

B.Sc. (Honours) Examination, 2018
Semester-II
Botany
Paper: BBA – 21 (Allied) (Old)
(Microbiology, Mycology and Plant Pathology)

Time: Three Hours

Full Marks: 40

Questions are of value as indicated in the margin.

1. Answer **any eight** of the following questions: 1x8=8
- a) Name one plant virus.
 - b) Name one poisonous fungus.
 - c) What are capsules made up of?
 - d) Name one naturally competent bacterium.
 - e) Name one reserve food material in bacteria.
 - f) Name one importance of bacteria in agriculture.
 - g) What is the difference between rust and smut?
 - h) What is the function of iodine in Gram staining?
 - i) Name one principal component of fungal cell wall.
 - j) Name the type of ribosome and its subunits found in fungus.
2. What is the difference between an F⁺ and a HFR cell? Explain the process of F⁺ x F⁻ conjugation. 2+6=8
- Or
- Describe the cell wall structure of Gram negative bacteria. Cite the differences between the cell wall of a Gram positive and Gram negative bacteria. 5+3=8
3. Describe the four phases of growth observed in a typical bacterial growth curve. What is CFU? 7+1=8
- Or
- What is the difference between a virulent and a temperate phage? Describe the process of lytic cycle of a virus. 2+6=8
4. Mention the difference between the fungus of Ascomycetes and Basidiomycetes with the help of examples. 8
- Or
- Write short notes on:
- a) Ascocarp 2x4=8
 - b) Fungal toxin
 - c) Koch's postulates
 - d) Economic importance of *Penicillium* sp.
5. Name the causal organism of late blight of potato. Describe its symptoms, disease cycle and control measures of the disease. 1+2+4+1=8
- Or
- What are PR proteins? Name two plant diseases each caused by bacteria, fungus and mycoplasma. Also mention the complete scientific names of the pathogens. 2+6=8