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

N.B.: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams wherever necessary.

Q.1: Attempt Any TWO of the following. **(20)**

A. Explain methods of study of Ethnobotany.
B. Citing suitable examples, describe the role of traditional medicine in treating fever and diabetes.
C. Describe the cultivation of any one edible mushroom studied by you.
D. Define Ethnobotany. Explain the application of ethnobotany in ethnomedicine and agriculture.

Q.2: Attempt any TWO of the following. **(20)**

A. What is Genomic Library? Describe the construction of a genomic library.
B. What is restriction mapping? Explain with an appropriate example, construction of a restriction map.
C. Enlist and describe the steps involved in Southern Hybridization for analyzing cellular DNA.
D. Which technique is used for screening of cDNA library? Explain it in detail.

Q.3: Attempt any TWO of the following. **(20)**

A. Explain in detail the principle and working of Spectrophotometer.
B. Give an account on instrumentation and applications of Colorimetry.
C. Explain the principle and types of Partition Chromatography.
D. Write an account of the principle and working of Column Chromatography.

Q.4: Attempt any TWO of the following. **(20)**

A. Describe the biological source, macroscopic and microscopic characters of Clove bud.
B. Define Monograph of drugs. Give an account on biological source, macroscopic and microscopic characters of *Acorus calamus*.
C. Write an account of chemical constituents and therapeutic uses of *Senna* leaves.
D. Describe the biological source, geographical distribution, common varieties and therapeuticuses of *Curcuma longa.*

Q. 5 Write short notes on ANY FOUR of the following **(20)**

a. Role of Sandalwood in skin ailments
b. Grading and packaging of mushroom
c. Chromosomal library
d. Radioactive labeling of DNA
e. Beer-Lamberts law
f. Principle of Ion- Exchange Chromatography.
g. Chemical constituents of *Strychnos* seeds.
h. Therapeutic uses of *Allium sativum*.

****