



RAN - 2203000205026001

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T.Y.B.Sc. Microbiology (Sem. V) Examination October - 2023

MB 501 : Principles of Bacterial Genetics

Time: 2 Hours]

[Total Marks: 50

सूचना : / Instructions

(१)

नीचे दशविले निशानीवाणी विगतो उत्तरवली पर अवश्य लपववी.
Fill up strictly the details of signs on your answer book

Name of the Examination:

T.Y.B.Sc. Microbiology (Sem. V)

Name of the Subject :

MB 501 : Principles of Bacterial Genetics

Subject Code No.: **2203000205026001**

Seat No.:

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Student's Signature

- (2) Figures to the right indicate full marks of the question.
(3) Draw neat and labeled diagrams whenever necessary.

Q.1 Give Specific answers:

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1. Define gene.
2. What is DNA supercoiling.
3. Enlist the components required in transcription process.
4. What is the start codon and amino acid?
5. What do you mean by antisense RNAs?
6. Which technique is used to screen for auxotrophic mutants.
7. What is replicative transposition.
8. Name any two process of horizontal gene transfer.

Q.2 Explain any two of the following:

14

1. Comment on DNA as genetic material.
2. Explain SOS response and Recombinational Repair system.
3. What is conjugation? Discuss in detail the Hfr conjugation process.

Q.3 Explain any two of the following: 14

1. Describe B form of DNA and explain how it is different from A form of DNA.
2. Explain structure of ribosome, tRNA and amino acid activation.
3. Define mutation. Explain induced mutation in detail.

Q.4 Explain any two of the following: 14

1. Describe the common translocation and secretion system.
 2. Define transduction. Explain specialized transduction in detail.
 3. Elaborate on Regulation of translation by Small RNA Molecules.
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