

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

CLASS: M.Pharm.
BRANCH: PHARMACY

SEMESTER: II
SESSION: MO-22

SUBJECT: MPG201 T 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.**
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- Q. 1. a) Discuss historical perspectives prospects for development of Plant biotechnology as a source of medicinal agents.
- Q. 1.b) Write in brief DNA recombinant technology citing atleast one example.
- Q.2. a) Define Plant tissue culture. How will you proceed for Embryogenesis using plant tissue culture technique?
- Q. 2.b) Write in detail the methodology used for isolation and fusion of protoplast in general.
- Q.3. a) Mention immobilization techniques of plant cell and its application on secondary metabolite production.
- Q.3.b) Write in brief about biosynthetic precursors and elicitors and their role on production of secondary metabolites.
- Q.4. a) What do you mean by the term Transgenic Plants? Mention how biochemical changes delayed the ripening of fruits citing atleast one examples.
- Q. 4. b) Transgenic plants provide an alternative system for production of recombinant vaccines. Justify the statement citing an example.
- Q.5. a) Explain Fermentation / Bioprocess technology with regards to the formation of secondary metabolites.
- Q. 5.b) Enlist different types of bioreactors available in the market. Explain conventional bioreactor in detail. Mention its advantages.
- Q.6. a) Write in short about DNA replication taking place naturally in living beings.
- Q. 6. b) Explain Hairy Root Culture. Discuss application of Hairy Root Culture in pharmaceutical field.
- Q.7. Write short note on:
- a) Genetic code
 - b) Chemically defined media of plant tissue culture
 - c) Cloning of plant cell
 - d) Continuous stirred tank bioreactor

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