27. ENVIRONMENTAL STUDIES

PART-A

SHORT ANSWER PATTERN

1. The Multidisciplinary nature of environmental studies
   - Definition, scope and importance.
   - Need for public awareness.
   (2 lecture hours)

2. 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 lecture hours)

3. 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.
   (6 lecture hours)
PART-B
ESSAY TYPE WITH INBUILT CHOICE 50 Marks

4. Natural resources :
   . Renewable and non-renewable resources :
     . Natural resources and associated problems.
       - Forest resources : Use and over exploitation, deforestation, case studies.
       - 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.
   . Role of an individual in conservation of natural resources.
   . Equitable use of resources for sustainable lifestyles.

(8 lecture hours)

5. Ecosystems
   . Concept of an ecosystem.
   . Structure and function of an ecosystem.
   . Producers, consumers and decomposers.
   . Ecological succession.
   . Food chains, food webs and ecological pyramids.
   . Introduction, types, characteristic features, structure and function of the following ecosystem :-
     - Forest ecosystem
     - Grassland ecosystem
     - Desert ecosystem
     - Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lecture hours)

6. 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.
   . Hot-spots of biodiversity.
   . Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts.
   . Endangered and endemic species of India.

(8 lecture hours)

7. Environmental Pollution
   . Definition
     . Causes, 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
       . Role of an individual in prevention of pollution.
       . Pollution case studies.

     Diaster management : floods, earthquake, cyclone and landslides.

(8 lecture hours)

PART-C
ESSAY ON FIELD WORK 25 Marks

8. 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.

(5 lecture hours)
Notes:

i) Contents of the syllabys mentioned under paras 1 to 8 shall be for teaching for the examination based on Annual Pattern.

ii) Contents of the syllabys mentioned under paras 1 to 4 shall be for teaching to the Semester commencing first,

iii) Contents of the syllabys mentioned under paras 5 to 8 shall be for teaching to the Semester commencing later.

LIST OF REFERENCES:


2) Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad - 380 013, India, Email : mapin@icenet.net (R)


4) Clark R.S., Marine Pollution, Clanderson Press Oxford (TB)


6) De A.K., Environmental Chemistry, Wiley Eastern Ltd.

7) Down to Earth, Centre for Science and Environment (R)


9) Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Mumbai (R)


14) Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB)


18) Survey of the Environment, The Hindu (M)


20) Dr. Deshpande A.P., Dr. Chudiwale A.D., Dr. Joshi P.P. & Dr. Lad A.B. : Environmental Studies, Pimpalapure & Company Pub., Nagpur.

21) डॉ. विहुरल घागरपुरे : पर्यावरणशास्त्र, पपलापुरे अंड कंपनी पंचिल्हन, नागपुर.


26) Environmental Chemistry and Pollution by Dr.N.W.Ingole, D.M.Dharmadhikari, Dr.S.J.Patil, Dasganu Prakashan, Nagpur.

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Examination in Environmental Studies leading to Bachelor Degree, Ordinance, 2005

Whereas it is expedient to frame an Ordinance relating to Examination in Environmental Studies leading to Bachelor Degree level, hereinafter appearing, the Management Council is hereby pleased to make the following Ordinance.

1. This Ordinance may be called “Examination in Environmental Studies leading to Bachelor Degree, Ordinance, 2005.”

2. This Ordinance shall come into force from the Academic session 2005-06.

3. In this Ordinance and in other ordinances relating to the examination, unless there is anything repugnant in the subject or context :-

   (i) “Academic session” means a session commencing on such date and ending with such date of the year following as may be appointed by the Management Council.

   (ii) “Admission to an examination” means the issuance of an admission card to a candidate in token of his having complied with all the conditions laid down in the relevant ordinance, by a competent officer of the University.

   (iii) “Applicant” means a person who has submitted an application to the University in the form prescribed for admission to an examination.

   (iv) “Candidate” means a person who has been admitted to an examination by the University.

   (v) “Regular Candidate” means an applicant who has applied for admission to a University examination through an affiliated college, Department or Institute in which he/she has prosecuting a regular course of study.

   (vi) “Examinee” means a person who present himself/herself for an examination to which he/she has been admitted.

   (vii) “Examination” means an examination prescribed by the University under the relevant Ordinance.

   (viii) “External Candidate” means a candidate who is allowed to take a University examination in accordance with the provision of Original Ordinance No. 151.

   (ix) “Non-Collegiate Candidate” means a candidate who is not a collegiate candidate.

4. Save as otherwise specifically provided, the conditions prescribed for admission to the examination under this Ordinance shall apply to all persons who wish to take the examination to the Degrees of the University mentioned in para 5 below.

5. The conditions prescribed for admission to examination under this Ordinance shall apply to following degrees of the University :-

   1) Bachelor of Arts
   2) Bachelor of Performing Arts
   3) Bachelor of Fine Arts
   4) Bachelor of Mass Communication
   5) Bachelor of Social Work
   6) Bachelor of Commerce
   7) Bachelor of Business Administration
   8) Bachelor of Science
   9) Bachelor of Computer Science
   10) Bachelor of Computer Applications
   11) Bachelor of Pharmacy
   12) Bachelor of Science (Home Science)
   13) Bachelor of Technology (Cosmetics)
   14) Bachelor of Engineering
   15) Bachelor of Engineering (Part Time) (Civil)
   16) Bachelor of Textile
   17) Bachelor of Technology (Chemical Technology)
   18) Bachelor of Technology (Chemical Engg.)
   19) Bachelor of Architecture, and
   20) Bachelor of Laws (Five Year Course)
Environmental Studies shall be a compulsory subject for a previous year examination of the following Bachelor Degrees of the University:

1. Bachelor of Arts
2. Bachelor of Performing Arts
3. Bachelor of Fine Arts
4. Bachelor of Mass Communication
5. Bachelor of Social Work
6. Bachelor of Commerce
7. Bachelor of Business Administration
8. Bachelor of Science
9. Bachelor of Computer Science
10. Bachelor of Computer Applications
11. Bachelor of Pharmacy
12. Bachelor of Science (Home Science)
13. Bachelor of Technology (Cosmetics)
14. Bachelor of Engineering (Part Time) (Civil)

Environmental Studies shall be a compulsory subject for IIIrd & IVth Semester of the following Bachelor Degrees of the University:

1. Bachelor of Engineering
2. Bachelor of Textile
3. Bachelor of Technology (Chemical Technology)
4. Bachelor of Technology (Chemical Engineering)
5. Bachelor of Architecture

Environmental Studies shall be a compulsory subject for Vth & VIth Semester of the Degree of Bachelor of Laws (Five Year Course)

Students admitted to Second Year/Third Year/IVth Semester Vth Semester of various degree examination courses in different faculties in the academic session 2005-06 or thereafter shall have to appear for examination in the subject Environmental studies.

The main Examination leading to Environmental Studies shall be held in Summer and Supplementary examination in Winter every year, at such places and on such date as may be appointed by the Board of Examinations.

Explanation: Examination shall be conducted on the basis of one common question paper for all Bachelor Degree examination courses irrespective of annual or semester pattern.

Scope of the subject for annual pattern examination and or semester pattern examination shall be as provided under the syllabus.

Common question paper for all courses covered under this Ordinance along with answer books shall be supplied by the University to the Colleges, Departments and Institutes for conducting the examination of the subject.

Valuation of the answer books relating to this subject shall be done at College/Department/Institution level only. Remuneration for valuation of answer books shall not be paid by the University.

Provided that prescribed evaluation fee for evaluation of each answer Book/s of an external examinee/s appeared from the examination centre shall be paid to each examination centre.

It shall be obligatory on the part of the College/Department/Institute to submit candidate wise following information to the University on or before the date as may be prescribed by the University:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Grade/Category</th>
<th>Marks secured</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>“A”</td>
<td>- 60 and above</td>
</tr>
<tr>
<td>2.</td>
<td>“B”</td>
<td>- 45 to 59</td>
</tr>
<tr>
<td>3.</td>
<td>“C”</td>
<td>- 35 to 44</td>
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<tr>
<td>4.</td>
<td>“D”</td>
<td>- 25 to 34</td>
</tr>
<tr>
<td>5.</td>
<td>“Fail”</td>
<td>- 24 and below</td>
</tr>
<tr>
<td>6.</td>
<td>“Absent”</td>
<td></td>
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</tbody>
</table>

For the purposes of teaching, learning and examination, the Committee consisting of three teachers shall be appointed by the Principal/Head of the Department/Head of the Institution under his/her Chairmanship/Chairpersonship. While appointing three teachers on the said committee, the Principal shall take care that the teachers to be appointed on the committee, if necessary, shall be from different faculty.

Duration of theory examination of this subject shall be three hour.

For all Bachelor Degree examinations, common question paper of 100 marks shall be provided by the University.

Distribution of these 100 marks shall be as follows:

- a) Part-A, Short Answer Pattern - 25 Marks
- b) Part-B, Essay type with inbuilt choice - 50 Marks
- c) Part-C, Essay on Field Work - 25 Marks
14. Medium of instruction shall be English or Marathi or Hindi. Question paper shall be supplied in English and Marathi and Hindi. A candidate shall have option to write answers in English or Marathi or Hindi.

15. Examination for the subject Environmental Studies shall be compulsory for external candidates appearing as a fresh candidate at Winter and/or Summer examination.

16. For teaching of the subject, there shall be atleast two hour per week. For teaching the subject to the regular candidates, a full time approved teacher of the University and or a person having Postgraduate Degree in any faculty with second class shall be considered eligible.

17. For teaching of the subject, additional fee to be charged to regular candidate shall be as prescribed by the University.

18. Every College/University Teaching Department shall Charge additional fee of Rs. 100/- to every student of the subject Environmental Studies. Out of this Rs.100/-, the College/University Teaching Department shall have to pay Rs.25/- to the University as an examination fee of each candidate for the subject Environmental Studies.

19. The Grade secured by an examinee in the examination of this subject shall not be considered for providing the facility of A.T.K.T. in next higher class.

20. The provisions of Ordinance No. 18/2001 shall not be applicable for securing a grade or higher grade in the examination of this subject.

21. Result of the Final Year of the respective Degree shall not be declared of an examinee unless he/she secures any one of the grade in the examination of subject.

Provided an examinee admitted to Five Year LL.B. course desiring not to continue his/her education beyond Sixth Semester of the said course shall have to secure any one of the grade in the examination of the subject otherwise his/her result of Sixth Semester for awarding B.A. degree shall not be declared.

22. Certificates shall be issued, to the successful examinees in the subject Environmental Studies, after the examination.

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