

GUJARAT TECHNOLOGICAL UNIVERSITY

M. Pharm
SEMESTER: I

Subject Name: Phytopharmacy and Phytomedicine Practical I

Subject Code: MPM105P

Scope: This subject deals with the practical aspects of various analytical, extraction, separation and structure elucidation techniques useful for Phytochemicals.

Objectives: Upon completion of this course the student should be able to

1. Use various modern analytical technique instruments for analysis of phytochemicals
2. Apply various techniques for extraction of phytochemicals
3. Design and apply techniques for separation of phytochemicals
4. Apply chemical and spectrophotometric techniques for structure elucidation of phytochemicals.

Part A

1. Analysis of Pharmacopoeial compounds and their formulations by UV Vis spectrophotometer, RNA & DNA estimation
2. Simultaneous estimation of multi component containing formulations by UV spectrophotometry
3. Experiments based on HPLC
4. Experiments based on Gas Chromatography
5. Estimation of riboflavin/quinine sulphate by fluorimetry
6. Estimation of sodium/potassium by flame photometry

Part B

1. Preparation of sequential extracts of a plant material and its TLC finger printing
2. Extraction and isolation of terpene curcumin from *Curcuma longa* by column chromatography and its characterization
3. Extraction and isolation of alkaloid (e.g. piperine from *Piper longum*) using CC/VLC/Flash Chromatography and its characterization
4. Extraction and isolation of sterol (e.g. β -sitosterol) using CC/VLC/Flash Chromatography and its characterization
5. Extraction and isolation of saponin (e.g. glycyrrhizin) using CC/VLC/Flash Chromatography and its characterization
6. Isolation of a phytochemical using Preparative TLC
7. Extraction of essential oil of a given plant and characterization of its constituents using GC
8. Characterization of a glycosidic compound using hydrolytic techniques and acetylation techniques
9. Preparation of a traditional formulation eg. Vati/pills and its evaluation
10. Preparation of a traditional formulation e.g. Asava/Arishtha and its evaluation