EPCO-INSTITUTE OF ENVIRONMENTAL STUDIES

ADMISSION NOTICE

POST GRADUATE DIPLOMA IN ENVIRONMENTAL MANAGEMENT

EPCO, state premier organization, working under Housing and Environment Department, Govt. of M.P. is running one year “Post Graduate Diploma in Environmental Management” (PGDEM).

Applications are invited for admission to the PGDEM Course.

<table>
<thead>
<tr>
<th>Eligibility</th>
<th>Graduate in any discipline with 50% (General Category) 40% (Reserve Category) as per UGC Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Limit</td>
<td>20 – 45 Years (Fresher’s) Below 50 years (In-Service)</td>
</tr>
<tr>
<td>Fee</td>
<td>Rs.8000/- (General Category) Rs.6000/- (Reserve Category)</td>
</tr>
<tr>
<td>Last Date for Submission of Application Form</td>
<td>13th July 2014 (5 PM)</td>
</tr>
</tbody>
</table>

For further details and Application Form, visit www.epco.in.

Principal
EPCO-Institute of Environmental Studies, Paryavaran Parisar, E-5, Arera Colony, Bhopal Ph.0755-, 2466970, 2464318 (Ext.-122), 2426765, email- institute@epco.in, sanjeevsachdev59@gmail.com
The organization

Environmental Planning & Coordination Organization (EPCO) is a registered Society established in 1981 by Government of Madhya Pradesh. EPCO is an advisory organization to the State Government on matters related to Environment. One of the important mandates of EPCO is to create environmental awareness and organize educational activities. In the last three decades EPCO has worked in almost all the sphere of Environment and has gained enormous institutional experience.

The organization has also been associated with the prestigious international projects of World Bank, JBIC, DFID and UNDP and is the Nodal agency of Government of India – Ministry of Environment & Forests for Biosphere Reserve, National Green Corps and National Environmental Awareness Campaign. Its Climate Change Cell is developing a full-fledged Knowledge Management Center. To capitalize on this knowledge wealth and share it with people an Institute of Environmental Studies under the aegis of EPCO has been established.

Various other short-term course with varied target groups & in collaboration are also been conducted by EPCO Institute of Environmental Studies.

The Course Post Graduate Diploma in Environmental Management (PGDEM) has been launched by EPCO-Institute of Environmental Studies, with a view to educate people of diverse sections about various aspects of environmental problems and their management. PGDEM course is of immense use to students, citizens at every stage and at all levels of formal (technical) and non-formal professionals. It is also useful for the people employed within industries, analytical jobs, and environmental cells as well as in the treatment plants.

Objective of the program

- Enhance understanding on Environmental issues
- Enhancing skills on environmental interventions
- Sharing of experiences in environmental conservation.
- Develop environmentally sensitive and technically enlightened citizen.
- Disseminate environmental information of topical interest.

Mode of Teaching, delivery and assessment:

- Contact classes will be conducted at EPCO-Institute of Environmental Studies, Bhopal for teaching, practical and field demonstration. Classroom teaching will be of 30 days with total 150 hours in 2 contact sessions, each of 15 days. At least 80% attendance for Fresh candidates and 60% for In-service candidates is compulsory.
- Project: A Project Report has to be submitted by individual candidates under the supervision of Guide. Fresh candidates will have to undergo one month internship in an organization/industry. In-service candidate will have to do a short term project, in their own organization

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1 Fresh candidate means those who are not employed
2 In-service candidate means those who are serving in Government/Semi-government/private Sector and have been working continuously for last three years
• **Continuous Evaluation**: There will be continuous evaluation through assignments, practicals and written exams.

**Infrastructure:**

EPCO has adequate infrastructure in form of its own building with laboratories, library, class rooms, demonstration centers (Interpretation Center, Waste Paper Recycling Unit) etc.

**Eligibility for Admission:**

Graduate in any discipline with 50% marks (General) and 40% (Reserve) Category as per UGC norms.

**Age Limit:**

20 – 45 years (for Fresher’s)
Below 50 years (for In-service)

**Selection Procedure for Admission:**

Candidates for PGDEM course will be selected on the basis of merit. The admission criteria for preparing merit list is as follows:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Marks</th>
<th>Calculation Pattern/Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>On the basis of marks obtained in graduation. (Marks obtained x 0.3)</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>Marks On the basis of higher qualification/education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ph.D                                         - 10</td>
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<tr>
<td></td>
<td></td>
<td>M.Phil .                                     - 8</td>
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<tr>
<td></td>
<td></td>
<td>Post Graduation                              - 6</td>
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<tr>
<td></td>
<td></td>
<td>Diploma                                      - 4</td>
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<tr>
<td></td>
<td></td>
<td>Paper Publication                            - 2</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>on screening through multiple choice objective type entrance test</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>Merit list will be prepared on the basis of marks obtained</td>
</tr>
</tbody>
</table>

**Course Duration**: One Year

<table>
<thead>
<tr>
<th>Last Date for submission of application</th>
<th>: 13th July 2014.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Time of Entrance Exam</td>
<td>: 15th July 2014 between 11.30 am -12.30 pm at EPCO Institute (Reporting at 11.00 am)</td>
</tr>
</tbody>
</table>

**Linkages with Industry and Prospective Employers:**

The course is sponsored by EPCO (Govt. of MP) as a part of its mandate of developing trained manpower in the field of environmental conservation and management.
**Advantage of the course:**

Environment is an interdisciplinary subject and thus there is a need of environmental aware manpower in every section of society including educational, industrial, agricultural, defense services, Government officer’s, NGO’s, Media as well as judiciary. The course will enrich the students with thorough knowledge and understanding of all aspects of environmental management. It inculcates topics such as earth’s evolution and process, natural resource management, pollution control & mitigation, environmental laws, global water supplies, effects of climate change etc. The course will also help to find ways to protect and conserve environment in daily life as well as work station. The course will facilitate development of environmental leadership among individuals who will be able to contribute in generating environmental awareness and up-gradation programmes for sustainable development. The Maestros course has been developed by a team of Academicians Maestros and practicing environmental experts of reputed Government and autonomous agencies so as to impart applied knowledge.

**Fees:**

Course fee will be Rs. 8000/- for General category and Rs. 6000/- for Reserve category. The fee covers class room teaching, demonstration, library, laboratories etc. Course fee will be fully reimbursed to EPCO’s and Government or PSUs Employees after successful completion of course.

**Programme Content**

<table>
<thead>
<tr>
<th>Paper</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paper I</strong></td>
<td><strong>INTRODUCTION TO ENVIRONMENT &amp; NATURAL RESOURCE MANAGEMENT</strong></td>
</tr>
<tr>
<td>Unit - 1</td>
<td>Fundamentals and functions of Environment and Ecosystem Management</td>
</tr>
<tr>
<td>Unit - 2</td>
<td>Natural Resource Conservation and Utilization</td>
</tr>
<tr>
<td><strong>Paper II</strong></td>
<td><strong>DEVELOPMENT AND ENVIRONMENT</strong></td>
</tr>
<tr>
<td>Unit - 3</td>
<td>Climate Change and Sustainable Development</td>
</tr>
<tr>
<td>Unit - 4</td>
<td>EIA – Introduction and Need for EIA</td>
</tr>
<tr>
<td><strong>Paper III</strong></td>
<td><strong>ENVIRONMENTAL POLICY, LAWS AND APPRAISALS</strong></td>
</tr>
<tr>
<td>Unit - 5</td>
<td>Environmental Policy and Laws/Legislation: National and International</td>
</tr>
<tr>
<td>Unit - 6</td>
<td>National Legislations on Environmental Protection</td>
</tr>
<tr>
<td><strong>Paper IV</strong></td>
<td><strong>RESEARCH METHODOLOGY</strong></td>
</tr>
<tr>
<td>Unit - 7</td>
<td>Sampling, Data Collection and Tabulation</td>
</tr>
<tr>
<td>Unit - 8</td>
<td>Statistical Tools, Techniques and Project Management</td>
</tr>
<tr>
<td><strong>Paper V</strong></td>
<td><strong>ENVIRONMENTAL QUALITY AND MANAGEMENT</strong></td>
</tr>
<tr>
<td>Unit - 9</td>
<td>Environmental Disaster and Management</td>
</tr>
<tr>
<td>Unit - 10</td>
<td>Corporate Environmental Responsibility</td>
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</tbody>
</table>

**Projects**

Specific topics will be given to the candidates based on their qualification and experience which will be carried out under the supervision of Guide.
### Creditization

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<td>4 Credits</td>
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<td>10 Credits</td>
<td>35 Credits</td>
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</table>

### Academic Calendar

<table>
<thead>
<tr>
<th>Months</th>
<th>Tasks to be completed</th>
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<tbody>
<tr>
<td>August - October</td>
<td>Classroom teaching of 30 days with total 150 hrs in two contacts sessions each of 15 days. Project topics to be allotted in 1st contact session &amp; one day review in each contact session.</td>
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<tr>
<td>November</td>
<td>Submission of Assignment &amp; Presentation</td>
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<tr>
<td>December - January</td>
<td>5 days special contact session for Consultation &amp; Project work / Internship with Report writing</td>
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<tr>
<td>February - March</td>
<td>Preparation and submission of Project work / Internship</td>
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<tr>
<td>April - May</td>
<td>Presentation on Project work / Internship Report</td>
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<tr>
<td>June</td>
<td>Final Exams</td>
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<tr>
<td>July</td>
<td>Result Tabulation</td>
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<tr>
<td>August</td>
<td>Result declaration &amp; Award of Diploma (Convocation)</td>
</tr>
</tbody>
</table>

Students will have to complete their project work on full-time basis under supervision and guidance of empanelled guides of institute.

### Grading Slab

<table>
<thead>
<tr>
<th>Conversion of marks into grades</th>
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<tbody>
<tr>
<td>91-100</td>
<td>A+</td>
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<td>86-90</td>
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<tr>
<td>76-85</td>
<td>B+</td>
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<tr>
<td>71-75</td>
<td>B</td>
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<td>61-70</td>
<td>C+</td>
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<td>56-60</td>
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<td>46-55</td>
<td>D+</td>
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<td>40-45</td>
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<td>Below 40</td>
<td>E (Fail)</td>
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</table>
**POST GRADUATE DIPLOMA IN ENVIRONMENTAL MANAGEMENT (PGDEM)**

**APPLICATION FORM**

Last Date – 13th July 2014

<table>
<thead>
<tr>
<th>Enrolment Number</th>
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</table>

Name of the Candidate

Fathers Name

Mothers Name

Date of Birth

Address for Correspondence

City  __________________ State  __________________ Pin Code  __________

Email Id ______________________________ Mobile _______________ Landline  ____________________

**Educational Qualification**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Qualification</th>
<th>Board/University</th>
<th>Subjects</th>
<th>Year of Passing</th>
<th>Marks Obtained</th>
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<td>7.</td>
<td>Research Papers</td>
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</table>

**Present Assignment (For In-service Candidates only)**

<table>
<thead>
<tr>
<th>Name of Organization</th>
<th>Contact Details of Employer</th>
<th>Designation</th>
<th>Date of Joining</th>
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</thead>
<tbody>
<tr>
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<td>(Address, Phone, Email)</td>
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# Fee Details

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<th>Cash</th>
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<td>(in favour of EPCO Institute of Environmental Studies, Bhopal)</td>
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<tr>
<td>Amount</td>
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<td>MR No.</td>
<td>No.</td>
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<tr>
<td>Date</td>
<td>Date</td>
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<td>Issuing Bank &amp; Branch</td>
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<td>Branch Code</td>
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### DECLARATION

I hereby affirm that the above mentioned details are true to the best of my knowledge. I undertake that I will abide the rules & regulations of the Institute.

**Signature of Candidate**

**Date**
SYLLABUS

Post Graduate Diploma in Environmental Management (PGDEM) 2014-15

EPCO Institute of Environmental Studies (EIES)

ENVIRONMENTAL PLANNING AND COORDINATION ORGANIZATION
<table>
<thead>
<tr>
<th>PAPER - I</th>
<th>INTRODUCTION TO ENVIRONMENT &amp; NATURAL RESOURCE MANAGEMENT</th>
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<tr>
<th>PAPER – IV</th>
<th>RESEARCH METHODOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit – 7</td>
<td>Introduction to Research Methodology &amp; Data Collection</td>
</tr>
<tr>
<td>Unit – 8</td>
<td>Data Analysis and report writing</td>
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</table>

<table>
<thead>
<tr>
<th>PAPER – V</th>
<th>ENVIRONMENTAL QUALITY AND MANAGEMENT</th>
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<tbody>
<tr>
<td>Unit – 9</td>
<td>Environmental Disaster and Management</td>
</tr>
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<td>Unit – 10</td>
<td>Corporate Environmental Responsibility</td>
</tr>
</tbody>
</table>
INTRODUCTION TO ENVIRONMENT & NATURAL RESOURCE MANAGEMENT

Unit – 1 Fundamentals and functions of Environment and Ecosystem Management

   1.1 Atmosphere – Introduction, Layers – its evolution composition & stratification
   1.2 Hydrosphere – Hydrological cycle, Characteristics of lentic and lotic freshwater and marine system
   1.3 Lithosphere – Rock formations, soil characteristics and soil biota, type of soil

2. Ecological principles – Biosphere and its organizational levels as population, community and ecosystem
   2.1 The Habitat and Niche
   2.2 Ecosystems – Terrestrial, Aquatic, Grassland, Arboreal
   2.3 Ecological balance and succession – Natural Vs Man made Environment
   2.4 Ecological footprint
   2.5 Energy in ecosystem

3. Biodiversity and Protected areas: Definition, classification, species diversity, ecosystem diversity & genetic diversity
   3.1 Food chain and food web – flow of energy
   3.2 Ecological pyramids (Ambast 1986)
   3.3 Bioaccumulation and biomagnifications
   3.4 Concept of biomass productivity

4. Biogeochemical cycles
   4.1 Carbon sequestration
   4.2 Sedimentary cycles
   4.3 Carbon, Nitrogen and water cycles
   4.4 Recycle Pathways

5. Biotic Relations (relationship among organism)
   5.1 Ecological adaptations, Climax, Biomass, Homeostasis

6. Political, economic and environmental concerns
   6.1 Modern as well as Pristine life style and environment
   6.2 Environmental concerns in religions and sustainable living

7. Human impact on Natural Environment (Climate, Atmosphere, Vegetation, Animal, Soil, Water etc)
   7.1 Impact of human agencies in geomorphology

8. Natural History – Details and Definition
   8.1 Nature – Earth, Life, Evidence of Life on Earth
   8.2 Evolution History – Earliest earth origin and evolution of life
   8.3 Emergence of multicultural organisms and Microbial Habitat
   8.4 Sexual Reproduction
   8.5 Natural Science – Branches of Natural science and interdisciplinary studies

9. Geological Activities and Challenges
   9.1 Ten Biogeography zones of India
   9.2 Biogeography and Ecosystem – Ecology, Ecosystem, Biomes, Habitat, Macro-Habitat, Micro-Habitat
   9.3 Restoration of Fauna and Flora
   9.4 Biogeography zone of India – Introduction, Methods – GIS Data, Phyto-geography, Zoo-geography

10. Natural Resource Conservation and Utilization
     1. Air Resources – Earth atmospheric, weather, climate, monsoon, winds, cyclone, El Nino – La Nino
     2. Land resources – Arable land, forest land, wetland, forest land, wasteland, deserts
     3. Water resources – surface water, ground water, snow, ice – caps, methods of quantification
     4. Food resources – Agri-products, fishery, dairy, meat, egg etc.
     5. Forests and tree cover – forest classification and products, tree resource outside forests, ecosystem services of forest and tree resources. Agroforestry
     6. Wildlife–Need of wild life and its conservation, In-situ and Ex-situ conservation
     7. Biosphere Reserves, National Parks & Wide Life Sanctuaries
     8. Management and conservation of wild life in India
     9. Mineral resources – Metallic minerals, non-metallic minerals, coal and oil. Ore beneficiation and Mining
10 Marine resource – Marine ecology and geology
11 Energy resource – Requirement and utilization, energy trend
12 Renewable energy: solar energy, wind energy, geothermal energy, bio-energy (wood, cellulose, biogas, bio-oil), hydal energy, ocean, thermal, tidal and wave energy
13 Optimization of resource utilization
14 Integrated water resource management
14.1 Water use sectors and water requirement for Environment, Irrigation, Drinking, Industry, Transport and Aquaculture
14.2 Virtual water and water footprint
14.3 Watershed development and management
14.4 River valley projects
14.5 Participatory Irrigation Management and irrigation transfer
15 Integrated land use development and management
15.1 Land capability assessment and arable land management
15.2 Sustainable forest development and management
15.3 Social forestry, urban and farm forestry
15.4 Wetland development
15.5 Mined out area development
15.6 Desert area development
16 Waste management
16.1 Scraps and used metals
16.2 Solid waste management
16.3 Grey water management and waste water recycling
17 Exercises/Questions

PAPER – II DEVELOPMENT AND ENVIRONMENT
Unit – 3 Climate Change and Sustainable Development
1. Climatology and climate change, vulnerability
1.1 Climate change and global warming
1.2 Green house effect, Green House Gases (GHGs) and their global warming potential
1.3 Contribution of developed and developing countries in global emission
1.4 Climate system and climate variability
1.5 Climate change scenario
1.6 Climate prediction and projection
2 Kyoto Protocol, COP
2.1 IPCC (Inter-governmental Panel on Climate Change) and assessment reports
2.2 UNFCCC, Copenhagen Accord
3 National Action Plan of India on Climate Change
3.1 National Missions for Climate Change
Impact of climate change on Resources
4 Impact of climate change on developmental activities
4.1 Sustainability and sustainable development, issues and constraints
5 Concepts and strategic actions in sustainable development: Demography specific population and Development pyramids, energy, transport and building
6 Environmental values and ethics
6.1 Criteria and Indicators for sustainable development
6.2 Sustainable development initiatives- Clean Development Mechanism (CDM), Reducing Emission from Deforestation and forest Degradation (REDD)
Green trade, Energy efficiency rating, Renewable Energy Purchase Obligation
6.3 Economics of sustainability and sustainable development
6.4 Social dimensions of sustainable development
6.5 International cooperation for sustainable development
Millennium developmental goal
6.6 Assignments and presentation

Unit – 4 EIA – Introduction and Need for EIA
1 EIA – Definition, History and Objective
2 Reasons for using EIA
3 Misconception about EIA and counter arguments
3.1 In Expensive and delays projects
3.2 It is just an add-on and occurs too late to do any good
3.3 It is too complex and doesn’t produces useful results
3.4. EIA will be misused to stop development
3.5. We are too poor to afford EIA
4. Core Values of EIA – Comprehensive study, sustainability integrity and utility
5. The Eight Guiding Principles. How to apply EIA.
6. Benefits and flaws of EIA
7. Who is responsible for conducting EIA and when it should be conducted
8. Operating principles of EIA
8.1 EIA should be: applied, undertaken, considered as necessary & appropriate, result in, provide the basis
9. Environment impact and its nature: Magnitude, Extent/Location, Timing and Duration
10. Significance of Impact
11. Key elements of EIA: Screening, scoping identifying and evaluating impacts, mitigations and issuing environmental statements
12. Benefits of an EIA
13. Reasons of delay caused during EIA
15. Proposal Identification and Need for EIA
16. Indian Policies requiring EIA: Requirement of Prior Environmental Clearance (EC), State Level Environment Impact Assessment Authority
17. Categorization of projects and activities
18. Screening, Scoping and Appraisal Committees
19. Stages in the prior Environmental Clearance (EC), Process for New Projects: Screening, scoping, public consultation
20. Detailed Procedure for conduct of public hearing
20.1 The Process
20.2 Notice of Public Hearing
20.3 Supervision and presiding over the hearing
20.4 Videography
20.5 Proceedings
20.6 Time period for completion of public hearing
21. Appraisal
21.1 Grant or Rejection of Prior Environmental Clearance
21.2 Validity of Environmental Clearance
21.3 Post Environmental Clearance Monitoring
21.4 Transferability of Environmental Clearance
22. Infrastructure projects and EIA in India
22.1 Air Environment
22.2 Noise Environment
22.3 Water Environment
22.4 Biological Environment
22.5 Land Environment
22.6 Social-Economic and Health Environment
22.7 Risk Assessment
22.8 Environment Management Plan
22.8.1 Environment Impact Assessment (EIA)/ Environmental Impact Statement (EIS)
22.8.2 Environmental Auditing (EA)
22.8.3 Life Cycle Assessment and Management (LCA)
22.8.4 Environment Management System: Continuing with quality
22.8.5 ISO standards C14000 series
22.8.6 Eco marks and eco labeling: Assuring the quality
22.8.7 Eco-Friendly Technologies
22.8.8 Why Eco-Friendly Technologies
22.8.9 Application of Eco-Friendly Technologies
22.9 Exercises/Questions

PAPER – III ENVIRONMENTAL POLICY, LAWS AND APPRAISALS

Unit – 5 Environmental Policy and Laws/Legislation: National and International
1. Environment: Definition and Explanation of objectives
2. Environmental Pollution
3. Environmental Challenges
4. Ancient ethics and environmental protection
5. Introduction and State Obligation to Protect & Improve Environment
6. The Fundamental Duty of Citizens to protect environment
7. The Right to Wholesome Environment
8. Right to constitutional remedies and environment
9. Other relevant provisions
12. Johannesburg summit on Sustainable Development: Salient Features of summit, Agenda 21, UNFCC, UNCBD, Forest Principles
13. Convections on Chemicals and Hazardous Waste
14. Convention on Ozone Depletion
15. International Principles and Doctrines
15.1 Intergenerational equity
15.2 The Public Trust Doctrine
15.3 Precautionary Principle
15.4 Polluter Pays’ Principle
15.5 Preventive Principle
16. Exercises/Questions

Unit – 6 National Legislations on Environmental Protection
2. The Air Act, 1981
4. The Environment (Protect) Act, 1986
4.2 The manufacture, storage and import of Hazardous Chemical Rules, 1989
4.3 The Manufacture, use, import, export and storage of hazardous microorganisms / genetically engineered organisms for Cells Rules 1989
4.4 Biomedical Waste (Management and Handling) Rules 1998
4.5 Recycled Plastic Manufacture and Usage Rules, 1999 and Recycled Plastic Manufacture and Usage Amendment Rules, 2002
4.6 Municipal Solid Wastes (Management and Handling) Rules 2000
4.7 E-Waste Management
4.8 Noise Pollution (Regulation and Control) Rules, 2000
4.9 Ozone Depleting Substances (Regulation and Control) Rules, 2000
4.10 Important Notifications
5. Issues in Enforcement: Problems and Perspective
6. Case studies and important judgments
6.1 Salient Valley Movement
6.2 Narmada Bachao Andolan
6.3 Bhopal Gas Disaster
6.4 Oleum Gas Leak Case (Sriram Chemicals)
6.5 RLEK
6.6 Ganga Action Plan Case
6.7 Green Benches
7. Institutional Arrangement: The CPCB, PCB and its functions
8. Exercises/Questions

PAPER – IV Research Methodology

Unit – 7 Introduction to Research Methodology & Data Collection
1. Introduction to Research
1.1 Importance of Research
1.2 Meaning and Characteristics of Scientific Research
1.3 Types of Research
1.4 Steps in Research
1.5 Ethical Problems in Research
1.6 Selecting a Problem and Formulating Hypotheses
1.7 Meaning and Characteristics of a Problem Formulating and Hypothesis
Types of Hypothesis
Measurement of scale & Data collection
Types of data
Introduction to Measurement
Levels of Measurement (or Measurement Scales)
General Problems of Measurement
Questionnaire design
Variables
data coding
data organization
Meaning and Types of Item and construct
Validity, Types of Validity
Reliability
Relation between Validity and Reliability
Primary and secondary data collection
Content analysis
Sampling
Types of Sampling
Requisites of Good Sampling Method
Errors in sampling
Simple and stratified sampling
Systematic sampling (concepts)
Sampling size calculation

Unit – 8  Data analysis and report writing
1. Descriptive statistics – Mean, Median, Mode
2. Standard deviation (concepts) Normal Curve
3. Testing of hypothesis - Null and Alternative hypothesis
4. Type I & Type-II errors
5. Level of significance
6. Concepts of Parametric and Non-Parametric Statistical Tests
7. Testing significance of single mean and difference between means (up to two samples) concepts only
8. Project report writing: General Purpose of Writing a Research Report
8.1 Structure and Format of a Research Report
8.2 Table & diagram presentation and interpretation
8.3 Executive summary
8.4 Literature review
8.5 Referencing
8.6 Bibliography etc

PAPER – V  ENVIRONMENTAL QUALITY AND MANAGEMENT

Unit – 9  Environmental Disaster and Management
1. Introduction to Environment Management: an interdisciplinary approach
2. Significance of environment and its management
3. Assessing the status of environment by ecosystem indicators, remote sensing, GIS
4. Setting the management and conservation priorities
5. Environment conservation and management in human-modified world: challenges and measures to meet them: overcoming the obstacles
6. Social and political responsibilities for environmental conservation and protection- environmental education, significant political and social movements
7. Environmental Quality Matters
8. Measuring and monitoring the environmental quality: Parameters and standards – Air, Water, Soil, Noise, Radiation
9. Tools for managing the environmental quality
9.1 Understanding Natural Disaster: vulnerability, hazard, risk, catastrophe
9.2 Geo-physical disaster, meteorological disaster and man-made disaster
9.3 Disaster preparedness
9.4 Disaster response
10. Disaster medicine
10.1 Rehabilitation, Reconstruction and Recovery
10.2 Assignments and presentation
<table>
<thead>
<tr>
<th>Unit – 10</th>
<th>Corporate Environmental Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Building Blocks of CSR/Sustainability</td>
</tr>
<tr>
<td>1.1.</td>
<td>Overview of CSR/Sustainability</td>
</tr>
<tr>
<td>1.2.</td>
<td>The Triple Bottom Line Approach</td>
</tr>
<tr>
<td>1.3.</td>
<td>Philanthropy – Conventional and Strategic</td>
</tr>
<tr>
<td>1.4.</td>
<td>Environmental and Social Issues</td>
</tr>
<tr>
<td>1.5.</td>
<td>Labour and Related Issues</td>
</tr>
<tr>
<td>1.6.</td>
<td>Ethical and Governance Issues</td>
</tr>
<tr>
<td>1.7.</td>
<td>Human Rights – UN Charter</td>
</tr>
<tr>
<td>2.</td>
<td>All ISO Standards and Codes (Overview)</td>
</tr>
<tr>
<td>2.1.</td>
<td>ISO – 14001</td>
</tr>
<tr>
<td>2.2.</td>
<td>OHSAS – 18001</td>
</tr>
<tr>
<td>2.3.</td>
<td>SAS – 8000</td>
</tr>
<tr>
<td>2.4.</td>
<td>OECD – Guidelines of Municipal Companies</td>
</tr>
<tr>
<td>2.5.</td>
<td>Global Compact</td>
</tr>
<tr>
<td>2.6.</td>
<td>AA- 1000</td>
</tr>
<tr>
<td>2.7.</td>
<td>BS/ISO Guideline on CSR Management (ISO – 26000)</td>
</tr>
<tr>
<td>3.</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>4.</td>
<td>The Living Modified Organism (LMO), LMO Products</td>
</tr>
<tr>
<td>5.</td>
<td>History of GM crops in India</td>
</tr>
<tr>
<td>6.</td>
<td>Bio safety</td>
</tr>
<tr>
<td>7.</td>
<td>Potential benefits of Biotechnology</td>
</tr>
<tr>
<td>8.</td>
<td>Potential risks of Biotechnology</td>
</tr>
<tr>
<td>9.</td>
<td>Need for an International Bio safety Agreement</td>
</tr>
<tr>
<td>10.</td>
<td>Review of Indian Authorities about genetically engineered agricultural products</td>
</tr>
<tr>
<td>11.</td>
<td>The Apex National Body for issues related to use of GMOs: Genetic Engineering Approved Committee (GEAC)</td>
</tr>
<tr>
<td>12.</td>
<td>Adoption of Recommendation of Task Force on r-Pharma</td>
</tr>
<tr>
<td>13.</td>
<td>Bt Brinjal Controversy</td>
</tr>
<tr>
<td>13.1.</td>
<td>Development of Bt Brinjal in India and its effectiveness against pests</td>
</tr>
<tr>
<td>13.2.</td>
<td>History and development of Bt Brinjal in India</td>
</tr>
<tr>
<td>14.</td>
<td>Bt Cotton</td>
</tr>
<tr>
<td>15.</td>
<td>Exercises/Questions</td>
</tr>
</tbody>
</table>