

M.Sc. (Micro) Semester - 4 (CBCS) Examination
August/September -2020 [OLD COURSE]
MOLECULAR PHYLOGENY AND DIVERSITY (CORE)

Time: 2:00 Hours

Marks: 56

Instructions:

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any four of the following questions.
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Q. 1 Answer the following (any seven out of ten, each of **two** marks) 14

1. What is chronometer?
2. Define TGGE.
3. Mention application of PCR.
4. What is the contribution of Carl Woese?
5. What are molecular applications phylogenetic trees?
6. Define characteristics of low G+C contain groups.
7. What is Bergey's manual of systematic Bacteriology.
8. Explain high G+C content.
9. Define Proteobacteria.
10. Explain ideal characteristic of clostridia.

Q. 2 Answer the following (any two out of three, each of **seven** marks) 14

1. Discuss distinguish feature of gram-negative bacteria.
2. Describe Beta groups of Proteobacteria.
3. Write short note on Delta Proteobacteria bacteria.

Q.3 (A) Answer the following 14

1. Describe significance of non-cultivable microbes. [5]
2. Write a note on PCR. [5]
3. Explain T-RFLP. [4]

OR

Q.3 (B) Answer the following (each of **seven** marks) 14

1. Describe nucleic acid hybridization.
2. Write a note on non-cultivable microbes.

Q.4 (A) Answer the following (any two out of three, each of **five** marks) 10

1. Describe Clostridia.
2. Write a note on high G + C bacteria.
3. Discuss Low G + C bacteria.

Q.4 (B) Answer the following (any one out of two) 04

1. Discuss the classification of Bacilli with characteristics.
2. Write a note on classification system Lactobacilli.

Q.5 Answer the following (any two out of four, each of **seven** marks) 14

1. Explain three domain universal phylogenetic tree.
2. Discuss microbial evolution.
3. Discuss methods of 16S rRNA analysis.
4. Describe nucleic acid analysis for microbial diversity.
