BACHELORS WITH ENVIRONMENTAL SCIENCE AS MAJOR (CT-1)
7th SEMESTER

EVS722J1 ENVIRONMENTAL SCIENCE_ ENVIRONMENTAL IMPACT ASSESSMENT AND AUDITING

CREDITS: (THEORY-3, PRACTICAL -1)

COURSE LEARNING OUTCOME: *The students completing the course will have ability to carry out scoping and screening of developmental projects for environmental and social assessments, explain different methodologies for environmental impact prediction and assessment, plan environmental impact assessments and environmental management plans and evaluate environmental impact assessment reports.*

THEORY (3 CREDITS: 45 HOURS)

UNIT I: FUNDAMENTALS OF EIA

Environment impact assessment: concept, history and objectives; EIA process; EIA guidelines 2006; Strategic environment assessment: concept and process

UNIT II: EIA METHODOLOGIES

EIA methods; Air and water quality assessment; Ecological and social impact assessment; Basic concept of environment modelling; Model validation and forecasting EIA studies

UNIT III: ENVIRONMENTAL AUDITING AND RISK MANAGEMENT

Principles and guidelines of environmental auditing; Preparation of environmental audit report; ISO 14000 series; Risk analysis; Risk management

PRACTICALS: (1 CREDITS) (30 HOURS)

1. EIA – Leopold Matrix method and case studies
2. Socio-economic studies – preparing of questionnaire and case studies
3. Waste auditing of any institution/ organization
4. Case study based on EIA of any developmental project

SUGGESTED READINGS:

1. Environmental Auditing- Hugh Barton and Noel Bruder, Earthscan, London.
2. Ecology, Environment and Resource Conservation- J.S. Singh, S.P. Singh and S.R. Gupta, Anamaya Publishers, New Delhi.
3. Environmental Impact Assessment Methodologies – Y. Anjaneyula, B.S. Publications, Hyderabad.
4. John Glasson, Riki Therivel and Andrew Chadwick. Introduction to environmental impact assessment: 3rd edition. 2005.
5. Rabel Burdge, Frank Vanclay. Social Impact Assessment: A Contribution to the State-of-the-Art Series., 1996.
6. Hanna, Kevin S. (Ed.) 2016. 3/E. Environmental Impact Assessment: Practice and Participation. Oxford University Press, Toronto.
7. Arnold, L. and Hanna, K. (2017). Best Practices in Environmental Assessment: Cases Studies and Application to Mining. Canadian International Resources and Development Institute (CIRDI) Report 2017-003.
8. Noble, B.F. 2010. Introduction to Environmental Impact assessment: A Guide to Principles and Practice. 2nd ed. Oxford University Press Canada.
9. United Nations University, RMIT University, and United Nations Environment Programme (UNEP). Environmental Impact Assessment: Open Educational Resource