

Reg. No.



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VI SEMESTER B.TECH. END SEMESTER EXAMINATIONS APRIL- 2018

SUBJECT: PROGRAM ELECTIVE II – POLLUTION CONTROL ENGINEERING

[CHE- 4007]

REVISED CREDIT SYSTEM

(24/04/2018)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitable assumed.

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| 1A. | "Industrial pollution is causing global warming and dooms day is not far off". Justify the statement in terms of ecological impacts. | 05 |
| 1B. | What is adiabatic lapse rate? Derive the expression for adiabatic lapse rate. State all the assumptions. | 05 |
| 2A. | Explain any two methods for the estimation of SO _x in ambient air. | 06 |
| 2B. | With a neat sketch, Explain the principle and working of activated sludge process. | 04 |
| 3A. | With sketches, explain plume behavior under different stability conditions. | 06 |
| 3B. | Explain the classification and sources of air pollutants. | 04 |
| 4A. | What are the characteristics of effluents generated from a nitrogenous fertilizer plant? Explain the methods of control and abatement of pollution in this plant. | 06 |
| 4B. | Explain the sources and effects of noise pollution in process industries. | 04 |
| 5A. | Explain any two processes with the flow diagrams along with the chemical reactions for emission control of NO _x . | 06 |
| 5B. | With a neat sketch, explain the principle and working of bag house filters. | 04 |