

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BFMS-433

M.Sc. (Final) Examination, 2023

MICROBIOLOGY

Paper - VII

(Geomicrobiology, Soil and Agricultural Microbiology)

Time : 3 Hours]

[Maximum Marks : 75

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section-A

1. Answer all questions :

(i) Define the term “Bioleaching”.

(ii) Name any *two* protozoans which are considered as soil microflora.

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- (iii) What do you know about spermosphere zone ?
- (iv) Why is litter decomposition important ?
- (v) Write the symptoms of Witches brooms of potato.
- (vi) Which pathogen is responsible for Wilt of Cotton ?
- (vii) What is Prophylaxis ?
- (viii) Write the importance of Thiobacillus in prevention of plant disease.
- (ix) Give two examples of PGPR.
- (x) What is nif gene ?

Section-B

2. Write a note on origin of microbial life.

Or

Give a brief description of major physico-chemical characteristics of Soil.

3. Write a note on preparation of mushroom compost.

Or

Give a comprehensive account on biogas plant.

4. Write a note on loose smut of wheat.

Or

Write a note on stripe disease of Sugarcane.

5. Discuss the role of microorganism in protecting the wounds of trees.

Or

Write a note on control of microbial pathogens by competition and antagonism.

6. Discuss the role of cyanobacteria as a biofertilizer.

Or

Write a note on symbiotic nitrogen fixation.

Section-C

7. What is biogeochemical cycle ? Discuss the nitrogen and sulphur cycle. 2+4+4=10
8. Write notes on the following :
- (a) Mycorrhizal association
 - (b) Vermicompost 5+5=10
9. Describe the Green ear disease including symptoms, causal organism, disease cycle and control measure. 3+1+3+3=10
10. Write notes on the following :
- (a) Seed treatment through application of microorganisms
 - (b) Role of streptomyces in control of plant root pathogens 5+5=10
11. Give an illustrated account on microbial pesticides with reference to chemistry of biocidal component, mode of action, effect on target organisms and production technology. 3+2+2+3=10