

M.Sc.(Ag.) Examination, 2019
Semester-II
Plant Pathology
Course : PPC-503
(Plant Bacteriology)

Time : 3 Hours

Full Marks : 50

Questions are of value as indicated in the margin.

Answer **any five** questions

1. Describe in brief the ultra-structure of bacteria with illustration. Write a short notes on bacterial endospores. 7+3=10
 2. Write in brief the recent classification of phyto-pathogenic bacteria. 10
 3. Distinguish between (**any five**) : 5×2=10
 - a) Total cell count and Viable cell count
 - b) Lag phase and log phase
 - c) Mesophilic and Thermophilic
 - e) Ribosome and Polysome
 - f) Phytoplasma and spiroplasma
 - g) Transcription and Translation
 4. What are the different methods of survival mechanism in plant pathogenic bacteria. Discuss briefly about vectors of bacteria and mollicutes. 2+8=10
 5. Contribution of the following scientists in the field of bacteriology (**any five**): 5×2=10
 - a) Louis Pasteur b) Robert Koch c) T.J. Burill d) Zoltan Klement e) E.F. Smith
 - g) Fredrick Griffith
 6. Discuss critically on the following (**any four**) : 4×2.5=10
 - a) Nutritional classification of microbes
 - b) Antibiosis
 - c) Pigments in bacteria
 - d) Antibodies
 - e) Fastidious vascular bacteria
 - f) Different preservation methods of plant pathogenic bacteria.
 7. What do you mean by Bdellovibrio? Write down the possible applications of Bdellovibrio in Agriculture. Describe its life cycle with suitable illustration. 2+2+6=10
 8. Discuss the following items with labeled illustrations if required (**any four**) : 4×2.5=10
 - a) Flagellation and motility b) Cell wall structure of gram (-ve) bacteria c) Second reaction between antigen and antibody d) Dispersal of plant pathogenic bacteria through insects e) Bacterial chromosomes & mating type f) ED pathway used for microbial metabolism
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