

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: M.PHARMACY
BRANCH: PHARMACY**

**SEMESTER: II
SESSION: SP2023**

SUBJECT: MPG201T MEDICINAL PLANT BIOTECHNOLOGY

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
 2. Before attempting the question paper, be sure that you have got the correct question paper.
 3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
 5. Answer any five questions.
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- 1a. Define Biotechnology. Discuss prospects for development of plant biotechnology as a source of medical agents. [9]
- 1b. Write in brief about replication of DNA. [6]
- 2a. Define plant tissue culture. Mention importance of plant tissue culture in pharmacy. [7]
- 2b. Write in detail about Protoplast isolation and Protoplast fusion. [8]
- 3a. Explain the term Immobilisation. Discuss immobilization technique used for the production of secondary metabolites. [8]
- 3b. Write in brief about organogenesis and their application in pharmacy. [7]
- 4a. Explain the term constituents. Classify the constituents on the basis of their activities. [7]
- 4b. How will you proceed for the production of vaccine from Plants. Discuss citing some examples. [8]
- 5a. What do you mean by the term transgenic plants. Discuss transgenic plant as bioreactor giving at least one example. [8]
- 5b. Define Biotransformation reaction. Mention different types of Biotransformation reaction. [7]
- 6a. Make a diagram of conventional fermenter with proper labellings. [8]
- 6b. Write in details the traditional method (Ayurvedic) of fermentation. [7]
7. Write short notes on: [5x3]
 - a. Embryogenesis
 - b. Hairy root culture
 - c. Continuous stirred tank bioreactor.

:::24/04/2023 E:::