(3 Hours) **Total Marks: 100**

Q.1: Attempt **any TWO** of the following.

A: Describe the methods of collection of data in Ethanobotany. **(10)**

B: What are traditional medicines? Citing suitable example, explain how tribal use them against skin and liver ailments. **(10)**

C: Describe the method of harvesting and grading of mushrooms. **(10)**

D: Discuss the technique of composting and spawning in cultivation of *Agaricus*. **(10)**

Q.2: Attempt **any TWO** of the following.

A: Define genomic library? Describe the construction of a genomic library. **(10)**

B: Explain steps involved in southern hybridization. **(10)**

C: With an appropriate example, explain construction of restriction map. **(10)**

D: Describe the technique of colony hybridization for screening a genomic library. **(10)**

Q.3: Attempt **any TWO** of the following.

A: Give a brief account on the principle, working and applications of Spectrophotometer. **(10)**

B: Explain the principle and working of molecular sieve chromatography **(10)**

C: What is ion-exchange chromatography? Add a note on types of resins used in it. **(10)**

D: Briefly explain the principle and working of adsorption chromatography. **(10)**

Q.4: Attempt **any TWO** of the following.

A: Describe the biological source, macroscopic and microscopic characters of *Strychnos* seed. **(10)**

B: Define the term Monograph. Write an account on biological source, macroscopic and microscopic characters of *Acorus calamus*. **(10)**

C: Write an account on chemical constituents and therapeutic uses of *Allium sativum*. **(10)**

D: Describe the biological source, geographical distribution, common varieties and therapeutic uses of *Curcuma longa*. **(10)**

Q.5 Short notes **(Attempt any four)** **(20)**

a. Toxic plants and antidotes

b. Chromosomal library

c. Radioactive labeling of DNA

e. Working of Colorimeter.

f. Chemical constituents of *Senna* leaf.

g. Therapeutic uses of Clove bud.

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