

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS-2023

M.Sc. 2nd Semester Microbiology

COURSE CODE (CREDITS): (21MS1MB212)

MAX. MARKS: 15

COURSE NAME: MICROBIAL GENETICS AND PHYSIOLOGY

COURSE INSTRUCTORS: AKN

MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Section I

Q1 Very short answer type questions. Each question is carrying one mark.

- (a) What are episomes? Explain with the help of diagram. (01 mark)
- (b) Name the longest transposon known so far. (01 mark)
- (c) What were the hurdles in development of Genetics in pre - DNA era? (01 mark)
- (d) How the protoplast and spheroplast differ from each other. Explain briefly. (01 mark)

Section II

Q 2 If 88 yeast cells are showing a mutant (recessive) trait; out of 340 cells under study. What is the frequency of carrier (heterozygous) cells? (02 marks)

Q 3 What are limitations of Pangenesis theory of heredity? (02 marks)

Q 4 What are point mutations? Explain its various types. (02 marks)

Section III

Q 5 Write a brief account of various types of transposable elements found in the prokaryotes. (2.5 marks)

Q 6 Explain the various processes of gene transfer in prokaryotes that leads to genetic recombination. (2.5 marks)