

P.G. Semester-IV Examination, 2023**BOTANY**

Course ID : 41354 Course Code : BOT-404EB(TH)

Course Title : Microbiology (Special Paper)

Time : 2 Hours

Full Marks : 30

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **four** of the following questions:

1×4=4

- What is acute infection?
- Define cytokines.
- What is meant by multiplicity of infection?
- Mention the function of interferon.
- What is stringent mode of replication of plasmid?
- What is the function of the complement system?
- What do you understand by "MERSA"?
- Differentiate bioremediation from phytoremediation.
- What is the meaning of therapeutic index?
- Define plaque.

[Turn over]

2. Answer any **two** of the following questions:

5×2=10

- What are the notable genera of Chlamydiae? Describe the developmental cycle of *Chlamydia* species. 1+4=5
- Differentiate between cell mediated and humoral immunity. Briefly discuss the common allergens associated with type I hypersensitivity. 2+3=5
- What are the benefits of studying virology? Define broad spectrum antibiotics. 3+2=5
- Discuss the molecular mechanism to tolerate high temperature by the thermophiles. 5

3. Answer any **two** of the following questions:

8×2=16

- Discuss in detail about the mechanism of drug resistance. Add a note on the molecular mechanism of prion infection. 5+3=8
- What is LD₅₀ value? Give a brief account of pathogenicity islands in bacteria. What are quorum sensing inhibitors? 2+4+2=8
- Discuss the pathogenicity and treatment method of Hepatitis B infection. 4+4=8
