

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN,  
NUVEM-GOA  
SEMESTER END EXAMINATION (ONLINE MODE), JULY 2021**

Semester: **VI B.Sc.**      Course name & Code: **BOTANY: BOD104 (Biofertilizers)**

Max. Marks: **30**      Date: **17/07/2021**      Duration: **2 Hours**      Total No. of pages: **01**

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**Instructions:** 1) *All questions are compulsory.*

2) *Figures to the **right** indicate maximum marks assigned to the question.*

**Q. 1.** Answer **any five** of the following in brief: (5 x 2 Marks = 10)

- a. What are PGPRs? State their mode of action.
- b. Explain the establishment of actinorhizal symbiosis.
- c. Explain the methods of field application of *Azolla*.
- d. What is algalization technology?
- e. What are phosphate solubilising microbes? Give 2 examples.
- f. What are mycorrhiza helper bacteria? Give 2 examples.
- g. What is farmyard manure? State its role in organic farming.
- h. Explain the role of government in promotion of biofertilizers.

**Q. 2.** Answer **any four** of the following: (4 x 5 Marks = 20)

- i. Give the flow chart for isolation of *Rhizobium* from root nodules.
- ii. Describe the field use of *Azospirillum* inoculants and its effect on crops.
- iii. Explain the process of mass cultivation of *Azotobacter* from starter culture. Add a note on preparation of carrier based *Azotobacter* inoculant.
- iv. Explain the role of mycorrhizae in forestry.
- v. Explain the method of vermicomposting.
- vi. Explain the role of *Piriformospora indica* as a multi-functional biofertilizer.

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