCE

Full Marks - 30

1. Urban survey in group of maximum five students (Corporations and Municipal areas) with field report submission and field viva.
2. Identification of suitable flora and fauna (Definite list of specimens of ecological and economic significance)

Specimens for Identification	Specimens for Identification
<i>Agaricus</i> sp.	<i>Hirudinea</i> sp.
Crustose Lichen	<i>Physalia</i> sp.
<i>Azolla</i> sp.	<i>Taenia solium</i>
<i>Pteris</i> sp.	<i>Ascaris lumbricoides</i>
<i>Ceratophyllum</i> sp	<i>Entamoeba histolytica</i>
<i>Andrographis paniculata</i>	<i>Andrographis paniculata</i>
<i>Eichhornia crassipes</i>	<i>Coccinella septempunctata</i>
<i>Lemna minor</i>	<i>Tryporyza incertulas</i>
<i>Parthenium hysterophorus</i>	Spider
<i>Lantana camara</i>	<i>Lamellidens marginalis</i>
<i>Jatropha</i> sp	<i>Octopus</i> sp
<i>Rauvolfia serpentina/canescens</i>	<i>Pila</i> sp.
<i>Acanthus ilicifolius</i>	<i>Asterias</i> sp.
<i>Pisum sativum</i>	<i>Carcharodon carcharias</i>
<i>Opuntia dillenii</i>	<i>Tilapia</i> sp.
<i>Solanum lycopersicum</i>	<i>Exocetus</i> sp.
<i>Ficus benghalensis</i>	<i>Rhacophorus</i> sp.
<i>Datura metel</i>	<i>Naja</i> sp.
<i>Aloe vera</i>	<i>Chamaeleo</i> sp
<i>Vanda roxburghii</i>	<i>Columba livia</i>
	<i>Culex</i> sp.

1. Identification of endangered/ endemic flora and fauna specimen.