B. Arch.
(Sem. VIII) Examination, 2006-07
Food Processing Waste Management

Time: 3 Hours] [Total Marks: 100

Note:
(1) Attempt all questions.
(2) All questions carry equal marks.

1. Attempt any four parts of the following:
   (a) What are the specific uses of the initial waste survey data?
   (b) Suggest ways of efficient utilization of raw material in tomato processing industry.
   (c) Is it advisable to go for by-product recovery, in case of the value of the by-product is less than its recovery cost? Justify your answer.
   (d) Give the allowable quantum and quality limits of waste water discharge from dairy, starch and edible oil industries.
   (e) Enlist the objectives of laboratory analysis performed on waste water.
   (f) Explain the term: Fixed residue, volatile residue, Total suspended solids and total dissolve solids.

V-9146] 1 [Contd...
2. Attempt any two parts of the following:
   (a) Describe the methods designed for efficient recovery of food and feed grade materials during processing of fish, without much additional expensive capitalization.
   (b) Comment on economic utilization of the by-product of cereals and oilseed industry.
   (c) Potential animal feed materials from food processing waste.

3. Attempt any two parts of the following:
   (a) Describe the forms of nitrogen found in food processing waste waters and methods of determination of each of these forms.
   (b) Describe the characteristics of various types of screen and their suitable locations in food processing industries.
   (c) Explain the principle of DAF (Deoxygen air flotation) and its application in food processing waste management.

4. Attempt any two parts of the following:
   (a) Explain the factors affecting oxygen requirement during biological waste treatment. Suggest suitable systems for meeting the above requirement.
(b) Explain the principle of activated sludge process. Discuss their variations especially suitable for food processing waste water treatment.

(c) Describe RBC (Rotating biological contractor) process. Comments on its merit and problems.

5. Attempt any two parts of the following:

(a) Compare various methods of chemical oxidation used in advanced water treatment.

(b) Use of ultra filtration and reverse osmosis in purification of waste water.

(c) Comments on the economics of activated carbon absorption as an alternate to biological treatment.