1 Attempt any two of the following: 10x2=20

(a) What is the importance of degumming of vegetable oils? Also describe a continuous process for degumming of vegetable oils with help of a neat flow diagram.

(b) Discuss the significance of dewaxing of vegetable oils. Also describe a continuous process of dewaxing with the help of a neat flow diagram.

(c) What are the different phosphatides present in vegetable oils; also discuss the chemistry of formation of phosphatides and the mechanism of their removal.

[V-9294] 1 [Contd...]
2 Attempt any two of the following : 10x2=20
(a) What do understand by refining factor and Wesson losses ? Also discuss the criteria for selection of strength of lye for neutralization of crude vegetable oil.
(b) Calculate the amount of 20° Be caustic lye (14.36 gm/ 100ml) required for neutralization of crude vegetable oil with free fatty acid of 1.5% at the flow rate of 10 Tons/hr.
(c) Explain the working of disc-bowl type of centrifuge with help of a neat flow diagram.

3 Attempt any two of the following : 10x2=20
(a) With help of neat flow diagram explain the process of continuous acidulation of soapstock for recovery of acid oil.
(b) What are the color imparting compounds present in oils ? Also discuss any continuous process of bleaching of oils with the help of neat flow diagram.
(c) Discuss the theory of adsorption in bleaching. Also explain the effect of K and n on bleaching process.

4 Attempt any two of the following : 10x2=20
(a) What is the principle of deodorization ? Also discuss effect of various parameters on deodorization process.
(b) Explain the working of tray type continuous deodorizer with the help of neat diagram.

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(c) Give a comparison of continuous and batch deodorization processes. Also explain how deodorization differs from physical refining process.

5 Attempt any two of the following: 10x2=20

(a) Give a detailed description of important method of energy conservation in vegetable oil refining industry.

(b) Give a detailed account of by-products obtained in refining of crude vegetable oil. Also discuss the utilization of by-products obtained.

(c) Describe the application of Membrane Technology in refining of crude vegetable oils.