**BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI**
**INSTRUCTION DIVISION**
**FIRST SEMESTER 2016-2017**

**Course Handout (Part II)**

**Date 02/08/2016**

In addition to Part I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course No : CE F434/BITS F494
Course Title : Environmental Impact Assessment
Instructor-in-charge : ANUPAM SINGHAL

**Course Description and Scope & Objective**

This course is an introduction to the field of Environmental Impact assessment. The study covers basic fundamentals of Environment and global problems; Framing Environmental issues; effects of infrastructure development on environment; prediction and assessment of environmental impacts of infrastructure projects: technical and procedural aspects, guidelines and legal aspects of environmental protection, impacts on air, water, soil and noise environment, valuation, strategic assessment, mathematical modeling for environmental processes; social impact assessment (SIA), dislocation/disruption impact of Infrastructure projects; Life Cycle Assessments (LCA) and risk analysis methodologies; mitigation of environmental impacts; case studies; environmental management plan (EMP),disaster management plan (DMP) national and international certification and guidelines including ISO.

The emphasis in this course will be to stress more on understanding of the above governing laws and various applications. The unified approach will enable students to tackle the real life problems in more comprehensive manner and provide a broader view on the subject.

**Text Book:**

**TB1**. Y. Anjaneyulu . V. Manickam; Environmental Impact Assessment , BS Publicationsley and Sons, Third Reprint, 2013.

**TB2**. Larry W. Canter, Environmental Impact Assessment, McGraw-Hill, Second Edition, 1996.

**Reference Books:**

RB1. Pollution Control Acts , Rules and Notifications Issued Thereunder , Central pollution Control Board , MoEF , Delhi-110032, Fifth Edition 2006.

RB2. Kiely G., "Environmental Engineering", McGrawHill International Editions, Singapore, 1998.

RB3. Peavy, H.S., Rowe, D.R. and T. George, "Environmental Engineering", McGrawHill International Editions, 2013.

**Course Plan:**

| Lecture No | Learning Objectives | Topics to be covered | Reference |
|---|---|---|---|
| 1, 5 | Fundamental Approach to Environmental Impact Assessment | Basic concepts of EIA(Introduction , EIA Procedure) , Systematic Approach for using EIA as a planning tool for major project activities , Comparative evaluation alternatives from EIA studies | 1.A.1-1.C.3 TB 1 |
| 6-8 | EIA Notifications (legal Aspects) | EIA for developmental projects, list of projects requiring EIA , public hearing | 567-600 RB1 |
| 9-18 | EIA Methodologies | Introduction, Criteria for the selection of EIA methodologies, EIA methods, Predictive model for impact assessment | 2.1-2.3.9 TB1 Chapter 3 TB2 |
| 8-21 | Prediction and Assessments of impacts on soil and ground water environment | Introduction(soil and ground water) , Methodology of prediction of impact on soil and ground water | 3.1-3.3.7 TB1 Chapter 8 TB2 |
| 22-32 | Prediction and Assessments of impacts on surface water , biological environment, air environment , noise environment. | Various aspects impact identification , prediction , evaluation , mitigation on water , air, noise and biological environment | Chapter 4, 5, 6, 7. TB1 Chapter 7, 9, 10 TB2 |
| 33-35 | Prediction and Assessments of impacts of socio – economic and human health aspects | Introduction , social and health aspects , prediction , evaluation , mitigation. | Chapter 8 TB1 Chapter 14 TB2 |
| 36-39 | Environment | Introduction , environmental risk | Class Notes |

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|---|---|---|---|
| | Management Plan(EMP), Disaster Management Plan(DMP) | assessment and management , prediction , evaluation , mitigation | |
| 40-41 | Case Studies | Field examples of EIA | Class Notes Chapter 11 TB1 |
| 42-44 | ISO | Methods and Certifications | Class Notes Chapter 11 TB1 |

**Evaluation Scheme**

| EC No. | Evaluation component | Duration | Weightage (%) | Date & Time | Nature of component |
|---|---|---|---|---|---|
| 1 | Mid Sem Test | 90 minutes | 35 | <TEST_1> | CB |
| 2 | Assignment /Quiz | | 25 | To be announced in the class (OB/CB) | |
| 3 | Comprehensive | 3 Hours | 40 | <TEST_C> | OB/CB |

**Chamber Consultation Hour:** To be announced in the class

**Notices:** All notices concerning the course will be displayed on Civil Engineering Department Notice Board.

**Make-up Policy**: Make-up will be granted for genuine cases only and sincerity of the concerned student will also be observed while allowing for makeup test.

**Instructor-in-charge**
**CE F434/BITS F494**