Draw neat, labeled diagrams wherever necessary.

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

1. Explain different methods for detection of different classes of phytoconstituents.
2. Explain the isolation, purification and characterization of glycyrrhizin and lycophene.
3. Explain the biosynthetic pathway of strychnine and digitoxin.
4. Explain different in-vitro and in-vivo methods for evaluation of antioxidant and hypolipidaemic activities.

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

5. Write a note on microwave assisted extraction and its applications.
6. Explain the importance of atomic absorption spectroscopy.
7. Write a note on sequential analysis and competitive feeding for elucidation of biosynthetic pathways.
8. Write the biosynthetic pathway for beta carotene.
9. Describe the importance of HPTLC as a tool in phytochemical analysis.
10. Write the importance of GCMS in phytochemical analysis.
11. Explain the methods for evaluation of antipsychotic activity.
12. Explain different in-vitro and in-vivo methods for evaluation of antilithiatic activity.
13. Describe the selection and optimisation of lead compounds for drugs acting on CNS.
14. Explain different phases in clinical trials of drugs.

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