

**First Semester M.Pharm Degree Regular/Supplementary Examinations**  
**June 2024**  
**M.Pharm (Pharmacognosy)**

**Paper III – Phytochemistry (MPG 103T)**

**(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. Write the source, biosynthetic pathway and method involved in the isolation of Quinine
2. Explain the different phases of clinical trials and protocol design for lead molecules
3. Application of Liquid Chromatography-Mass Spectrometry (LC-MS) and HPTLC techniques in phytochemical fingerprinting

**Short Notes**

**(9x5=45)**

4. Discuss about the SCFE and its advantages
5. Write the role of GCMS in the characterization of herbal extracts
6. Biosynthetic pathway for ephedrine
7. Isolation and characterisation.
8. Structural elucidation of menthol by spectroscopic techniques
9. Radioactive tracers and structure elucidation
10. Role of preparative HPLC in the separation of phytoconstituents
11. Microwave assisted extraction
12. Structural elucidation of Caffeine

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