K19U 0587

Reg. No. : SP17CMIR19

Name : Dheepchand

IV Semester B.Sc. Degree (CBCSS-Reg./Supp./Imp.) Examination, April 2019
(2014 Admission Onwards)
GENERAL COURSE IN MICROBIOLOGY
4A14 MCB : Microbial Genetics and Genetic Engineering

Time : 3 Hours Max. Marks : 40

SECTION – A

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

1. The expressed characteristics of an organism are called _____
2. Transposons are discovered by _____
3. Extrachromosomal DNA in prokaryotes having autonomous replicating ability is _____
4. DNases that cut nucleic acids at specified internal sequences are called _____

(4×1=4)

SECTION – B

(Answer **any seven** of the following. **Each** question carries **2** marks)

5. Define transition mutation.
6. Define Hfr strain.
7. What is rolling circle replication ?
8. What is site specific recombination ?
9. What is 'gene gun' ?
10. Define chromosome theory of heredity.

P.T.O.

11. What is the mechanism of mutagenesis by exposure to UV light ?

12. What is the Mendelian law of dominance ?

13. What are cosmids ?

14. Name two transgenic animals. **(7×2=14)**

SECTION – C

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

Write short notes on :

15. Bacterial transformation.

16. F plasmid.

17. Homologous recombination.

18. Yeast mating types.

19. Attenuated recombinant vaccines.

20. Genetically modified foods. **(4×3=12)**

SECTION – D

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

21. Write a note on cloning vectors. Discuss the methods used to introduce cloned gene into host cells.

22. Describe the steps involved in the production of transgenic plants.

23. Differentiate generalized and specialized transduction. Describe the mechanism of generalized transduction.

24. Discuss the mechanisms of action of common chemical mutagens. Discuss the application of replica plating for mutant isolation. **(2×5=10)**
