

**First Semester M.Pharm Degree Regular/Supplementary Examinations**  
**June 2024**  
**M.Pharm (Pharmaceutical Chemistry)**  
**Paper IV - Chemistry of Natural Products (MPC 104T)**  
**(Common for 2017 and 2019 Scheme)**

**Time: 3 Hours**

**Total Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

**Essays**

**(3x10=30)**

1. Explain the principle and applications of gene therapy, hybridoma technology and rDNA technology
2. Explain the structural elucidation of reserpine and add a note on Hoffmann's exhaustive methylation method for determining the functional nature of nitrogen
3. Explain the structural elucidation of quercetin and discuss the chemistry of progesterone

**Short Notes**

**(9x5=45)**

4. Explain the structural characterization of morphine with the help of spectroscopic methods
5. Discuss the chemistry of erythromycin
6. Classify terpenoids giving one structure from each class and explain the chemistry of citral
7. Explain the chemistry of cardiac glycosides
8. Explain the chemistry and physiological significance of Vitamin-A
9. Discuss the role of Mass spectrometry in structural characterization of natural products with suitable examples
10. Discuss about the active constituents of Phyllanthus niruri and Curcuma longa used in the indigenous system of medicine
11. Classify alkaloids based on its chemical nature and add a note on isolation and purification of alkaloids
12. Discuss on lovastatin as a lead in the development of other clinically used statins

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