



Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, October 2014
(2008 Scheme)**

08.807.3 : Elective – V : INDUSTRIAL WASTE WATER MANAGEMENT (C)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

- I. a) Discuss the stream quality required for maintaining aquatic life.
- b) List out the pretreatment given to an industrial waste and explain.
- c) Differentiate deoxygenation and reoxygenation taking place in stream purification process and write down the mathematical model for the phenomenon.
- d) Explain the principles used for the removal of suspended solids.
- e) Explain the theory of filtration used for waste treatment.
- f) How will you remove organic solids from industrial waste ?
- g) Explain absorption isotherms used for quantifying the adsorbate.
- h) Define Kraft process is pulp making process in pulp and paper industry.

(8×5=40 Marks)

PART – B

Module – I

II. Discuss the effects of the following parameters of wastes reaching sewers and treatment plants.

- | | |
|-----------|------------------------------------|
| a) BOD | b) Suspended solids |
| c) Volume | d) Floating and colored materials. |

OR

Explain the waste strength reduction of an industrial waste in detail.

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P.T.O.

**Module – II**

III. The waste from a small industry is discharged continuously into a nearby river using the following data, find :

- a) The D.O. deficit at a point 60 km d/s.
- b) Locate the time of critical deficit and the minimum D.O. in the river at that point.
- c) The 5 day BOD at a point 20 km d/s. Assume that 5 day B.O.D. in the river u/s of the point of waste discharge is equal to zero. Also assume standard datas if required.

OR

- d) How suspended and colloidal solids are removed in a waste water treatment plant ?
- e) What are the principal variables to be considered while designing a filter and explain how the same affects the design ?

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Module – III

IV. Explain the origin of pulp and paper mill waste with the help of a flow diagram.

OR

Describe the vegetable tanning process with the help of a process diagram.

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