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SARDAR PATEL UNIVERSITY

SEMESTER EXAM(CBCS,NC)

M.Sc. INDUSTRIAL CHEMISTRY

SEMESTER -1, PS01EICH06-TECHNOLOGY OF OLEOCHEMICALS and SURFACTANTS

11-04-2016, Monday, TIME: 10:30 a.m to 1:30 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. The main property of surfactant is reduction in _____
A. Refractive Index B. Surface tension C. Density D. Boiling Point
2. _____ type of emulsion shows high electrical conductivity.
A. OW B. W/O C. Both A and B D. None of these.
3. Surfactants with low HLB values have higher levels of _____ groups.
A. Hydrophilic B. Hydrophobic C. Both A and B D. None of these
4. _____ is the generic name for an important group of organic acids which occur in nature mostly in the form of fats, oils and waxes
A. Fatty acid B. Mineral acid C. Carboic acid D. Rosin acid
5. _____ is a fatty acid which contains one double bond
A. Lauric B. Oleic C. Linoleic D. Linolenic
6. _____ fatty acids have higher melting points
A. Saturated B. Unsaturated C. Both A & B D. None of these
7. The dominant product in Phosphate ester synthesis is _____
A. Mono ester B. Diester C. Triester D. None of these
8. Alkyl sulphates are used in combination with _____ as the surfactants in most shampoo formulations
A. LABS B. AOS C. AES D. SLS

-1- PTO

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

(14)

1. Define surfactants and enlist various classes of surfactants.
2. What is Dispersion?
3. What is monolayer formation?
4. Explain the term- alpha olefin sulphonate.
5. Define oleochemicals and oleochemical derivatives.
6. Explain the relation between unsaturation and reactivity for fatty acids.
7. Enlist the uses of non-ionic surfactants.
8. Enlist the advantages of Bio-lubricants.
9. What is soap stock?

Q.3. (a) Discuss the behavior of surfactant with respect to following phenomena:

- i. Wetting ii. Emulsion

(06)

Q.3 (b1) Define the terms: i. Micells ii. CST

(03)

Q.3 (b2) Correlate the structure of surfactant with its ability of reducing surface tension.

(03)

OR

Q.3 (b) Write a note on adsorption property of surfactants.

(06)

Q.4 (a) Discuss the technology of AOS production.

(06)

Q.4 (b) Write a note on AS(Alkyl sulphates)

(06)

OR

Q.4 (b) Write a note on amphoteric surfactants.

(06)

Q.5 (a) What are fatty acids? Explain in brief about various oleochemicals derived from fatty acids.

(06)

Q.5 (b1) What is steam splitting? Enlist various methods of steam splitting.

(03)

Q.5 (b2) Explain in brief how fatty acids are separated?

(03)

OR

Q.5 (b) Write a note on characteristics of fatty acids.

(06)

Q.6 (a) What are fatty amines? Discuss their production technology.

(06)

Q.6 (b) Discuss the role of oleochemicals as lubricants.

(06)

OR

Q.6 (b) Explain the role of oleochemicals as pesticides.

(06)

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

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