

PARUL UNIVERSITY
FACULTY OF PHARMACY
M.Pharm. Winter 2022 - 2023 Examination

Semester: 1**Subject Code: MPG103T****Subject Name: Photochemistry****Date: 17/03/2022****Time: 10:00 am to 01:00 pm****Total Marks: 75****Instructions:**

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Marks Each) (30)

1. a) Discuss in detail on biosynthesis, isolation and characterization of Ephedrine.
b) Write a note on history of herbs as sources of drug discovery and discuss about the lead structure selection process.
2. a) Write a note on SCFC and its application in the separation of Phyto-Constituents.
b) Explain the structure elucidation of any one alkaloid compound
3. Explain in detail about the structural elucidation of the followings by spectral studies: a) Menthol b) Citral

Q.2 Short Essay Type Questions. (any 5 out of 6) (5 Marks Each) (25)

1. Explain shikimic acid pathway.
2. Discuss Protocol design for the selection of lead molecule.
3. Explain the different techniques involved in fractionation.
4. Illustrate Structure elucidation of Caffeine by HPTLC and LCMS/GCMS.
5. Identify the mass fragmentation patterns of Nicotine.
6. Describe the isolation of Quinine and Piperine

Q.3 Short Answers. (2 Marks Each) (20)

1. Enlist applications of radio tracer techniques.
2. Write isolation of Sennosides.
3. Explain the lead molecule optimization with andrographolide as example.
4. Distinguish drug discovery and drug development.
5. Write applications of Flash chromatography.
6. Draw diagram of apparatus used for Successive solvent extraction.
7. Write applications of HPTLC.
8. Write principle of LCMS.
9. Explain the principle involved in IR spectroscopy.
10. Draw the chemical structure of Glycyrrhizin.