

FACULTY OF ENGINEERING

B.E. IV/IV Year (Civil) II Semester (Main) Examination, May/June, 2011

ADVANCED ENVIRONMENTAL ENGINEERING

(Elective II)

Time : 3 Hours]

[Max. Marks : 75

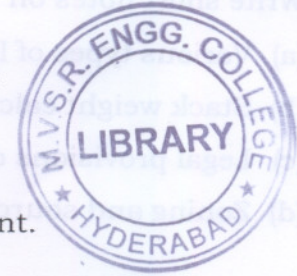
Answer **all** questions of Part A.Answer any **five** questions from Part B.**Part A** – (Marks : 25)

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|--|---|
| 1. Define D.O and B.O.D. | 2 |
| 2. Mention any four processes in Industrial waste water treatment. | 2 |
| 3. Define environmental lapse rate. | 2 |
| 4. Draw the sketch of electrostatic precipitator. | 2 |
| 5. Write two objectives of EIA. | 2 |
| 6. Briefly explain about the self purification of water bodies. | 3 |
| 7. Briefly classify the air pollutants at source. | 3 |
| 8. What are the major units for sources of waste water in a steel plant. | 3 |
| 9. What is photochemical smog? Explain. | 3 |
| 10. Briefly explain baseline data collection required for EIA. | 3 |

Part B – (Marks : 5 × 10 = 50)

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| 11. (a) Explain how environmental legislation is related to industrial effluents and hazard wastes. | 5 |
| (b) Derive the streeter phelps equation. | 5 |
| 12. (a) Explain various processes involved in the treatment of pulp and paper mill wastes. | 5 |
| (b) Explain various operation involved in manufacturing of leather from raw animal skins. | 5 |
| 13. (a) Briefly explain ambient air sampling. | 5 |
| (b) Explain the importance of wind rose in Air pollution studies. | 5 |
| 14. (a) Classify the suspended particulate matter control equipment. Describe the working principles of settling chambers. | 5 |
| (b) Define Condensation and how it is useful in gaseous air pollution control. | 5 |

[P.T.O.]



15. (a) EIA is very essential for achieving sustainable development. Justify this statement. 5
(b) Explain the various issues to be considered during planning stages of an industry in order to reduce environmental impacts. 5
16. (a) What is plume and describe the different types of plume behaviour in atmosphere. 5
(b) Draw the flow diagram of complete treatment of sugar mill waste. Explain. 5
17. Write short notes on following : $4 \times 2\frac{1}{2} = 10$
(a) Various types of Industries.
(b) Stack weight calculation.
(c) Legal provisions of EIA.
(d) Zoning and source correction.