

BSc DEGREE EXAMINATION DECEMBER 2019
(Fourth Semester)

Branch-MICROBIOLOGY

SOIL AND AGRICULTURAL MICROBIOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10x2 =20)

- 1 Protozoans.
- 2 Allochthonous. *
- 3 Neutralism.
- 4 Ammensalism,
- 5 Nitrate reduction.
- 6 Sulphur assimilations
- 7 Anabena.
- 8 Nif genes.
- 9 Microbial insecticides.
- 10 Pesticides.

■ SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Discuss the predation and parasitism with example.
r •' - . OR ;■ ■ ■ /' ■>: . *
- b Comment on commensalism and mutualism.'
- 12 a Explain about protozoans in soil.
• -L - . OR * v y _
- b Write a significance in soil transformations.
- 13 a Give an account on sulphur cycle.
OR • , .'
- b Briefly explain the phosphorous cycle.
- 14 a Write about the mechanism of non-symbiotic N₂ fixation.
- b Add a note on blue green algae as biofertilizer.
- 15 a Which bacteria used as insecticides explain it with example.
OR ■
- b List out the advantages and disadvantages of microbial insecticides.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain the Nitrogen and carbon cycle.
- 17 Discuss about bacterial and fungal biopesticides and their mass production. • *
- 18 Write essay on bacterial biofertilizers.
- 19 Comment on positive interactions of microbial associations.
- 20 Explain the population dynamics of bacteria and actinomycetes in soil.