

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Industrial Chemistry)
Semester: IV
Syllabus with Effect from: June - 2015

Paper Code: PS04EICH07	Total Credit: 4
Title Of Paper: Natural Products	

Unit	Description in Detail	Weightage (%)
I	Introduction of natural products, General methods for the structure determination of natural products Vitamins: Structure & Synthesis of Vitamin A ₁ , Vitamin B ₁ (Thiamine), Vitamin B ₆ (Pyridoxine) and Biotin (Vitamin H), Synthesis of Vitamin C	25%
II	Alkaloids: Introduction of opium alkaloids, Structure and Synthesis of Morphine, rearrangement in opium alkaloids, structure and synthesis of Sceletium alkaloid A ₄ , structure and synthesis of Mahanimbine, synthesis of Reserpine and Tylophorine, biogenesis of Alkaloids	25%
III	Terpenoids and Carotenoids : Structure and Synthesis of cyclic sesquiterpenoids eudesmol and cadinene, Structure and Synthesis of β - Carotene, synthesis of Caryophyllene and Xanthoxone, molecular rearrangement of Caryophyllene and Logifolene, biogenesis of Terpenoids and Carotenoids	25%
IV	Steroids : Structure and Synthesis of Cholesterol, Synthesis of Cortisone, Androgens and Oestrogens, Chemistry of bile acids, Biogenesis of Steroids	25%

Basic Text & Reference Books:-

- The Chemistry of Natural Products, K. W. Bentley, Vol. I – V (Interscience).
- Organic Chemistry, Vol. 2, I. L. Finar, 5th Edition (1994) ELBS Publication.
- Natural Products Chemistry, Vol. I & II K. Nakanishi et al., Academic press publication (1974).
- The Molecules of Nature, J. B. Hendrickson, W. A. Benjamin Inc. (1965).
- Selected Organic Synthesis, Ian Fleming John Wiley (1977).
- Chemistry of Natural Products, N. R. Krishnaswamy, University Press (India) Ltd. (1999).

