Cat. No: Micr.1101   Marks: 50.00
Title:- Agricultural Microbiology (2+1)   Time: 2 hours

I Write whether the given statements are True or False   (10 x 1=10)

1. A feature unique to prokaryote is 70 S ribosomal structure
2. A bacterial culture enters stationary phase because of accumulation of toxic products
3. Nitrogenase is the enzyme in biological nitrogen fixation
4. Temperature is NOT an intrinsic factor in food spoilage
5. Aflatoxins are produced by the fungus *Aspergillus flavus*
6. Louis pasteur disapproved spontaneous theory of generation
7. The effectiveness of chemical preservatives depends on temperature of the food
8. Probiotics are used to change the microbial community in the intestine
9. The formation of nitrogen gas from nitrate by micro organisms is called N-fixation
10. AM fungi is a phosphate solubilising biofertilizer

II Answer any Five questions   (5 x 2=10)

1. Indicator bacteria for water contamination with sewage and its characteristics
2. Compare substrate level phosphorylation and electron transport phosphorylation
3. Describe the importance of prions and viroids
4. Different methods of food preservation
5. Structure of a bacterial virus
6. Functions of the plasma membrane
7. Biodegradable plastics

III Answer any Five questions   (5 x 4=20)

1. What is fermentation? Advantages of fermentation and micro organisms involved
2. Why is pyruvic acid a key compound in the metabolism of carbohydrates? List a few end products of glucose and name bacteria that form the end products
3. Lytic and lysogenic cycles of bacteriophages
4. Describe the formation, function and germination of an endospore
5. Name phosphate biofertilizers and mechanism of phosphate solubilisation
6. Describe the role of microbial inoculants in disease management
7. Explain the microbial degradation of agricultural wastes

IV Answer any ONE of the following   (1 x 10=10)

1. Describe microbial transformations of N and P with the micro organisms involved
2. Explain the role of microbial inoculants in nutrient and disease management in agriculture