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K16U 0565

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS – 2014 Admn. Regular) Examination, May 2016

GENERAL COURSE IN MICROBIOLOGY

4A14 MCB : Microbial Genetics and Genetic Engineering

Time : 3 Hours

Max. Marks : 40

Instruction : *Draw diagrams* ***wherever*** *necessary.*

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. Sum total of the expressed characteristics of an organism is called _____.
2. Who discovered 'jumping genes' ? _____
3. A substitution that retains normal purine-pyrimidine orientation in genetic material is called _____ mutation.
4. One gene one enzyme hypothesis was put forwarded by _____ **(4×1 = 4)**

SECTION – B

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

Comment on the following.

5. Chromosome theory of inheritance.
6. Cosmid.
7. DNA ligase.
8. Bt cotton.
9. Replica plating.
10. Hfr strain.
11. Yeast mating types.
12. PCR.
13. Subunit vaccine.
14. Mutational hot spots.

(7×2 = 14)

P.T.O.

SECTION – C

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

Write short notes on :

15. GM foods.
16. Lysogenic cycle.
17. Live recombinant vaccine.
18. Prokaryotic genome.
19. Mendelian law of independent assortment.
20. Transposons.

(4×3 = 12)

SECTION – D

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

Write essays on :

21. Define mutation. Discuss various chemical mutagens and their mode of action.
22. Discuss the requirements for rDNA technology. Write a note on vectors used in rDNA technology.
23. Discuss the gene transfer mechanisms naturally occurring in bacteria. Elaborate on bacterial transformation.
24. Define plasmid. Write notes on prokaryotic and eukaryotic plasmids. **(2×5 = 10)**
