

[Time: 3 Hours]

[Max. Marks: 75]

Phytochemistry**Q.P. CODE: 5132**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAY (Answer any Three)**3 X 10 = 30 Marks**

1. Describe the protocol for extraction for phytochemical screening of fresh and dry drugs. Explain the tests for identification of various phytoconstituents.
2. Explain different *in-vitro* and *in-vivo* screening methods for antidiabetic activity.
3. Discuss the use of grafting and mutant strains for elucidation of biosynthetic pathways. Describe the biosynthesis of ephedrine.
4. Explain applications of LCMS and GCMS for phytochemical characterization of extracts.

SHORT ESSAY (Answer any Nine)**9 X 5 = 45 Marks**

5. Explain the biosynthesis of umbelliferone.
6. Write a note on selection and optimization of lead anticancer compounds from natural sources with suitable examples.
7. Explain the isolation, purification and characterization of piperine.
8. Explain different screening methods available for evaluation of antilithiatic activity.
9. Explain the principle and applications of flash-column chromatography.
10. Describe the biosynthesis of strychnine.
11. Write the procedure for isolation, purification and identification of cucurbitacins.
12. Explain different screening methods for antiviral activity.
13. Substantiate herbs as potential source for drug discovery.
14. Write the importance of HPTLC in herbal analysis.

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