



Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary. Answer all questions

**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. Write detailed account on biosynthesis of cardiac glycosides from mevalonic acid pathway
2. Emphasize the structural elucidation of morphine
3. Write essay on plant growth regulators. Enumerate the applications of growth regulators in the respect of quantitative enhancement of secondary metabolites

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Write brief note on pest control methods in cultivation of medicinal plants
5. Write short note on role of elemental nutrition in the growth and development of plants
6. Describe the conservation strategy of medicinal plants
7. Write the screening methods for immunomodulatory activity of plant products
8. Describe general methods of isolation and purification of bioactive marine products
9. Antiviral agents from plant products

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Resins
11. **WTO**

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**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. Write a brief note on the methods in the destruction of plant cells and communiton methods to improve efficient extraction process, and write detailed note about principle, methods and selection of extraction for plant materials
2. Enumerate the industrial isolation and estimation of Gymnemeic acid from Gymnema sylvestris with special reference from HPTLC method.
3. Emphasise detailed account of Indian and international patent laws. Write the involved while drafting and filing a patent

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Export of potentials of medicinal plants from India
5. Analytical profiles of Asarone
6. Write the methods in the determination of Arsenic and Heavy metals in herbal drugs
7. Herbal antioxidants used in cosmetics
8. Preparation and standardization of herbal extracts
9. Write a note on TQM related to herbal drug industry

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Factors affecting herb quality
11. ISO – 9000

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**LONG ESSAY (Answer any TWO)****2 X 20 = 40 Marks**

1. Write the principle, tools and applications of Recombinant DNA technology for the medicinal plants
2. Define enzymes. Write the types, properties, general methods of isolation and purification of enzymes
3. Write the various methods in the determination of localization of transferred genes in genetically modified plants

**SHORT ESSAY (Answer any FIVE)****5 X 10 = 50 Marks**

4. Write the methods and applications of Mutation
5. In-vitro methods of conservation of germplasm
6. Write the detailed account of Protoplast culture
7. Write the methods of Plant Chromosome Analysis
8. Write details about the isolation, separation and purification of Bromelain
9. Resistance to physiological stress by transgenic plants

**SHORT NOTES****2 X 5 = 10 Marks**

10. Cell cycle
11. Polyploidy

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