

2022

1st Semester Examination

BOTANY

Paper : BOT 101

(Microbiology)

Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer any **four** of the following : 2×4=8

- (i) Mention contributions of Louis Pasteur and Sergei Winogradsky in Microbiology.
- (ii) What is Biofilm?
- (iii) What are hyperthermophiles? Give example.
- (iv) What is meant by carrier in case of biofertilizer?
- (v) What is diauxic growth?
- (vi) What is interferon?

2. Answer any **four** of the following : 4×4=16

- (i) Give four properties of transformation as found in Gram Positive bacteria.

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- (ii) Write down major properties of an immune response.
- (iii) Discuss different enzymes present in microbes that allow them to avoid damages by toxic forms of oxygen.
- (iv) Explain the structure of nitrogenase.
- (v) Write down steps of direct ELISA.
- (vi) Distinguish between chemically defined and complex media and give examples of each.

3. Answer any *two* of the following : 8×2=16

- (i) Draw and discuss the structure of bacterial flagella. Mention the steps for cultivation of an animal virus. 2+2+4
 - (ii) Discuss interrupted mating experiment for bacterial gene mapping. How is potability of water determined in the laboratory. 5+3
 - (iii) Write notes on : 2×4=8
 - (a) virus-induced cancer;
 - (b) Lysogenic regulation;
 - (c) leghaemoglobin;
 - (d) ED pathway.
 - (iv) Write down steps for the production of wine. Mention different steps of cheese preparation. 4+4
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