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BBA-003-1194001 Seat No. _____

M. Sc. (CBCS) (Sem. IV) Examination

July - 2021

MICRO-491 : Microbiology

(Molecular Phylogeny & Diversity (2016))

Faculty Code : 003
Subject Code : 1194001

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instruction : Attempt any five questions out of 10 questions given below .

1 Answer the following (Each of 02 marks) **14**

(1) What is DGGE?
(2) What is RFLP?
(3) How would you enumerate microbes?
(4) What are molecular chronometers?
(5) What sugar pattern is present in actinomycetes?
(6) What are characteristics of lactobacilli?
(7) What is homolactic fermentation?

2 Answer the following (Each of 02 marks) **14**

(1) What is TGGE
(2) What is ARDRA
(3) What is Svedberg unit?
(4) What is species specific signature sequence? Why it is important?
(5) What is anti- Shine-Dalgarno sequence?
(6) What is Scaffolding?
(7) What are Stromatolites?

3 Answer the following (Each of 07 marks) **14**

(a) Describe molecular characters useful for microbial classification.
(b) How would you differentiate "Taxonomy" and "Systematics"?

4 Answer the following (Each of 07 marks) **14**

(a) Write a note on 16SrRNA. Explain.

(b) Write a note on characteristic features of proteobacteria.

5 Answer the following (Each of 07 marks) **14**

(a) Describe phylogenetic classification of Thiobacillus spp

(b) Describe the life cycle of anyone budding bacterium.

6 Answer the following (Each of 07 marks) **14**

(a) Describe classical methods for studying cultivable microbial diversity.

(b) What is metagenomics? Why it is important?

7 Answer the following (Each of 07 marks) **14**

(a) Discuss on Clostridia and its importance.

(b) Why are proteobacteria important'?

8 Answer the following (Each of 07 marks) **14**

(a) Write a note on nucleic acid hybridization and its importance.

(b) Write a note on Bacilli.

9 Answer the following (Each of 07 marks) **14**

(a) Write short notes on metabolic potential of non-cultivable microbes.

(b) What is phylogenetic tree? Give its types and importance.

10 Answer the following (Each of 07 marks) **14**

(a) What is PCR? Write its principle and give its applications.

(b) Write note on genetic heterogenicity among non-cultivable microbes.
