

P. P. SAVANI UNIVERSITY

First Semester of M.Sc. Examination

February-2022

SSMB7090/SSBT7090- Microbial Diversity

10.02.2022, Thursday Time: 12:00 p.m. to 02:30 p.m. Maximum Marks: 60

Section-I

Q.1 Very Short Questions (Attempt any five)

- 1.1 Define microbial diversity? [10]
- 1.2 Enlist all the types of microbial diversity?
- 1.3 What are thermophiles? Give one example
- 1.4 What are extremophiles? Give one example
- 1.5 Name one archaea whose enzyme is used for PCR.
- 1.6 Give one example of green bacteria and purple bacteria.

Q.2 Write Short Notes (Attempt any two)

- 2.1 Differentiate between cultivable and non-cultivable diversity. [06]
- 2.2 Write differences between actinomycetes and fungi.
- 2.3 What are the significances of various groups of bacteria?

Q.3 Detail questions (Attempt any two)

- 3.1 How will you classify bacteria based on the environmental factors? Explain in brief with appropriate examples. [14]
- 3.2 How will you classify actinomycetes? Explain the significance and applications of various groups of actinomycetes.
- 3.3 How will you classify microbes based on the microbial diversity? Write in detail about electron transfer pathway in cyanobacteria with the help of a labelled diagram.

Section-II

Q.1 Very Short Questions (Attempt any five)

- 1.1 Name any two edible fungi. [10]
- 1.2 What is DNA barcoding?
- 1.3 What do you understand by DNA Polymorphism?
- 1.4 Name any one disease caused by algae in plants or humans.
- 1.5 Define SNP.
- 1.6 Define RFLP technique.

Q.2 Write Short Notes (Attempt any two)

- 2.1 Role of cultural characteristics in studying microbial diversity. [06]
- 2.2 Write the full form of PCR and RAPD. Write major differences and similarities between both the techniques.
- 2.3 Write a short notes on microsatellites.

Q.3 Detail questions (Attempt any two)

[14]

- 3.1** Explain the significance and applications of algae in detail.
- 3.2** Write a detailed note on positive and negative role of fungi in our life.
- 3.3** What are the major differences between algae and fungi based on their morphology, physiology, and cultivation method? What do you understand by symbiotic association? Give two symbiotic association where fungi is one of the participating member.