

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Bachelor of Technology			Branch/Spec.		Civil Engineering		
Semester		VIII			Version		2.0.0.0		
Effective from Academic Year			2019-20		Effective for the batch Admitted in			2014-15	
Subject code		2CI815		Subject Name		Elective Paper –I I (Environment Pollution & Control – II)			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3		1		4	Theory	40	60	100
Hours	3		2		5	Practical	35	15	50
Pre-requisites:									
Elective Paper – I (Environment Pollution & Control – I)									
Learning Outcome:									
After Completion of the Curriculum of this subject students can able to understand the advance & Eco friendly Waste Water Treatment. Also they will be aware with Rules & Regulation of the Environment. Also they also able to understand the Air related issue of environment and how can them control it.									
Theory syllabus									
Unit	Content								Hrs
1	<p>Biological Treatment Process: Microbial growth kinetics, suspended growth treatment - activated sludge process, process in biological nitrogen and phosphorus removal, design of activated sludge process and aerated lagoon.</p> <p>Attached growth treatment - Trickling filters, rotating biological contactors. Combined aerobic treatment process.</p> <p>Anaerobic suspended and attached growth biological treatment process - Design considerations, anaerobic suspended growth process, anaerobic sludge blanket process, attached growth anaerobic process.</p>								20
2	<p>Environmental Legislation:</p> <p>Historical perspective, salient features, provisions and limitations of water Act. 1974.</p> <p>Water Act, 1974</p> <p>Cess Act, 1977</p> <p>Air Act, 1981</p> <p>Environmental Protection Act 1986</p> <p>A few case studies, role of NGOs.</p>								10
3	<p>Air Pollution: Various air pollution, criteria air pollutants, pollution standard index, air pollution control, nature of air pollution control, control at source, control equipments and</p>								9

	their design, cyclones, dry & wet scrubbers bag filters, ESP, Howard chamber.	
Practical content		
Term work shall be based on laboratory experimental work, tutorials, detailed designs of appropriate units and shall include a seminar.		
Text Books		
1	Environmental Chemistry By Sawyer & McCarty	
2	Environmental Engineering By J.S. Birdie	
3	Air Pollution Control By Rao	
Reference Books		
1	Air Pollution Control By Noel de Nevers	
2	Wastewater Treatment By Metcalf & Eddy	