

2017

MICROBIOLOGY

[Honours]

(CBCS)

[First Semester]

PAPER –C1T

Full Marks : 40

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any five questions from the following : 2 × 5

(a) What is 'diatomaceous earth' ?

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- (b) Define the term 'sterile'. How did Pasteur's experiments using swan-necked flasks defeat the theory of spontaneous generation? 1 + 1
- (c) What are Koch's postulates and how did that influence the development of microbiology? 2
- (d) Give an idea of thallus organization of fungi. 2
- (e) Differentiate monera and protista. 2
- (f) Mention the differences between algae and protozoa. 2
- (g) What do you mean by 'binomial nomenclature'? 2
- (h) Mention two ways in which micro-organisms are important in food and agricultural industries. 2

2. Answer any *four* questions from the following : 5×4

- (a) (i) Briefly describe Whittaker's five kingdom classification.

- (ii) Point out the differences between Prokaryotic and Eukaryotic cell. (Mention four differences) 3 + 2
- (b) (i) Write down the differences between viruses and Viroids.
- (ii) Discuss the use of G + C content in taxonomy. 3 + 2
- (c) (i) What do you mean by homokaryotic and heterokaryotic mycelium ?
- (ii) Mention the major microbiological interests of Martinus Beijerinck and Sergei Winogradsky. 2 + 3
- (d) Briefly describe the ultrastructure of a fungal cell. Explain diagrammatically the budding mechanism of *Saccharomyces* Sp. 3 + 2
- (e) Giving suitable example draw the diplobiontic life cycle and list the major pigments that are found in different groups of algae. 3 + 2

- (f) Mention the general characteristics of *Plasmodium* and state its significance. Name two diseases caused by protozoan member. (3 + 1) + 1

3. Answer any *one* question from the following : 10×1

- (a) (i) Give an outline of classification of algae with class characteristics.
- (ii) Describe Carl Woese's concept for classification of microbial world. 5 + 5
- (b) (i) What are prions ? State their significance.
- (ii) Write a note on scope of microbiology in human welfare. 4 + 6
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