

[28]

**SARDAR PATEL UNIVERSITY**

**M. Sc. (Integrated) Biotechnology, Second Semester Examination**

Tuesday, 28<sup>th</sup> April, 2015

**Time: 10:30 a.m. to 1:30 p.m.**

PS02CIGB04: Microbiology I

**Total Marks: 70**

**Q 1** Multiple Choice Questions. (All are compulsory) [08]

VIII Which of this is an isolation technique?

a. Streak plate                                      b. Spread plate

c. Pour plate                                         d. All of these

- Q 2      Short Questions (Attempt any seven out of nine).      [14]**
- I      Write down Koch's postulate.
- II      Define pure culture and colony.
- III      Enlist the functions of capsule.
- IV      Write the difference between the cell wall of Gram positive and Gram negative bacteria.
- V      Define intensifier and mordant.
- VI      Give the limitations of electron microscopy.
- VII      What do you mean by neumerical aperture and limit of resolution?
- VIII      Write the types of bacteria on the basis of energy and source of electrons.
- IX      What is the role of peptone and yeast extract in media?
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- Q 3A.      Explain spontaneous generation and abiogenesis in brief. List the contributions of scientists who disapproved this theory.      [06]**
- Q 3B.      Write a short note on Germ theory of disease.      [06]**
- OR**
- Q 3B.      Give a brief account on the contributions of Louis Pasteur.      [06]**
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- Q 4A.      Describe the bacterial cell wall in detail.      [06]**
- Q 4B.      Explain the structure of endospore and process of sporulation.      [06]**
- OR**
- Q 4B.      Give a detailed account on bacterial flagella and its hydrodynamics.      [06]**
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- Q 5A.      Discuss in detail the fluorescence microscopy and write its application.      [06]**
- Q 5B.      Explain physical and chemical theories of staining.      [06]**
- OR**
- Q 5B.      Write a note on specimen preparation for electron microscopy.      [06]**
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- Q 6A.      Explain the methods for isolation of pure culture.      [06]**
- Q 6B.      Write a short note on nutritional types of bacteria.      [06]**
- OR**
- Q 6B.      Discuss the types of media.      [06]**

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