B. Tech.

(SEM. VI) EXAMINATION, 2006-07

REFINING OF OILS

Time : 3 Hours] [Total Marks : 100

Note : (i) Answer all questions
(ii) All questions carry equal marks
(iii) In case of numerical problems assume data wherever not provided.
(iv) Be precise on your answer.

1 Attempt any four parts of the following : 5×4=20

(a) What are the different oil soluble impurities present in crude vegetable oils?
(b) Write a brief note on various techniques used for the removal of oil insoluble impurities.
(c) Explain the mechanism of degumming.
(d) Explain the process of water degumming with the help of neat sketch.
(e) What is super degumming? Explain the method of super degumming with the help of neat sketch.
(f) Discuss any one process for recovery of lecithin from gums.

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2. Attempt any **four** parts of the following: \[5 \times 4 = 20\]

(a) Explain the significance of deacidification of oils and fats.

(b) Explain the dry method of batch refining of oils and fats.

(c) What are the advantages of continuous method of caustic refining over batch method.

(d) Explain the process of Zenith refining along with its advantages and disadvantages.

(e) Explain the working of continuous long mix caustic refining with the help of neat sketch.

(f) Explain with the help of neat sketch any one method of continuous deodorization of oils and fats.

3. Attempt any **two** parts of the following: \[10 \times 2 = 20\]

(a) Describe the batch method for treatment of soapstock used on industrial scale.

(b) Explain the theory of adsorption bleaching. Also discuss the influence of variables on bleaching of oils and fats.

(c) Discuss various reasons of colour fixation in oils and fats. Suggest the remedies to overcome the problem.

4. Attempt any **two** parts of the following: \[10 \times 2 = 20\]

(a) Give brief account of components responsible for odour in oils and fats. Also give their properties.

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(b) How vacuum is created by booster-ejecter system? Also discuss the effect of variables on vacuum.

(c) Explain the working of batch deodorizer with the help of neat sketch.

5 Attempt any two parts of the following: $10 \times 2 = 20$

(a) Write a brief note on energy conservation in oil processing industry.

(b) Discuss the role of biotechnology in oils and fats processing industry.

(c) Explain the process of deacidification of oils and fats using membrane technology.