

Reg. No.

VI SEMESTER B.TECH (CHEMICAL ENGINEERING)
END SEMESTER EXAMINATIONS, MAY 2016

SUBJECT: POLLUTION CONTROL AND SAFETY [CHE 304]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** the questions.
- ❖ Missing data may be suitable assumed.

1A.	“Industrial pollution is causing global warming and dooms day is not far off”. Justify the statement in terms of ecological impacts (with carbon cycle).	8
1B.	What is adiabatic lapse rate? Derive the expression for adiabatic lapse rate. State all the assumptions.	8
1C.	Explain the sources and effects of noise pollution in process industries.	4
2A.	Explain the principle and working of atomic absorption spectrophotometer for trace elements estimation from industrial effluents.	8
2B.	What are the different methods available for control of SO ₂ . Explain any two methods in detail.	8
2C.	Differentiate between grab sampling and composite sampling of industrial waste water.	4
3A.	With a neat sketch, explain the principle and working of NO-NO ₂ chemiluminescent analyzer.	8
3B.	What are the characteristics of effluents generated from a petroleum refinery? Explain the methods of control and abatement of pollution in this industry.	8
3C.	Explain briefly the personal protective devices used for safety in a process industries.	4
4A.	What are the objectives of tertiary treatment techniques? With neat sketches, explain any two techniques.	10
4B.	With a neat sketch explain the construction, principle and working of bag house filters.	10
5A.	Explain the different types of water pollutants indicating their sources and effects	10
5B.	With neat sketches explain the principle and application of dissolved air flotation and dispersed air flotation system.	10
6A.	Explain briefly on solid waste handling and management.	7
6B.	With a neat sketch, explain the dynamics and impacts on Hydrologic cycle	7
6C.	Explain briefly on i) Photochemical smog ii) Aerosol.	6

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