

Bankura University
B.Sc 4th Semester (Honours) Theory Examination,2022
SUB: Microbiology

Course ID: 42211

Course Code: SHMCB/401/C-8

Course Title: Microbial Genetics

Full Marks: 25

Time: 1 h 15 min

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1. Answer *any five* of the following questions: (1x5=5)

- a) What are colicinogenic plasmids?
- b) Which mutagen causes thymine dimer?
- c) What is retroposon?
- d) What is R plasmid?
- e) Give an example of point mutation.
- f) What is the importance of conjugation?
- g) What do you mean by LFT lysates?
- h) What is Ames test?

UNIT II

2. Answer *any 2* of the following questions: (5x2=10)

- a) Write short notes on transposable elements.
- b) What is induced mutation? Describe the mechanism of one ionizing and one chemical mutagen for inducing mutation. 1+4
- c) What are Hfr and F' strains ? Discuss briefly on specialized transduction. 2+3
- d) Differentiate between lytic and lysogenic cycle with suitable diagrams. 3+2

UNIT III

3. Answer *any one* of the following questions: (1x10=10)

- a) Describe the experiment that led to the discovery of the phenomenon of transformation in bacteria. Describe the molecular mechanism of transformation. 5+5
- b) Describe Ti plasmid with suitable labelled diagram. Discuss the mechanism of crown gall formation in plants. (4+2)+4