

B.Sc. Semester - 1 (CBCS) Examination
Jan/Feb.-2022 (NEW COURSE)
MICRO-BIOLOGY(CORE)

Time: 1:30 Hours

Marks:42

Instructions:

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

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- Q.1 (A) Answer the following (One mark each)** **4**
1. Enlist the characteristics of cyanobacteria in nature.
 2. Explain the contribution of Edward Jenner.
 3. Who discover the germ theory of disease?
 4. Define biogenesis.
- Q.1 (B). Answer in detail (Any one out of two)** **3**
1. Describe the applied area of microbiology.
 2. Discuss the distribution microbes in nature.
- Q.1 (C). Write a note on (Any one out of two)** **7**
1. Discuss spontaneous generation theory and explain why it was wrong?
 2. Explain the germ theory of disease with their four basic principle.
- Q.2 (A) Answer the following (One mark each)** **4**
1. Explain application of bright field microscopy.
 2. Confocal microscopy is mostly used for fluorescence imaging. True/False ?
 3. What is advantage of fluorescent microscopy?
 4. Explain mordant?
- Q.2 (B). Answer in detail (Any one out of two)** **3**
1. Write a short note on dark field microscopy.
 2. Explain the role of stain, decolorization and fixative in staining.
- Q.2 (C). Write a note on (Any one out of two)** **7**
1. Write types, basic principle and application of electron microscopy.
 2. Explain the principle of fluorescent microscopy with suitable diagram.
- Q.3 (A) Answer the following (One mark each)** **4**
1. What is the function of pilus?
 2. Explain the characteristics of capsule.
 3. Define the function of teichoic acid?
 4. What is spheroplast? Explain.
- Q.3 (B). Answer in detail (Any one out of two)** **3**
1. Discuss the cell shape, size and arrangement of bacteria.
 2. Write short note sporogenesis and mention its importance.
- Q.3 (C). Write a note on (Any one out of two)** **7**
1. Explain the intracellular membrane system of bacteria.
 2. Discuss types of spores and explain its characteristics in detail.
- Q.4 (A) Answer the following (One mark each)** **4**
1. Why bacteria require the nitrogen source for their growth? explain.
 2. Define the term culture dependent.
 3. What is the difference between Autotrophs and heterotrophs?
 4. Write the composition of nutrient broth.

- Q.4 (B). Answer in detail (Any one out of two)** **3**
1. What are differential media? explain with suitable example.
 2. Explain cultural characteristics of organisms.
- Q.4 (C). Write a note on (Any one out of two)** **7**
1. Explain the selective methods used for cultivation of organisms.
 2. Explain the selective and complex media.
- Q.5 (A) Answer the following (One mark each)** **4**
1. Explain the importance of exponential phase?
 2. Synchronous culture helps in the separation of the smallest cells - True/False.
 3. Define the term nonsynchronous.
 4. What are the steps involved in bacterial cell division?
- Q.5 (B). Answer in detail (Any one out of two)** **3**
1. Discuss the mode of cell division.
 2. Discuss the synchronous growth.
- Q.5 (C). Write a note on (Any one out of two)** **7**
1. Discuss bacterial growth curve and explain its phases in detail.
 2. Explain the continuous culture in detail.
