**School of Chemical Sciences**

**Devi Ahilya Vishwavidyalaya, Indore**

**M.Sc. Chemistry**

**SEMESTER IV**

**MCH-406: CHEMISTRY OF NATURAL PRODUCTS**

**Credits 4**

|  |  |
| --- | --- |
| **Unit-I** | **Terpenoids**  Structure determination, stereochemistry, biosynthesis and synthesis of some common terpenopids Citral, α-Terpeneol, Farnesol, Zingiberence, Santonin, Phytol and Abietic acid. |
| **Unit-II** | **Alkaloids**  Structure, stereochemistry, synthesis and biosynthesis of some common alkaloids Ephedrine, Nicotine, Atropine, (+) Conin ,Quinine and Morphine. |
| **Unit-III** | **[a] Steroids:** Occurrence, nomenclature, basic skeleton, Diel's hydrocarbon and stereochemistry,Isolation, Structure determination and synthesis of: Cholesterol, Bile acids. Harmons: Androsterone, Testosterone, Ostrone, Progesterone, Aldosterone, Biosynthesis of Steroids.  **[B] Prostaglandis**  Occurrence, nomenclature, classification, biogenesis and physiological effects. Synthesis of PGE2 and PGF2a. |
| **Unit-IV** | **[A] Plant Pigments**  Occurrence, nomenclature and general methods of structure determination. Isolation and synthesis of Apigenin, Luteolin Quercetin, Myrcetin, Vitexin, Diadzein, Aureusin, Cyanidin, Hirsutidin, Biosynthesis of flavonoids: Acetate pathway and Shikimic acid pathway. Prophyrins: Structure and synthesis of Haemoglobin and Chlorophyll.  **[B] Pyrethroids and Rotenones**  Synthesis and reactions of Pyrethroids and Rotenones.  (For structure elucidation, emphasis is to be placed on the use of spectral parameters wherever possible). |