

(6 pages)

Reg. No. :

Code No. : 20436 E Sub. Code : AMMI 51

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2023.

Fifth Semester

Microbiology – Core

AGRICULTURAL MICROBIOLOGY

(For those who joined in July 2020 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. _____ is formed artificially by ploughing a dry clayey land soil.
- (a) ped
(b) clod
(c) humus
(d) granular

7. _____ is / are fungal pesticides, except.
- (a) Beauvaria (b) Metarrhizium
(c) Aspergillus (d) Hirsutella
8. NPV controls the pest _____.
- (a) Helicoverpa armigera
(b) Lapidoptera
(c) Hymenoptera
(d) Diptera
9. Presence of 'tannins' in plant tissues which are toxic, as in beans, due to
- (a) Aspergillus flarus
(b) Collectotrichum lindemuthianum
(c) Puccinia triticina
(d) Cercospora arachidicola
10. _____ is corky outgrowths may be formed on the leaves, stem and other plant parts, as a result of disease incidence.
- (a) cankers (b) mosaics
(c) spots (d) shot-holes

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2. Soil colloids have an enormous surface area and are _____ charged, hence they repel each other in the suspension.
- (a) Positively (b) Neutrally
(c) Negatively (d) None
3. The term mycorrhiza literally meaning _____.
- (a) Fungus root (b) Algal root
(c) Plant root (d) Mushroom root
4. Bacterial population produce _____, the predominant acid within the rumen.
- (a) Lactate (b) Sulphuric acid
(c) Acetate (d) Propionate
5. Root nodules for nitrogen fixation of a non-leguminous tree posses
- (a) Frankia (b) Rhizobium
(c) Azotobacter (d) Thiobacillus
6. What is required for nitrogen fixation by Rhizobium?
- (a) Potassium (b) Phosphorus
(c) Nitrate (d) Sodium

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PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Brief out the various extrinsic factors affecting the microflora of soil.
- Or
- (b) Discuss about soil sickness.
12. (a) What is microbial interactions? Write about commensalism.
- Or
- (b) Describe rhizosphere as an interaction between plants and microbes.
13. (a) Discuss about Nitrogenase enzyme.
- Or
- (b) What is heterocyst and its function?
14. (a) Write note on VAM.
- Or
- (b) Discuss about viral insecticides (NPV).

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[P.T.O]

15. (a) Write short notes on Late blight of potato.

Or

(b) Explain about stages in development of a plant disease.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Trace out the different types of soil and their microflora.

Or

(b) Discuss in detail about phosphorous cycle.

17. (a) Write a detail notes on Mutualism.

Or

(b) Differentiate predation from parasitism.

18. (a) Write a detail notes on Asymbiotic nitrogen fixation.

Or

(b) Discuss about root nodule formation in Rhizobium.

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19. (a) Define Biofertilizers and explain in detail about phosphate solubilizers.

Or

(b) Write a detail notes on PGPR.

20. (a) Discuss the disease cycle, pathogenesis, symptoms associated with Ergot of rye disease.

Or

(b) Discuss in detail about Black stem rust of wheat disease.

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