

**M.Sc. MICROBIOLOGY
SECOND SEMESTER
MICROBIAL GENOMICS
MMB-203**

**SET
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

(Objective)

Marks: 10

Choose the correct answer from the following:

1×10=10

1. What is a plasmid?
 - a. DNA
 - b. RNA
 - c. Cell organelle
 - d. None
2. What is Transduction?
 - a. Mapping method
 - b. Cloning method
 - c. Both
 - d. None
3. Size of DNA that can be separated by conventional gel electrophoresis is:
 - a. 30 kb
 - b. 40 kb
 - c. 50 kb
 - d. All
4. PCR is not required in:
 - a. AFLP
 - b. RAPD
 - c. RFLP
 - d. All of the above
5. In RAPD marker:
 - a. Heterozygous individuals cannot be differentiated
 - b. Homozygous individuals cannot be differentiated
 - c. Difference between dominant and recessive is not possible
 - d. None of the above
6. Who observed the first cell?
 - a. Robert Hooke
 - b. Antony van Leeuwenhoek
 - c. Aristotle
 - d. Francesco Redi
7. What is a phagemid?
 - a. A hybrid
 - b. Vector
 - c. None
 - d. Both
8. How can we measure Genome?
 - a. Basepairs
 - b. Picograms
 - c. Both
 - d. None
9. Following is an example of dominant marker.
 - a. RAPD
 - b. RFLP
 - c. SSR
 - d. None of the above

10. The first step in genome annotation is:
- a. Finding ORF
 - b. Finding gene
 - c. Functional annotation
 - d. None of the above
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(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

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| 1. Explain whole genome short gun sequencing. | 5 |
| 2. Explain briefly metagenomics and a short note on general characteristics of Bacterial Genome. | 10 |
| 3. What is mapping? Explain briefly Conjugation, Transformation and Transduction. | 10 |
| 4. What are RFLP and AFLPs? State the differences and elaborate. | 10 |
| 5. What is DNA hybridisation? What are the different methods based on DNA hybridisation. | 10 |

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