

Seat No. : _____

MF-123

March-2019

B.Sc., Sem.-V

305 : Microbiology (Agricultural Microbiology)

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :** (1) Mention correct question number against the answer.
(2) Draw neat diagram whenever necessary.

1. (A) Discuss the role of microorganisms in humus formation and explain its significance in soil. 14

OR

- (i) Describe the occurrence of microbes in soil. 7
- (ii) Explain the role of microbes in soil aggregation. 7
- (B) Answer followings in **one** or **two** lines only : (any **four**) 4
- (1) Define soil.
- (2) Name any two cellulose degrading microorganisms
- (3) Name any two lignin degrading microorganisms
- (4) What is the importance of soil pores ?
- (5) What is humin ?
- (6) What is soil aggregation ?

2. (A) Discuss types of mycorrhizae and their significance in agriculture. 14

OR

- (i) Discuss positive microbial interactions in soil with suitable examples. 7
- (ii) Discuss microbes present in rhizosphere and rhizoplane. 7

- (B) Answer followings in **one** or **two** lines only : (any **four**) **4**
- (1) What is co-metabolism ?
 - (2) What is phyllosphere ?
 - (3) What is the main function of hardening net ?
 - (4) Give two examples of antagonism.
 - (5) What is parasitism ?
 - (6) Give any two examples of commensalism.
3. (A) Write in detail about biological control of plant pathogens. **14**
- OR**
- (i) Discuss how plant growth promoting bacteria are beneficial in crop production. **7**
 - (ii) Define soil fertility. Explain various factors affecting it. **7**
- (B) Answer followings in **one** or **two** lines only : (any **three**) **3**
- (1) Which species of BGA is symbiont of Azolla ?
 - (2) Write any two disadvantages of chemical fertilizers.
 - (3) What are diazotrophs ?
 - (4) Name the toxin produced by B thuringensis.
 - (5) What do you mean by immobilization of elements ?
4. (A) Describe general symptoms and various control measures for microbial plant diseases. **14**
- OR**
- (i) Describe the mode of entry of plant pathogens in to host. **7**
 - (ii) Describe bacterial plant pathogens. **7**
- (B) Answer followings in **one** or **two** lines only : (any **three**) **3**
- (1) What do you mean by plant diseases ?
 - (2) Name any two viroid diseases of plant.
 - (3) Write major symptom of downy mildew.
 - (4) Give example of insect pathogenic virus.
 - (5) What is Ti plasmid ?