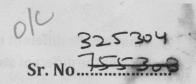
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## December 2023 B.Sc. (Life Science) III SEMESTER Bio fertilizer and Bio pesticide (SEC-03)

Time: 3 Hours

diseases?

Max. Marks:75

Instructions:

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
- 2. Answer any four questions from Part -B in detail.
- 3. Different sub-parts of a question are to be attempted adjacent to each other.

PART -A			
Q1	(a)	What is phosphate solubilizing microorganism, quote examples?	(1.5)
	(b)	What is the role BIS regulatory organization?	(1.5)
	(c)	What is the role of <i>nod</i> and <i>nif</i> gene?	(1.5)
	(d)	Describe heterocyst of Cyanobacteria?	(1.5)
	(e)	What is the role of nodule formation?	(1.5)
	(f)	What is rhizosphere?	(1.5)
	(g)	Define antagonistic properties.	(1.5)
	(h)	What is synbiotic nitrogen fixation?	(1.5)
	(i)	Write example of algal bio fertilizers.	(1.5)
	(j)	What is endo-mycorhiza?	(1.5)
PART -B			
Q2	(a)	Describe the role of Trichoderma sp and Bacillus sp as a potential bio- pesticide.	(10)
	(b)	Describe the process of nodule formation during nitrogen fixation.	(5)
Q3	(a)	Explain the mass production of bio-fertilizers at mass scale.	(5)
	(b)	Define the role of free living nitrogen fixing microorganisms with suitable example.	(10)
		example.	
04	(a)	Describe the role of phosphate solubilizing microorganism in phosphate cycle.	(5)
٧.		Elaborate the process for the isolation and inoculum preparation of mycorhiza.	
05	(2)	Describe the trap culture inoculum of arbuscular mycorrhizal fungal spores?	(5)
Ų3		Describe the role of Pseudomonas sp based pesticides formulations.	(5) (10)
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Q6		Differentiate between symbiotic and free living nitrogen fixations?	(10)
	(b)	Explain, how bio-agents based preparation helps in control of soil borne	(5)

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Q7 (a) What are the different methods used for the efficient rhizobium selection. (10)(5) (b) Discuss the different steps involved in vermicomposting. 01 (a) What is phosphate solubilizing microorganism, quote examples? Q3 (a) Explain the mass production of bio-icrtilizers at mass scale. (b) Explain, how bio-agents based preparation belos in control of soil borne