Ref. No.: Ex/MPG201T/2024

M. PHARMACY FIRST YEAR SECOND SEMESTER - 2024

Subject: MEDICINAL PLANT BIOTECHNOLOGY

Time: 3 hours

Full marks: 75

(Answer any 5 questions)

No.	Questions	Marks	Bloom's Taxonomy Levels	Course Outcome (CO1-3)
1.	**a) Discuss** the terms dedifferentiation and redifferentiation.	4	L6	CO1, CO2
	b) How will you develop plant cell suspension culture from callus tissue?	6	L1	
	c) Illustrate the applications of plant tissue culture.	5	L2	
2.	**Explain** the following		L5	CO1, CO2, CO3
	a) In vitro conservation of medicinal plants	7		
	b) Fermentation technology	8		
3.	**a) Discuss** the importance of risk analysis in the context of recombinant DNA technology.	7	L6	CO1, CO2
	b) Explain the key considerations and methodologies used in assessing and managing risks associated with this technology.	8	L5	
4	**Discuss** in detail various prospects of plant biotechnology.	15	L6	CO1, CO2, CO3
5	**a) How** will you perform surface sterilization of explants?	5	L1	CO1, CO2
	b) Categorize different types of cell suspension culture.	6	L4	
	c) Explain cell growth characteristics in cell suspension culture.	4	L5	
6	**a) Illustrate** the applications of bioreactors in plant tissue culture.	6	L2	CO1, CO2
	b) Discuss the process design considerations in bioreactor	9	L6	
7	**a) Discuss** the principle and protocol of hairy root culture.	10	L6	CO1, CO2
	b) Explain its importance in the production of plant secondary metabolites.	5	L5	