

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

CLASS: M.PHARM
BRANCH: PHARMACY

SEMESTER : II
SESSION : SP/19

SUBJECT: MPG201T MEDICINAL PLANTS BIOTECHNOLOGY

TIME: 3.00 Hrs

FULL MARKS: 75

INSTRUCTIONS:

1. The question paper contains 7 questions each of 15 marks and total 105 marks.
 2. Candidates may attempt any 5 questions maximum of 75 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Write in short the historical perspectives, Prospect for development of Plant biotechnology as a source of medicinal agents. [7]
- Q.1(b) How will you proceed for the preparation of culture medium? Write the formulation and nutritional component of culture medium. [8]
- Q.2(a) Mention the procedures used for the isolation and culture of protoplast in general. [7]
- Q.2(b) Discuss and describe organogenesis and embryogenesis technique in plants. [8]
- Q.3(a) What do you mean by the term "Hairy root culture"? Mention its application in pharmacy. [7]
- Q.3(b) Write in detail immobilization technique with reference to production of secondary metabolites. [8]
- Q.4(a) Write short notes on the followings [7]
a) Callus b) Cybrid c) Totipotency d) Pollen culture
- Q.4(b) Discuss sterilization technique involved in tissue culture. [8]
- Q.5(a) Define Biotransformation. Mention various types of bioreactor for pilot and large scale culture of plant cells. [7]
- Q.5(b) Discuss any one in detail for retention of biosynthetic potential in cell culture. [8]
- Q.6(a) Write in detail about Fermentation Technology with reference to production of secondary metabolites of pharmaceutical interest. [7]
- Q.6(b) Give and account about Transgenic plants. Mention the techniques involved in production of transgenic plants. [8]
- Q.7(a) What is genetic code? Write in short the application of genetic code with reference to protein synthesis. [7]
- Q.7(b) Write short notes on : [8]
i) Plant tissue culture and their advantages.
ii) Replication of DNA.

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