MANGALORE UNIVERSITY

Department of Industrial Chemistry

ICP 507: ORGANIC CHEMISTRY PRACTICALS-III

Course Outcomes:

Students get laboratory training in Extraction, characterization of natural products and characterization of natural product and green synthesis.

Isolation of natural products like Caffeine, Recinoleic acid, Azelic acid, Piperine, Hespiridine, Cysteine, Casein, Lycopene and enzymes like Lipase and Sucrase. Extraction of Groundnut oil, Coconut oil and eucalyptus oil. Determination of acid, saponification and iodine values of oils and fats. Isolation of Carotenes, purification by paper, Column and TLC. Charecterization of natural products by oxidation studies & derivatization of natural products(oxidation of hydrocarbons to carboxylic acid, phenols to aryloxy acetic acid and dtermination of their equivalent weights. A few green synthesis.

Separation of components from mixture of organic compounds by fractional crystallization, fractional distillation and adsorption, Elucidation of structure of organic compounds using UV, IR,NMR and Mass spectra. Locating an organic compound by reference to literature (Chemical Abstract).

Any other experiment of interest: Estimation of protein from feed samples, Estimation of cellullolse using cellulose, Qualitative analysis for trace minerals found in feed, Quantification of rancidity and peroxide values in oils, Estimation of urease activity in the feed ingredient, Proximate analysis and calculation of metabolizable energy, Chemical analysis of milk, Identification of mycotoxins found in feed ingredients

References

1. Elementary Practical Organic Chemistry-Quantitative Organic Analysis, Vol. III, A.I. Vogel.
2. Vogel's Text Book of Practical Organic Chemistry, Furniss et al., ELBS, London, 1978.
3. Experimental Organic Chemistry, Vol. I & II, P.R.Singh, Tata McGraw-Hill, 1981.
4. Practical Organic Chemistry, IV Edn., Dey &.Sitaraman, Allied, New Delhi, 1992.
5. Laboratory Experiments in Organic Chemistry, Adam, Johnson & Wicon, McMillan, 1979.
6. Experimental Organic Chemistry, H.D.Durst & G.E.Goke, McGraw-Hill, 1980
7. More Spectroscopic Problems in Organic Chemistry, A.J. Baker et al., Heyden, 1975.
8. Spectral Problems in Organic Chemistry, Davis & Wells, Chapman & Hall, 1984.
9. Monograph on Green Chemistry Laboratory Experiments, Green Chemistry Task Force Committee, DST
10. Organic Analytical Chemistry-Theory and Practice, Jag Mohan, Narosa, 2003.
11. Lehninger Principles of Biochemistry, David. L Nelson and Michael M Cox.
12. Dairy chemistry and animal nutrition, V.K. Chhozllani.
13. Principles of Animal nutrition and Feed technology, Part I and II, D.V Reddy.
14. Feeds and Principles of Animal Nutrition, G. C. Banerjee.