GUJARAT TECHNOLOGICAL UNIVERSITY

BE (CIVIL & INFRASTRUCTURE ENGINEERING)
AIR POLLUTION AND NOISE CONTROL
SUBJECT CODE: 2184007
8th Semester

Type of course: Department Elective

Prerequisite: NIL

Course Objective:

1. To understand sources and effect of air pollution
2. To create awareness on national and international air emission standards
3. To make students familiar with air pollution measurement, monitoring and control methods of air pollution

Teaching and Examination Scheme:

Teaching Scheme			**Credits**	**Examination Marks**				**Total Marks**
				Theory Marks		Practical Marks		
L	T	P	C	ESE	PA(M)	Viva	PA (I)	
3	2	0	5	70	30	30	20	150

Contents:

Sr. No	**Topics**	**Hrs.**	**% Weightage**
A	**AIRPORT ENGINEERING**		
1	**Introduction, Air pollution:** sources & types **Effects of air pollution:** Green-house effects, acid rain and ozone layer depletion; **Legislation and Regulation**: International agreements for mitigating global air pollution effects.	**5**	**12.5**
2	**National & International air emission standards:** Air pollution emission inventory; emission factor; air quality index; air pollution control laws	**6**	**15**
3	**Air pollution Meteorology** Metrological parameters of dilution, dispersion, distribution of emission of stack pollutants, Gaussian plume dispersion model: theory and application.	**14**	**35**
4	**Air pollutant monitoring and control:** SO2, NO2, particulates, Hydrocarbons. Monitoring Instrumentation and principles of operation, Exhaust pollution, Control equipment for gaseous and particulate pollutants	**10**	**25**
5	**Noise Pollution:** causes, impacts, measurements, permissible limits, prevention and control	**5**	**12.5**
		40	**100**

Course learning outcomes

- Awareness on causes & effects air pollution
- Awareness on National and international standards on air emmisions
- Awareness on air pollution measurement, monitoring and control methods of air pollution

REFERENCES:

1. Rao M.N. and Rao H.V. N, Air Pollution, Tata Mc-Graw Hill Publishing Co. New Delhi, Third Edition, 1992
2. Nevers N.D, Air Pollution control Engineering, Editions Civil Engineering series, 1995.
3. Rao C.S., Environmental Pollution Control Engg, New Age International Pvt. Ltd. Publishers, 2006.
4. Stern A. C, Air pollution, Tata McGraw Hill International, Vol I to IX.

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks					
R Level	U Level	A Level	N	E Level	C
10	**15**	**20**	**20**	**25**	**10**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above

List of Open Source Software/learning website: www.nptel.iitm.ac.in/courses/

Active learning Assignments (AL) : Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The Power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.