

4024



K17U 0643

Reg. No. :

Name :

IV Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.)
Examination, May 2017
GENERAL COURSE IN MICROBIOLOGY
4A14MCB : Microbial Genetics and Genetic Engineering
(2014 Admn. Onwards)

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever necessary.

SECTION – A

(Answer all questions. Each question carries 1 mark)

1. The transition of nitrogen base from keto to enol form or vice versa occurs due to _____
2. Specialized transduction by λ -phage transfers _____ and bio genes from one E.coli cell to another.
3. The restriction site for EcoRI usually contains _____ sequence.
4. The mode of replication of F plasmid during conjugation is _____ (4×1=4)

SECTION – B

(Answer very briefly on any seven of the following. Each question carries 2 marks)

Comment on the following :

5. Auxotroph
6. YACs
7. Chromosome mapping
8. pBR322
9. Ethical problems related with GM foods
10. DNA vaccine

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11. F Plasmid
12. Competence factors
13. Ethyl methyl sulfonate
14. One gene one enzyme hypothesis. (7×2=14)

SECTION – C

(Answer **any four** of the following. **Each** question carries **3** marks)

Write short notes on :

15. Transgenic plants
16. Restriction enzymes
17. Different types of plasmids
18. Transduction
19. Mutagenesis using radiations
20. Cloning vectors and Expression vectors. (4×3=12)

SECTION – D

(Answer **any two** of the following. **Each** question carries **5** marks)

Write essays on :

21. Discuss various methods used to introduce rDNA in host cells.
22. What is recombination ? Discuss various mechanisms of DNA recombination.
23. Define mutation. Write a note on different types of mutations.
24. Describe Mendelian laws of heredity. Explain the laws with the help of monohybrid and dihybrid crosses of Gregor Mendel. (2×5=10)