

Q.P. Code : 12799

(2½ Hours)

[Total Marks : 75

- N.B. : (1) All questions are compulsory.
(2) All questions carry equal marks.
(3) Draw neat labeled diagrams wherever necessary.

1. Attempt any two of the following : 15
 - (a) Give a brief account of cultivation of any one type of mushroom.
 - (b) What are free radicals ? What are the conditions that promote its formation ?
 - (c) Enumerate the role of food as medicine in treating skin disorder.
 - (d) Describe the role of food as medicine in treating anaemia.
2. Attempt any two of the following : 15
 - (a) Describe various sterilization techniques used in plant tissue culture to ensure aseptic conditions.
 - (b) Give a brief account of somatic embryogenesis.
 - (c) Explain the technique of isolation of Protoplast.
 - (d) What is anther culture ? Explain the technique involved in it.
3. Attempt any two of the following : 15
 - (a) Describe the methods of processing and storage of *Curcuma longa*. Add a note on its propagation method.
 - (b) Explain the propagation method and medicinal use of *Allium sativum*.
 - (c) Describe the biological source, macroscopic and microscopic characters of *Ocimum basilicum* leaf.
 - (d) Give an account on chemical constituents and adulterants of *Strychnos nux-vomica* seeds.
4. Attempt any two of the following : 15
 - (a) Explain the construction of C-DNA library.
 - (b) Describe any one method to identify a specific clone in a genomic library.
 - (c) Explain the technique of Southern hybridization
 - (d) What is restriction enzyme analysis? Briefly describe the technique of the same.
5. Attempt any three of the following : 15
 - (a) Write in short about grading and packaging of mushrooms.
 - (b) Explain requirements of antioxidants in body.
 - (c) Give a brief account of applications of Plant tissue culture.
 - (d) Briefly describe the preparation of artificial seeds.
 - (e) Give the medicinal uses of *Acorus calamus*.
 - (f) Write a short note on chromosome library.