

4. To be able to Elaborate the independent decision on the choice of food to prevent life style disorders and diseases
5. To be able to Assess about the food laws governance
6. To be able to Compare junk, modified and super foods

## **OCE351 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT**

**L T P C**  
**3 0 0 3**

### **COURSE OBJECTIVE:**

- To impart the knowledge and skills to identify, assess and mitigate the environmental and social impacts of developmental projects

### **UNIT I INTRODUCTION**

**9**

Impacts of Development on Environment – Rio Principles of Sustainable Development- Environmental Impact Assessment (EIA) – Objectives – Historical development – EIA Types – EIA in project cycle –EIA Notification and Legal Framework–Stakeholders and their Role in EIA– Selection & Registration Criteria for EIA Consultants

### **UNIT II ENVIRONMENTAL ASSESSMENT**

**9**

Screening and Scoping in EIA – Drafting of Terms of Reference,Baseline monitoring, Prediction and Assessment of Impact on land, water, air, noise and energy, flora and fauna - Matrices – Networks – Checklist Methods - Mathematical models for Impact prediction – Analysis of alternatives

### **UNIT III ENVIRONMENTAL MANAGEMENT PLAN**

**9**

Plan for mitigation of adverse impact on water, air and land, water, energy, flora and fauna – Environmental Monitoring Plan – EIA Report Preparation – Review of EIA Reports – Public Hearing-Environmental Clearance Post Project Monitoring

### **UNIT IV SOCIO ECONOMIC ASSESSMENT**

**9**

Baseline monitoring of Socio economic environment – Identification of Project Affected Personal – Rehabilitation and Resettlement Plan- Economic valuation of Environmental impacts – Cost benefit Analysis-

### **UNIT V CASE STUDIES**

**9**

EIA case studies pertaining to Infrastructure Projects – Real Estate Development - Roads and Bridges – Mass Rapid Transport Systems - Ports and Harbor – Airports - Dams and Irrigation projects - Power plants – CETPs- Waste Processing and Disposal facilities – Mining Projects.

**TOTAL: 45 PERIODS**

### **COURSE OUTCOMES:**

The students completing the course will have ability to

**CO1:**carry out scoping and screening of developmental projects for environmental and social assessments

**CO2:**explain different methodologies for environmental impact prediction and assessment

**CO3:**plan environmental impact assessments and environmental management plans

**CO4:**evaluate environmental impact assessment reports

**TEXTBOOKS:**

1. Canter, R.L, "Environmental impact Assessment ", 2nd Edition, McGraw Hill Inc, New Delhi,1995.
2. Lohani, B., J.W. Evans, H. Ludwig, R.R. Everitt, Richard A. Carpenter, and S.L. Tu, "Environmental Impact Assessment for Developing Countries in Asia", Volume 1 – Overview, Asian Development Bank,1997.
3. Peter Morris, Riki Therivel "Methods of Environmental Impact Assessment", Routledge Publishers,2009.

**REFERENCES:**

1. Becker H. A., Frank Vanclay,"The International handbook of social impact assessment" conceptual and methodological advances, Edward Elgar Publishing, 2003.
2. Barry Sadler and Mary McCabe, "Environmental Impact Assessment Training Resource Manual", United Nations Environment Programme, 2002.
3. Judith Petts, "Handbook of Environmental Impact Assessment Vol. I and II", Blackwell Science New York, 1998.
4. Ministry of Environment and Forests EIA Notification and Sectoral Guides, Government of India, New Delhi, 2010.

**OEE351****RENEWABLE ENERGY SYSTEM****L T P C  
3 0 0 3****COURSE OBJECTIVES:**

- To Provide knowledge about various renewable energy technologies
- To enable students to understand and design a PV system.
- To provide knowledge about wind energy system.
- To Provide knowledge about various possible hybrid energy systems
- To gain knowledge about application of various renewable energy technologies

**UNIT I INTRODUCTION****9**

Primary energy sources, renewable vs. non-renewable primary energy sources, renewable energy resources in India, Current usage of renewable energy sources in India, future potential of renewable energy in power production and development of renewable energy technologies.

**UNIT II SOLAR ENERGY****9**

Solar Radiation and its measurements, Solar Thermal Energy Conversion from plate Solar Collectors, Concentrating Collectors and its Types, Efficiency and performance of collectors,. Direct Solar Electricity Conversion from Photovoltaic, types of solar cells and its application of battery charger, domestic lighting, street lighting, and water pumping, power generation schemes. Recent Advances in PV Applications: Building Integrated PV, Grid Connected PV Systems,

**UNIT III WIND ENERGY****9**

Wind energy principles, wind site and its resource assessment, wind assessment, Factors influencing wind, wind turbine components, wind energy conversion systems (WECS), Classification of WECS devices, wind electric generating and control systems, characteristics and applications.