

U.G. 5th Semester Examination-2021

BOTANY

[HONOURS]

Discipline Specific Elective (DSE)

Course Code : BOT-H-DSE-T-01

(Industrial and Environmental Microbiology)

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** of the following: 2×5=10
 - a) What is Bioreactor?
 - b) What is Downstream processing?
 - c) What is Bioremediation?
 - d) Define Fed-Batch fermentation.
 - e) Define coliform.
 - f) Why antibiotic is called as secondary metabolite?
 - g) Define Mycorrhiza.
 - h) What is Enzyme immobilization?

2. Answer any **two** questions : 5×2=10
 - a) Discuss briefly the method of isolation of microbes from air sample.

- b) Write down the difference between total coliform and faecal coliform.
 - c) State the role of microbes in sewage water treatment system.
 - d) Write a brief note on lyophilisation.
3. Answer any **two** questions: 10×2=20
 - a) What are industrial microorganisms? State the principles of exploration of their products. 2+8
 - b) Describe the Fluidized bed bioreactor with suitable diagram. 6+4
 - c) Describe the process of bioremediation in contaminated soil. 10
 - d) Write short notes on : 5+5=10
 - i) Solid state fermentation
 - ii) Upstream processing
