

63/1 (SEM-3) SEC1/BOTSE3012

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(Held in 2023)

BOTANY

Paper : BOTSE3012

(**Biofertilizers**)

(**Theory**)

Full Marks : 50

Pass Marks : 20

Time : 2 hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following as directed : 1×5=5

(a) Name the nitrogen fixers found in rice fields associated with Azolla.

(b) Who discovered the microorganism?

(c) Cyanobacterial cells which are specialized for nitrogen fixation are

(i) hormogonia

(ii) heterocysts

(iii) trichomes

(iv) conidia

(Choose the correct answer)

(2)

(d) Rhizobium is a ____ bacteria.

(i) aerobic Gram-positive

(ii) aerobic Gram-negative

(iii) anaerobic Gram-positive

(iv) anaerobic Gram-negative

(Fill in the blank)

(e) "Strawberry is a host plant which support large scale production of inoculum."

(Write Yes or No)

2. Answer the following questions : $2 \times 5 = 10$

(a) Write the scope of biofertilizers.

(b) Differentiate between aerobic and anaerobic composting.

(c) Write the systematic position of azotobacter.

(d) Explain Azolla as a biofertilizer.

(e) What do you mean by organic farming?

3. Write notes on any *five* of the following :

$5 \times 5 = 25$

(a) Green manure

(b) Process of nodulation in legumes

(3)

(c) Recycling of biodegradable of agricultural waste

(d) Component of YEMA medium

(e) Actinorhizal symbiosis

(f) Azospirillum as biofertilizer

(g) Starter or mother culture

4. Answer any *one* of the following questions : 10

(a) What is mycorrhiza? Differentiate between ecto- and endo-mycorrhiza. Write the role of mycorrhiza in response to the plant developments. $1+2+7=10$

(b) Define vermicomposting. Discuss various methods of vermicomposting. What are the advantages of vermicomposting? $2+5+3=10$
