



VI SEMESTER B.TECH. END SEMESTER EXAMINATIONS APRIL- 2019

SUBJECT: PROGRAM ELECTIVE II – POLLUTION CONTROL ENGINEERING

[CHE- 4007]

REVISED CREDIT SYSTEM

(30/04/2019)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

❖ Answer **ALL** the questions.

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| 1A. | "Prevention is better than cure". Justify the statement as applied to pollution control in process industries. | 04 |
| 1B. | Define i) adiabatic lapse rate ii) Inversion | 02 |
| 1C. | Explain principle and working of NO – NO ₂ Chemiluminescent analyzer. | 04 |
| 2A. | Compare and contrast between activated sludge process and trickling bed filters. | 03 |
| 2B. | Explain with a neat sketch the principle and working of sampling train. What are the necessary precautions to be taken during the sampling? | 04 |
| 2C. | Differentiate between BOD, COD and TOC | 03 |
| 3A. | With sketches, explain different plume behaviors under stable and unstable lapse rate conditions. | 06 |
| 3B. | Differentiate between epidemiological and toxicological studies on effects of air pollution. | 02 |
| 3C. | Differentiate between smog and photochemical smog | 02 |
| 4A. | What are the characteristics of effluents generated from a petroleum refinery? Explain the methods of control and abatement of pollution in this complex. | 05 |