

SET A

Unique paper code :42163302

Name of the course : B.Sc Life Science

Name of the paper : Biofertilizer (SEC)

Semester : III

Duration : 3 Hours+1 Hours for uploading **Maximum marks: 38**

Instructions for candidate

- a) Write your Roll No., Name of the Paper, Course, Semester and Date of examination on the first page of the answer sheet.
- b) Attempt **ANY FOUR** questions. All questions carry equal marks.

1- “Organic farming- The need of the hour”. Justify given statement. How organic farming is different from conventional farming. Discuss its advantages and limitations. (9.5)

2- 'Mutualistic associations are a subset of symbiosis where two or more different living organisms receive mutual benefits'. Explain given statement with mycorrhizal association and its benefits in agriculture. Differentiate between ectomycorrhiza and endomycorrhiza. (9.5)

3- Bio-fertilizers are formulations of beneficial microorganisms that help the growth of plants by increasing the quantity and availability of nutrients through their biological activities. Justify your answer with *Azolla- Anabaena* association and its application in Rice cultivation. (9.5)

4- Inappropriate or excess application of chemical N fertilizers causes environmental problems, such as contamination of ground water by nitrates, and air pollution and global warming due to nitrous oxide. Explain how *Rhizobium* as biofertilizer play an important role in sustainable agriculture. Give isolation and inoculation method of *Rhizobium*. (9.5)

5- Elaborate the statement “Earthworms are organic waste managers” and discuss the technique for forming biofertilizer using earthworms. Give advantages and limitations for same. (9.5)

6- What are different types of Biofertilizers? Explain method used for isolation and mass multiplication of *Azospirillum*. (9.5)