

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
**SECOND TERM-END EXAMINATION- MARCH - 2012**

**S.Y.B.Sc**

**MICROBIOLOGY : PAPER 1**

| <b>Duration 2 hrs</b>   | <b>Max Marks-60</b> |
|---|---------------------|
| N.B. 1) All Questions are compulsory.   | Marks               |
| 2) Figures to right indicate full marks.  |                     |
| Q.1) A Answer the following   | 3                   |
| 1 Define Gamete.  |                     |
| 2 Define Euchromatin.   |                     |
| 3 What is a phylogenetic tree?  |                     |
| Q.1) B Answer the following: (any three)  | 12                  |
| 1 Describe Mendel's Experimental design.  |                     |
| 2 Explain the four features of genetic code.                                      |                     |
| 3 Give an account on eukaryotic chromosome.                                       |                     |
| 4 Write a note on use of amino acid sequencing in classifying microorganisms.     |                     |
| 5 What is genomic fingerprinting? How can it be used in microbial classification? |                     |
| Q2) A Answer the following:   | 3                   |
| 1 Gene  |                     |
| 2 zygote  |                     |
| 3 genotype  |                     |
| Q2) B Attempt the following: (any 3)  | 12                  |
| 1 Explain Mendel's principle of segregation.                                      |                     |
| 2 Describe Dihybrid Cross with a suitable example.                                |                     |
| 3 Why did Mendel select <i>Pisum sativum</i> as an experimental model?            |                     |
| 4 Write a note on Prokaryotic chromosome.   |                     |
| 5 Write a note on Double helical nature of DNA.                                   |                     |
| Q 3) A Explain the following  | 3                   |
| 1 Kinetochores  |                     |
| 2 Nucleus   |                     |
| 3 ORF   |                     |
| Q 3) B Answer the following: (any three)  | 12                  |
| 1 Explain the role on histones in eukaryotic chromosome.                          |                     |
| 2 Write a short note on degeneracy of genetic code.                               |                     |
| 3 Give an account on Wobble hypothesis.   |                     |

P.T.O.

- 4 Write a note on Nucleosome assembly.
  - 5 Describe the structural assembly of proteins.
- Q 4) A Answer any three of the following. 3
- 1 State importance of Bergy's manual in microbiology.
  - 2 Define Tm.
  - 3 What is MLST?
  - 4 What is horizontal gene transfer?
- Q.4) B Answer the following(Any 2). 12
- 1 Explain the significance of 16SrRNA analysis in taxonomy.
  - 2 Explain numerical taxonomy in detail.
  - 3 Explain major conventionally used characteristics of microorganisms used in their classification.

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