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SARDAR PATEL UNIVERSITY

SEMESTER EXAM, M.Sc. INDUSTRIAL CHEMISTRY

SEMESTER -1, PS01EICH06-TECHNOLOGY OF OLEOCHEMICALS AND SURFACTANTS

29-10-2016, Saturday, TIME: 10:00 a.m to 1:00 p.m

Total Marks: 70

Note: Attempt all questions. Draw neat and labeled diagram where ever necessary. Figures on the right show marks.

Q.1. Answer the following MCQs.

(08)

1. Fats and oils are _____ of fatty acids.
A. Monoglycerides B. Diglycerides C. Triglycerides D. None of these
2. The most abundant unsaturated fatty acid is _____
A. Lauric B. Oleic C. Linoleic D. Linolenic
3. _____ method uses atmospheric splitting
A. Autoclave B. Twitchell C. Enzyme D. Both B & C
4. To obtain high grade fatty acids, it is necessary to distill under _____
A. High pressure B. Reduced pressure C. High temperature D. All of these
5. _____ is considered as building blocks of oleochemicals.
A. Monoglycerides B. Diglycerides C. Triglycerides D. Fatty acids
6. The diesel engines are often referred to as _____
A. SI engines B. CI engines C. MI engines D. MPFI engines
7. _____ reaction is carried out to produce biolubricants.
A. Nitration B. Alkylation C. Esterification D. Sulphonation
8. In dispersion _____ of solid is practically prepared in a liquid medium.
A. Mixture B. Solution C. Slurry D. Suspension

Q.2 Answer the following short questions(Any 7)

(14)

1. What are surface active agents? Describe the uniqueness of its structure.
2. What is foaming?
3. Why water can wet glass but cannot wet teflon?
4. Explain the term- LABS.
5. What are DF1 and DF2 diesel fuels?
6. What is Noack test for lubricants?
7. Discuss the classification of oils on the basis of their origin.
8. What is iodine value; discuss its significance in oil characterization.
9. What is adjuvant?

Q.3 (a) Discuss refining of oils.

(06)

Q.3 (b) What is fat splitting? Discuss the classification of fat splitting methods along with a brief overview of each method.

(06)

OR

Q.3 (b) Classify the methods of fatty acid separation and present a brief overview of different methods under solidification and melting class of separation.

(06)

Q.4(a) What is oleo chemicals? Discuss the raw materials, basic oleochemicals and derivatives of oleochemicals

(06)

Q.4(b) What are fatty alcohols? Discuss their raw materials and production in brief.

(06)

OR

Q.4(b) Write a note on fatty nitriles and amines.

(06)

Q.5(a) Present a general comparison of fuels from vegetable oils and animal fats.

(06)

Q.5(b) Explain in brief regarding transesterification process for biodiesel production and its low-temperature properties.

(06)

OR

Q.5(b) Write a short note on evaluation of biolubricants.

(06)

Q.6(a) Which are the two main properties exhibited by the surfactants? Enlist various other sub properties which are based on these two main properties and write a note on any one out of them.

(06)

Q.6(b) Describe in brief the production and applications of LABS.

(06)

OR

Q.6(b) Discuss in brief the raw materials and production of AOS.

(06)

-----x Good Luck x-----

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