

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc (Organic Chemistry)**  
**Semester: IV**  
**Syllabus with Effect from: June - 2013**

<b>Paper Code: PS04CORC02</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Natural Products</b>	

Unit	Description in detail	Weightage (%)
I	<b>Introduction of Natural Products:</b> Classification, source and methods of isolation of natural products, General methods for the structure determination of natural products. <b>Vitamins:</b> Structure and synthesis of Vitamin A <sub>1</sub> , Vitamin B <sub>1</sub> (Thiamine), Vitamin B <sub>6</sub> (Pyridoxine) and Biotin (Vitamin H). Synthesis of Vitamin C.	25%
II	<b>Alkaloids:</b> Introduction of Opium alkaloids, Structure and synthesis of Morphine, rearrangement in opium alkaloids, structure and synthesis of Scelletium alkaloid A <sub>4</sub> , structure and synthesis of Mahanimbine, synthesis of Reserpine and Tylophorine. Biogenesis of Alkaloids.	25%
III	<b>Terpenoids and Carotenoids:</b> Structure and synthesis of bicyclic sesquiterpenoids Eudesmol and Cadinene, structure and synthesis of $\beta$ -Carotene, synthesis of Caryophyllene and (-) Khusimone, molecular rearrangement of Caryophyllene and Logifolene. Biogenesis of Terpenoids and Carotenoids.	25%
IV	<b>Steroids:</b> 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).

