MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

VI SEMESTER B.Tech. (CHEMICAL ENGINEERING)

END SEMESTER EXAMINATION, MAY 2019

SUBJECT: O.E.: INDUSTRIAL POLLUTION CONTROL (CHE 3282)

REVISED CREDIT SYSTEM

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates: **Answer** ALL **the questions.**

1 A	Explain the Nitrogen cycle with a neat diagram.	3

1 B	What is the significance of the following parameters in wastewater analysis?
	    i) Volatile solids
	    ii) Turbidity
	    iii) Temperature
	    iv) TOC
	    v) Acidity
	    vi) BOD
		6*0.5=3

1 C	Discuss isokinetic technique of sampling particulate matter in an industrial stack. What are the consequences of deviating from isokinetic condition?	2+2=4
2 A	Explain i) Advanced oxidation process ii) Activated Carbon Adsorption used in tertiary treatment of wastewater.	2+2=4
2 B	Compare the merits and demerits of Anaerobic and Aerobic treatment of wastewater.(**Any two**)	2
2C	Explain with neat diagrams the principle and working of i) Primary Sedimentation Tank & ii) Dispersed Air Floatation in primary treatment of wastewater.	2+2=4
3 A	Describe the different methods of STORAGE of CO_2 after capture in Carbon sequestration.	3
3 B	Explain with a neat diagram the principle and working of i) Electrostatic Precipitator & ii) Venturi scrubber.	2+2=4
3 C	Derive an equation to determine the concentration of pollutant (g/m^3) in a city using the fixed box model.	3
4	Discuss the significance of the 5 steps involved in sludge treatment before disposal. Explain any one process under each step.	10
5 A	Explain methods of managing e-waste in industry by i) Inventory management ii) segregation and volume reduction	2+2=4
5 B	Describe methods adopted to control noise pollution in industry.	6

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