



- Notes :
1. All questions carry equal marks.
 2. Illustrate your answers wherever necessary with the help of neat sketches.
 3. Que No. 1 is compulsory & solve **any four** from Remaining.

1. Attempt **any four** of the following. **16**
 - a) Write a note on Soxhlet extraction.
 - b) Describe the method of extraction of olive oil.
 - c) Differentiate between fixed oils & volatile oils.
 - d) Give the schematic representation of formation of Amino acid by Shikimic acid pathway.
 - e) Give brief account of plant bitters.
 - f) Write the application of thin layer chromatography in pharmacognosy.
2. Define and classify Lipids. State the biological source method of preparation, chemical constituents and uses of castor oil and Shark liver oil. **16**
3. What are terpenoids? Give the general properties classification & Enfleurage method of extraction of volatile oils. **16**
4.
 - a) Write a note on Argus container natural colour and dyes. **10**
 - b) Write a note on super critical fluid extraction. **6**
5.
 - a) What is biosynthesis? Give an account of primary & secondary metabolite's production from carbon metabolism in plants. **12**
 - b) Write an account on plant sweeteners. **4**
6.
 - a) Define & classify enzymes. Explain the method of collection and preparation of papain and pepsin. **10**
 - b) Give the method of collection and preparation of cinnamon bark along with its biological source chemical constituents & uses. **6**
7. Mention the Biological source, morphology, chemical constituents and uses of **any four**. **16**

a) Beeswax	b) Cardamom
c) Clove	d) Cod liver oil
e) Fennel	f) Gelatin
