



[Time: 3 Hours]

[Max. Marks: 75]

Chemistry of Natural Products

Q.P. CODE: 5120

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAY (Answer any Three)

3X 10 = 30 Marks

1. a. Discuss how curare alkaloids act as a lead to develop new neuromuscular blocking drugs.
b. Write a note on Paclitaxel and Docetaxel as anticancer drugs.
2. What are monoclonal antibodies? How is it produced through Hybridoma technology?
3. Discuss the chemistry of steroids and elucidate the structure of Progesterone.
4. Elucidate the structure of Morphine and confirm by its synthesis.

SHORT ESSAY (Answer any Nine)

9X 5 = 45 Marks

5. Discuss the isolation, biological activity and stereochemistry of Ephedrine.
6. Give the structure of the active constituents (at least 3) from a) *Gymnema sylvestre*
b) *Phyllanthus niruri* c) *Pterocarpus marsupium* d) *Curmuma longa* mention their uses.
7. Elucidate the structure of Emetine.
8. Write a note on contraceptive agents.
9. Write note on recombinant DNA technology.
10. How do ^1H NMR, ^{13}C NMR, IR and MS spectroscopy help in the characterization of Flavanoids?
11. Write a note on oligonucleotide therapy.
12. Write a note on macrolide Antibiotics.
13. How would you differentiate the structure of steroids and flavanoids on the basis of IR and NMR?
14. Explain isoprene rule. Write a note on isolation of terpenoids.

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