



UNIT IV (Blotting, Genetic Organization, Microbial Genetics, Biotransformation, Mutation)



Fill in the Blanks

1. ELISA stands for _____.
2. The blotting technique used to detect DNA is _____ blotting.
3. The process of gene transfer by viruses is called _____.
4. The smallest mobile genetic element is _____.
5. A change in the DNA sequence is called _____.

MCQs

6. Western blotting detects:
 - a) DNA
 - b) RNA
 - c) Proteins
 - d) Lipids
7. Southern blotting detects:
 - a) DNA
 - b) RNA
 - c) Protein
 - d) Antigen
8. Transformation is the uptake of:
 - a) DNA
 - b) Protein
 - c) RNA
 - d) Lipid
9. Conjugation in bacteria requires:
 - a) Phages
 - b) Plasmids
 - c) Enzymes
 - d) Ribosomes
10. Which is NOT a type of mutation?
 - a) Missense
 - b) Nonsense
 - c) Sense
 - d) Frameshift
11. Biotransformation is:
 - a) Conversion of chemicals by microbes
 - b) DNA replication
 - c) Protein synthesis
 - d) Mutation
12. Transposons are also called:
 - a) Jumping genes
 - b) Silent genes
 - c) Housekeeping genes
 - d) Mutant genes



True / False



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- 13. ELISA is used for antigen-antibody detection.
- 14. Southern blotting is used for RNA.
- 15. Transformation involves uptake of foreign DNA.
- 16. Mutation always leads to disease.
- 17. Biotransformation is used in industry.

Yes / No

- 18. Can ELISA be used in HIV diagnosis?
- 19. Do plasmids carry antibiotic resistance genes?
- 20. Is conjugation the direct transfer of DNA?
- 21. Do mutations always benefit the organism?
- 22. Can microbes alter chemical structures?
- 23. Is Western blotting used in forensic tests?
- 24. Can transposons move within the genome?
- 25. Is genetic organization different in prokaryotes and eukaryotes?



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Fill in the Blanks

1. Enzyme-Linked Immunosorbent Assay
2. Southern
3. Transduction
4. Transposon
5. Mutation

MCQs

6. c) Proteins
7. a) DNA
8. a) DNA
9. b) Plasmids
10. c) Sense
11. a) Conversion of chemicals by microbes
12. a) Jumping genes

True / False

13. True
14. False
15. True
16. False
17. True

Yes / No

18. Yes
19. Yes
20. Yes
21. No
22. Yes
23. Yes
24. Yes
25. Yes