



Shree H.N.Shukla College of Science Rajkot
B.Sc. (Sem- 1) (CBCS) MICROBIOLOGY:
MB-[101]: Prelims Paper-2022

[Time: 2:30 Hour]

[Total Marks: 70]

Q 1. (A) Short answer Question 1 mark each

(4 Marks)

1. Define: Microbiology.
2. Define: Biogenesis.
3. Define Phycology & Mycology
4. Describe the contribution of Antony Van Leeuwenhoek in field of microbiology.

(B) Answer in brief 2 marks each, any one,

(2 Marks)

1. Describe the Bergey's manual of systematic bacteriology.
2. Give difference between prokaryotes and eukaryotes.

(C) Write Short Note on. 3 marks each, any one,

(3 Marks)

1. Write a note on occurrence and distribution of microbes in nature.
2. Write a note on Koch's postulates.

(D) Write in detail. 5 marks each, any one

(5 Marks)

1. Write a detail note on spontaneous generation.
2. Write a note on applied areas of microbiology.

Q.2

(A) Short answer Question 1 mark each

(4 Marks)

1. Define Microscope.
2. Define Resolution.
3. Give any 2 example of fluorescent dye.
4. Define: Mordents, give any 2 example of it.

(B) Answer in brief 2 marks each, any one

(2 Marks)

1. Give difference between SEM and TEM
2. Write an application of bright field, dark field, phase contrast and fluorescent microscopy.

(C) Write Short Note on. 3 marks each, any one

(3 Marks)

1. Write a note on Fluorescent Microscopy.
2. Write a note on Confocal microscopy.

(D) Write in detail. 5 marks each, any one

(5 Marks)

1. Describe any 3 light microscopy technique with diagram.
2. Write a note on stain, mordents, fixative and decolorizer.

Q.3

(A) Short answer Question 1 mark each

(4 Marks)

1. Define morphology.
2. Define amphitrichous.
3. Define chemotaxis.
4. Define: spore.

(B) Answer in brief 2 marks each, any one (2 Marks)

1. Give difference between gram negative and gram positive bacterial cell wall.
2. Draw a typical bacterial cell.

(C) Write Short Note on. 3 marks each, any one (3 Marks)

1. Write a note on bacterial capsule and its function.
2. Write a note on cell membrane and its function.

(D) Write in detail. 5 marks each, any one (5 Marks)

1. Describe bacterial flagella.
2. Discuss the process of sporulation in bacteria.

Q.4

(A) Short answer Question 1 mark each (4 Marks)

1. Define Autotrophs.
2. Give full form of MTCC.
3. Define Aerobes.
4. Define: media.

(B) Answer in brief 2 marks each, any one (2 Marks)

1. What is pure culture?
2. What do you mean by selective media and give its example.

(C) Write Short Note on. 3 marks each, any one (3 Marks)

1. Write a note on types of media.
2. Write a note on temperature requirement of bacteria.

(D) Write in detail. 5 marks each, any one (5 Marks)

1. Describe oxygen toxicity.
2. Discuss about maintenance and preservation of pure cultures.

Q.5

(A) Short answer Question 1 mark each (4 Marks)

1. Define chemostat.
2. Define growth.
3. Define generation time.
4. Generation time of E.coli is

(B) Answer in brief 2 marks each, any one (2 Marks)

1. Septum formation in gram negative bacteria.
2. derive the equation used in calculation of generation.

(C) Write Short Note on. 3 marks each, any one (3 Marks)

1. Explain different modes of cell division in bacteria.
2. enlist various methods used for measurement of microbial growth.

(D) Write in detail. 5 marks each, any one (5 Marks)

1. Growth curve of Bacteria.
2. Write a note on continuous culture of Bacteria.