

GUJARAT TECHNOLOGY UNIVERSITY

M.Tech.(Civil)Transportation System Engineering

Syllabus

Inter disciplinary 1: TRANSPORTATION AND ENVIRONMENT

Course Objective :

To make the students familiar with the factors, measurements, Analysis, prediction techniques for noise and pollution and their control measures.

Course Contents :

Modes of Transportation, Mixed traffic flow, Transport related pollution, Technology Vision – 2020. Urban and non-urban traffic noise sources, Noise level factors, Effects of traffic noise, Measurement and prediction, Control measures, Noise studies, Noise standards, Road transport related air pollution, Sources of air pollution, Effects of weather conditions, Vehicular emission parameters, Pollution standards, Measurement and analysis of vehicular emission, Mitigative measures. EIA requirements of highway projects, Procedures, MOEF/World Bank/IRC/UK Guidelines, EIA practices in India.

Pre-requisite : Nil

Reference Books :

1. Salter, R. J. "Highway Traffic Analysis and Design", Macmillan Press Limited, London, 1974.
2. Wilson, C.E. "Noise Control Measurement, Analysis and Control of Sound and Vibration", Harper and Row Publishers, New York, 1989.
4. Grand Jean, E. Gilgen A., "Environmental Factors in Urban Planning", Taylor and Francis Limited, London, 1976.

Assignments/Tutorials /Practicals

Glossary of technical terms of noise pollution.

1. Noise emitted by road traffic motor vehicles.
2. Detrimental effects of road traffic motor vehicles on human health.
3. Measurement using sound level meter and methods of prediction of highway traffic noise pollution.
4. Techniques of road traffic noise reduction.
5. Seminar.