

M.Sc. (Ag.) Examination, 2018
Semester-II
Plant Pathology
Course- PPC-503
(Plant Bacteriology)

Time: Three Hours

Full Marks: 50

Questions are of value as indicated in the margin

Answer **any five** questions

1. Define bacteria. Describe the morphology of bacteria and their colony with appropriate diagram. 2+8=10
 2. Define growth. Write about different methods for measurement of bacterial growth. Mention different stages of bacterial growth with appropriate diagram. Write short note on MacFarland scale. 1+3+4+2=10
 3. Discuss the association between insect vectors and plant pathogenic bacteria in relation to survival and dispersal. 10
 4. Write short notes (**any four**) 2.5×4=10
 - (a) Pigments in bacteria
 - (b) Asymmetrical binary fission
 - (c) Bacterial endospore
 - (d) Flagellation in bacteria
 - (e) Bacterial transduction
 - (f) Fastidious vascular bacteria
 5. What is bdellovibrio? Describe about the morphology, life cycle and potentialities of bdellovibrio. 2+8=10
 6. Write different methods of classification of bacteria. Describe four different divisions of bacteria given in Bergy's Manual of Systematic Bacteriology with suitable examples and diseases caused by them. 2+8=10
 7. Differentiate between the following (**any four**) 2.5×4=10
 - (a) Antigen and antibody
 - (b) Gram positive and Gram negative bacteria
 - (c) Outer membrane and S-layer
 - (d) Phytoplasma and spiroplasma
 - (e) Plasmids and episomes
 - (f) Thermal Death Point and Thermal Death Time
 8. Comments on the following statements (**any four**) 2.5×4=10
 - (a) True sexual reproduction is absent in bacteria.
 - (b) Mesosomes of prokaryotes are considered as analogous to mitochondria of eukaryotes.
 - (c) Multiplication rate is higher in prokaryotes than eukaryotes.
 - (d) Plane of division is different in case of bacillus and coccus form of bacteria.
 - (e) Oxygen is poisonous to obligate anaerobic bacteria.
 - (f) Antibiotics are selectively toxic to prokaryotes but not for eukaryotes.
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