

**First Year M.Pharm Degree Examinations August 2016**  
**(Pharmaceutical Chemistry)**  
**Paper III – Chemistry of Natural Products**

**Time: 3 hrs**

**Maximum Marks: 100**

- ***Answer all questions***
- ***Draw diagrams wherever necessary***

**Essays:**

**(2x20 =40)**

1. What are terpenoids and classify them with examples. Mention the structural elucidation of camphor and citral.
2. Explain various steps involved in evaluation of herbal drugs for anti diabetic and anti-inflammatory properties. Add a note on marine natural products with therapeutic value.

**Short Essays:**

**(6x10=60)**

3. What are cardiac glycosides. Discuss about chemistry of cardiac glycosides. Mention the marker's synthesis for progesterone.
4. What are alkaloids and classify them. Explain the general isolation and purification methods employed for alkaloids.
5. Describe the chemistry of natural products having cosmetic value
6. Explain briefly about the importance of mass and ESR spectroscopy in structural determination of natural products.
7. Discuss the various chemical reactions involved in structural determination of plant constituents.
8. Describe WHO guidelines for safety and efficacy of herbal formulations.

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