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Name.....

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2024

Microbiology

MBG 4B 04—SOIL AND AGRICULTURAL MICROBIOLOGY

(2019 Admission onwards)

Time : Two Hours and a Half

Maximum : 80 Marks

*Wherever needed answers must be supported by structural illustration and diagrams.***Part A***Answer **all** questions in one **or** two sentences.**Each question carries 2 marks.*

1. Biogeochemical cycles.
2. Carbon fixation.
3. Mention various forms of nitrogen in nitrogen cycle.
4. Formation of humus.
5. Competitive exclusion principle.
6. Syntrophism.
7. Rhizoplane.
8. Nematophagous fungi.
9. Early blight of potato.
10. Nif and Nod genes.
11. VAM.
12. Predation.
13. Bunchy top of Banana.
14. Nostoc.
15. Biopesticides.

(Ceiling 25 Marks)

Turn over

Part B

Answer all questions.

Each question carries 5 marks.

16. Outline the properties of soil.
17. Explain the process involved carbon cycle.
18. Compare and contrast assimilative and dissimilative sulfur reduction.
19. Differentiate between predation and parasitism with relevant examples.
20. Define Mycorrhizae. Discuss various kinds of Mycorrhizae.
21. What do you mean by bioluminescent bacteria ? How it is involved in symbiotic relationship ?
22. Critically discuss on crown gall disease.
23. Define Associative Symbiosis. Discuss with relevant examples.

(Ceiling 35 Marks)

Part C

Answer any two questions in details.

Each question carries 10 marks.

24. What are the major factors that affect the microbial populations of soil ?
25. Outline the steps and role of micro-organism in the biogeochemical cycling of phosphorous.
26. What are the major types negative interactions takes place between micro-organisms and soil ?
Discuss with appropriate examples.
27. Priorities the applications of various biofertilizers in soil and agricultural microbiology with relevant examples.

(2 × 10 = 20 marks)