	Utech
Name:	
Roll No.:	To Agreem (19 Knowledge Tail Excellent)
Invigilator's Signature :	

CS/M.Tech. (EIE)/SEM-2/EIEM-205(a)/2011 2011

INSTRUMENTAL STUDIES OF ENVIRONMENT AND ITS CONTROL

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

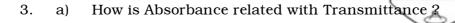
Answer any *five* questions. $5 \times 14 = 70$

- 1. a) What is ecosystem?
 - b) Discuss about a Carbon cycle present in the atmosphere.
 - c) Explain the operation of Catharometer with suitable example of pollutant measurement. 2 + 4 + 8
- 2. a) What is the necessity of waste water treatment?
 - b) Describe any waste water treatment method.
 - c) Discuss the working principle of conductivity meter in brief. 3 + 7 + 4

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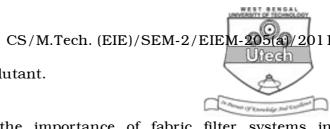
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- b) Explain how you can measure pollutant concentration by an IR analyzer.
- c) Distinguish between IR and UV analyzers. 2 + 10 + 2
- 4. a) Explain In situ and Extractive type analyses with their relative merits and demerits.
 - b) Discuss the objectives of sample handling system.
 - c) Name four sample handling system components.

$$8 + 4 + 2$$

- 5. a) Briefly discuss the effects of noise at the physical, physiological and psychological levels?
 - b) Describe the possible methods of control of noise pollution. 7+7
- 6. a) Name the different types of chromatography.
 - b) How can methylene component be identified by GC?
 - c) Explain ECL in chromatography principle.
 - d) Draw the schematic diagram of a GC and describe its working principle. 2 + 2 + 2 + 8



- 7. a) Define pollutant.
 - b) Describe the importance of fabric filter systems in pollution control.
 - c) Write the merits and demerits of using ESP. 2 + 6 + 6
- 8. Answer any *two* of the following :
 - a) Disposal of solid wastes
 - b) Effects of air pollution
 - c) Pollution control in petroleum refineries
 - d) Venturi scrubber
 - e) Oxygen analyzer.

 7×2