SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Master of Technology
Environmental Engineering

M. Tech. I Semester II

Subject Name: Directed Study on Sustainable Environment **Subject Code:** MTEN13203

Type of course: Core
Prerequisite: Basics of Environmental Engineering

Rationale: Directed study aims to practice Sustainable Environment in students to apply theoretical and Practical tools and techniques to solve management and treatment of Various Pollution. It is also aims to deriving Environmental Sound System for any project.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	100
0	0	4	2	0	0	0	80	20	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1.	The project work has to be a design projects from the following: Water and Waste water Treatment Feasibility Urban Air Pollution & Control Urban and Industrial Noise Monitoring Climate change issues and Remedies Strom Water Management Waste Management Soft Computing Techniques Industrial Waste Management Students will be required to select the topic relevant to above specialization and that has value addition. Students will get an opportunity to work in actual industrial environment if they opt for internship. Based on the selected topic student will also prepare seminar report based on the literature survey. Subject will have mid semester presentation and end semester presentation. Mid semester presentation will include identification of the problem based on the literature review on the topic referring to latest literature available. End semester presentation should be done along with the report on identification of topic for the work and the	56	100

	methodology adopted involving scientific research, collection and analysis of data, determining solutions highlighting individuals' contribution. Continuous assessment of Subject at Mid Sem and End Sem will be monitored by the departmental committee.		

Suggested Specification table with Marks (Theory/Practical):

% Distribution of Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
0	**20**	**35**	**25**	**15**	**5**

Legends: R: Remembrance, **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **C:** Create and above Levels **(Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students andteachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Text Books:

Sr no	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Handbook of Industrial Pollution & Control Vol. I & II	S.C. Bhatiya	Cbs publishers & distributions **978-8123908069**	2002	First
2	GIS Environmental Modeling and Engineering	Allan Brimicombe	Taylor & Francis	2009	Second edition
3	Water Supply and Sanitary Engineering	G.S. Birdie and J.S. Birdie	DhanpatRai Publishing Co.- New Delhi	2011	Nine
4	Neuro-Fuzzy and soft Computing, 2009	J.-S. R. Jang, C.-T. Sun, and E. Mizutani	PHI Learning	2009	-

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5	Environmental Pollution	S.M.Shafi	ISBN: 81-269-0366-X ATLANTIC publishers and distributors	2005	-
6	Sustainable Energy system Engineering: The complete Green building Design Resource	Peter Gevorkian	ISBN: 9780071473590 McGraw-Hill Education	2007	-

Course Outcome:

Sr. No.	CO statement	Marks % weightage
CO-1	Identify environmental problems and reviewing with available literature (E,U,N cognitive level)	25
CO-2	Study different techniques used to analyse complex systems(E,U,N cognitive level)	20
CO-3	Solve a live problem using software/analytical/computational tools and present solution by using his/her technique applying engineering principles. (E,A,N,C cognitive level)	20
CO-4	Learn to write technical reports and develop skills to present and defend their work in front of technically qualified audience(E,U,N cognitive level)	20
CO-5	Apply different software for modelling, analysis and designing.(A,N,E Cognitive level)	15

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