

M.PHARM. SEM.-II (CBCS-2019 COURSE) : Winter-2021
SUBJECT : PHARMACOGNOSY : MEDICINAL PLANT BIOTECHNOLOGY

Day Monday
Date 29-11-2021

Time 02:00 PM-05:00 PM
Max. Marks : 75

W-20764-2021

N.B.

- 1) **Q.No. 1 and Q.No. 5** are compulsory. Out of remaining answer **ANY TWO** Questions from each section.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answerbooks.
- 4) Draw neat diagrams **WHEREVER** necessary.

SECTION – I

- Q.1** Explain various gene transfer methods in plants and their applications. (08)
- Q.2** Describe the concept of immobilization. Explain various methods of immobilization and give its application on secondary metabolite production. (15)
- Q.3** a) Discuss the protocol for Micropropagation of endangered medicinal plants. (08)
b) Explain Protoplast fusion and its application. (07)
- Q.4** Write notes on **ANY THREE** of the following : (15)
- a) Precursor feeding
 - b) DNA recombinant technology
 - c) Production of Ergot alkaloids
 - d) Elicitation techniques

SECTION – II

- Q.5** Give the nutritional requirement for plant cells to grow under *in vitro* conditions. Highlight the role of auxins. (07)
- Q.6** Explain the applications of plant tissue culture. Give various strategies used for the enhancement of phytopharmaceuticals from plant tissue culture. (15)
- Q.7** a) Hairy root multiple shoot cultures and their applications. (08)
b) Describe Bioreactor System and their applications. (07)
- Q.8** Write notes on **ANY THREE** of the following : (15)
- a) Role of PCR
 - b) Biotransformation using plant cells
 - c) Advantages and disadvantages of plant cell cloning
 - d) Phases of Growth curve
