



# RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

## NOTIFICATION

No. 2.

Dated: 27 February, 2007

It is notified for general information of all the concerned that the Hon'ble Vice-Chancellor has approved under Section 14(7) of the Maharashtra University Act, 1994 on behalf of Academic Council accepting the syllabus for compulsory course of six month duration in **Environment Studies at under graduate course of all branches and faculties of higher education on the guidelines of already accepted and approved pattern of UGC model to be implemented for the session 2007-2008.**

Encl:- Syllabus

*K. B. Saini*  
Registrar,

Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

Nagpur Dated 27th Feb., 2007

No. Acad./1437.

Copy forwarded for information and necessary action to:-

1. All Principals/Directors of all colleges affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
2. All the Deans of the Faculties, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
3. The Controller of Examinations.
4. The Deputy Registrar (Exams.)
5. The Asstt. Registrar (Prof. Exams)/(Exams.)  
(Confidential/Exams. & Inq.)
6. The Asstt. Registrar (University Sub-Centre), Gadchiroli
7. The P. A. to the Hon'ble Vice Chancellor,
8. The P. A. to Hon'ble Pro-Vice Chancellor,
9. The P. A. to the Registrar,

Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur



*(Ar. Vilas Ramteke)*  
Deputy Registrar (Acad.)  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

*(Signature)*  
Principal

Dada Ramchand Bakhru  
Sindhu Mahavidyalaya, Nagpur-17.



**Guidelines for Implementation :**

- I. The theory question paper would carry 75 marks - 50 for objective type questions covering various aspects of the syllabus (50 questions, each of one mark) and 25 marks for one essay type question.

At the end of the course the student would be evaluated for 100 marks with distribution as below -

Field note book	-	25
Objective Questions	-	50
Essay type question	-	25
Passing marks	-	40

The result would be declared in grades -

Grade O : above 75; A : 61-75; B : 51-60; C : 40-50

- II. A fee of Rs.100/- per student be charged and its utilization is as : Rs.20/- will be sent to the university and Rs.16/- to Principal to be utilized for infrastructure and administrative expenses pertinent to the course. However the final fee structure may be decided by the appropriate authority of the University.
- III. The Principal would appoint Coordinator and Assistant Coordinator as per need to coordinate the teaching of the course, appoint contributory teachers, if necessary. At the end of the course, the college would conduct the examination. It will appoint paper setters and examiners. The final grades of candidates should be informed to the university. The expenditure for all the required manpower be met from the remaining amount of fees.
- IV. Qualifications of a Teacher : A teacher in any subject possessing knowledge to teach the "Course on Environmental Studies" shall be eligible.
- V. The course should be taught in second year and can be cleared in third year in case the student remains absent or fails to clear the course.
- VI. The candidate will have to pass in the examination of this course in order to obtain degree certificate from the University.

OR Batch 201

In view of entire course the student may be assigned a project work Encompassing Community/Biodiversity Register (CBR) of any Gram-Panchayat as per format of National Biodiversity Authority of India under the guidance of a teacher. This CBR should be evaluated for 100 marks.

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cop/curriculum environment

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# Core Module Syllabus for Environmental Studies for Undergraduate Courses of all branches of Higher Education

## Unit 1: The Multidisciplinary nature of environmental studies

- Definition, scope and importance
- Need for public awareness

(2 lectures)

## Unit 2: 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 forests 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 overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
  - e) Energy 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

(8 lectures)

## Unit 3: Ecosystems

- 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 ecosystems:
  - a. Forest ecosystems
  - b. Grassland ecosystems
  - c. Desert ecosystems



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- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)


#### Unit 4: Biodiversity and its conservation

- Introduction: Definition: genetic, species and ecosystem diversity
- 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
- Hotspots 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

(8 lectures)

#### Unit 5: Environmental Pollution

- Definition
- Causes, effects and control measures of:
  - 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, earthquakes, cyclones and landslides

  
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(8 lectures)

#### Unit 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
- 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

(7 lectures)

### Unit 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

  
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(6 lectures)

### Unit 8: Field Work

- Visit to a local area to document environmental assets—river / 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.

(Fieldwork Equal to 5 lecture hours)

### Teaching Methodologies

The Core Module Syllabus for Environmental Studies includes classroom teaching and fieldwork. The syllabus is divided into 8 units, covering 50 lectures. The first 7 units, which cover 45 lectures, are classroom-teaching based and intended to enhance knowledge skills and attitude to environment. Unit 8 is based on field activities, to be covered over five lecture hours, and would provide students with first-hand knowledge on various local environmental aspects. Field experience is one of the most effective learning tools for environmental concerns. This moves education out of the scope of the