**BC-207**
**ENVIRONMENTAL STUDIES (QUALIFYING PAPER)**

Total Marks: 100
Time : 3 Hours

The Subject of Environmental Studies is included as a qualifying paper in all UG Courses (including professional courses also) from the session 2004-2005 and the students will be required to qualify the same otherwise the final result will not be declared and degree will not be awarded.

Annual System: The duration of the course will be 50 lectures. The examination will be conducted by the college at its own level earlier than the examination along with the Annual Examination.

Semester System: The Environment Course of 50 lectures will be conducted in the second semester and the examinations shall be conducted at the end of second semester:

Credit System: The core course will be awarded 4 credits.

Exam. Pattern: In case of awarding the marks, the question paper should carry 100 marks. The structure of the question paper being:

| | |
|---|---|
| PART-A: Short Answer Pattern | 25 Marks |
| PART-B: Essay type with inbuilt choice | 50 Marks |
| PART-C: Field work | 25 Marks |

**INSTRUCTIONS FOR THE EXAMINERS**

Part-A: Questions 1 is compulsory and will contain ten short answer type question of 2.5 marks each covering the entire syllabus.
Part-B : Eight essay type questions (With inbuilt choice) will be set from the entire syllabus and the candidates will be required to answer any four of them. Each essay type question will be of 12.5 marks.

The examination will be conducted by the college concerned at its own level earlier than he annual examination and each student will be required to score minimum of 35% marks each in Theory and Practical. The marks obtained in this qualifying paper will not be including in determining the percentage of marks for the award of degree.

However, these will be shown in the detailed marks certificate of the student.

**Syllabus and Course of reading**

The multidisciplinary nature of environmental studies: Definition, Scope and importance need for public awareness. (2 Lectures)
Natural Resources: Renewable and non-renewable resources:
Natural resources and associated problems.
a) Forest resources: Use ad 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 abd using mineral resources, case studies.
d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modem agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
e) Energy resources; Growing energy needs, renewable and non-renewable energy sources, case studies.

f) Land resources: Land as a resources, 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)

Ecosystems
- Concept of an ecosystem
-Structure and function of an ecosystem.
- Producers, Consumers and decomposers.
-Energical flow in the ecosystem
-Ecological succession
--Food chains, food webs and ecological pyramids.
-Introduction, types, Characteristic features, structure and function *of* the following *of* the ecosystem.

a. Forest ecosystem
b. Grassm land ecosystem
c. desert ecosystem
d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

(6 lectures).

Biodiversity and its conservation

--Introduction-Definition: genetic, species and ecosystem diversity.
--Bio-geographical classification of India. "
--Value of bioversity: consumptive use, productive use, social, ethical; aesthetic and option values.
--Biodiversity at global, National and local levels.
--India as a mega-diversity nation.
Hot-sports of biodiversity.
--Threats to biodiversity: habitat loos, poaching *of* wildlife, man-wildlife conflicts. 1
--Endangered and endemics.
--Conservation *of* biodiversity: In-situ and Ex-situ, Conservation of biodiversity.

(8 Lectures)

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, earthquake, cyclone and landslides.

(8 lectures)

Social Issues and the environment

--From Unsustainable to Sustainable development.
--Ur ban 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.
--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)

Human Population and the Environment

-- Population growth, variation among nations.
-. Population explosion- family Welfare Programme.
--Environment and human hea1th.
--Human Rights.
--Value Education.
--HIV/AIDS.
--women and child welfare
--role of information technology in environment and human health
--Case Studies. (6 lectures)

Field work

--Visit to a local area to document environmental assets: river/forest grass land/ 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.
(Field work Equal to 5 lecture. hours).

**SIX MONTHS COMPULSORY CORE MODULE COURSE IN ENVIRONMENTAL STUDIES: FOR UNDERGRADUATES**

Teaching Methodologies

The Core Module Syllabus for Environmental Studies includes class room teaching and Field Work. The syllabus divided into eight units covering 50 lectures. The first seven unit will cover 45 lectures which are class room based to enhance knowledge skills mid attitude to environment. Unit eight is based on field activities which will be covered in five lecture hours and would provide students' firsthand knowledge on various local would environmental aspects.

Field experience is one of the most effective learning to for environmental concerns. This moves out of the scope of text book mode of teaching into realm of real learning in the field where the teacher merely acts as a catalyst to interpret what student observes or discovers in his/her environment.

Fields are as essential as class work and form an irreplaceable synergistic tool in the entire learning process.

Course material provided by UGC for class room teaching and field activities be utilized.

The universities/Colleges can also draw upon expertise of outside resource persons for teaching purposes.

Environmental Core module shall be integrated into the teaching programmes of all undergraduate courses.

**REFERENCES**


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- De A.K., Environmental Chemistry, Wiley Esteem Ltd.
- Gleick, H.P. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute.
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- Rao MN. & Datta, A.K., Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd.
- Townsend C., Harper J, and Michael Begon, Essentials Ecology, Blackwell Science(1B).
- Trivedi R.K and P.K Goel, Introduction to air pollution, Techno-Science Publications (TB).
- Trivedi R.K, Handbook of Environmental Laws, Ru1es, Guidelines Compliances and Standards, Vol I and II, Envirol Media(R).
- Wagner KD., Environmental Management. W.B. Saunders Co. Philadelphia, USA. (M) Magazine (R) Reference (TB) Textbook.

# NDIRA GANDHI NATIONAL COLLEGE

LADWA (Kurukshetra)

STUDENT'S ATTENDENCE CHART

oom No. 07 Date 01.04.2019 Session 2018-19

ame of Teacher Dr. Suman Chhabra Dr. Amit Vashishta Class/Classes B.A. I Yr. B.com I Sem

otal No. of Students Allotted 40 Present 38 Absent 2

oll No. of Absentees 1800377109, 1800377265

| Roll No | Signature | Roll No | Signature |
|---|---|---|---|
| 1800377705 | Kushal | 1800377748 | Satyawati |
| 707 | Anshika | 1800321001 | Sahil |
| 708 | Ritu Devi | 02 | Mahak |
| 709 | Absent | 03 | Ayushi |
| 710 | Parul | 04 | Ruchika |
| 713 | Anju | 06 | Mangeshkumar |
| 714 | Jonam | 07 | Ankit kumar |
| 715 | Swati Devi | 08 | Aashish |
| 716 | Gulzeet | 09 | Deepak kumar |
| 719 | Mehak Chaudhary | 10 | Sivani Devi |
| 720 | Samaiti Devi | 11 | Aarati Devi |
| 721 | manisha | 12 | Dolly |
| 722 | Aanchal | 13 | Alka Rani |
| 723 | Neha | 14 | Nisha |
| 725 | Absent | 15 | Harsideep Kaur |
| 726 | Sonali | 17 | Bharti Devi |
| 730 | Harsh | | |
| 731 | Sneha | | |
| 733 | Muskan | | |
| 735 | Prachi | | |
| 736 | Ratnan Singh | | |
| 737 | Sahil | | |
| 743 | Sweety | | |
| 746 | Digvijay Singh | | |

Signature of