

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2021

Subject Name : Microbial Genetics & Molecular Microbiology

Subject Code : 5SC03MIG1

Branch: M.Sc. (Microbiology)

Semester: 3

Date: 13/12/2021

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

Q-1 Attempt the Following questions (07)

- a. Enlist the name of the scientist who rediscover the Mendel's laws. (01)
- b. What does the S phase of cell cycle indicate? (01)
- c. Define: Component cell (01)
- d. What is complete linkage? (01)
- e. Define: Site specific recombination (01)
- f. What is transposition? (01)
- g. Enlist any two types of mutation. (01)

Q-2 Attempt all questions (14)

- (a) Write a detail note on holiday model of recombination. (07)
- (b) Give a brief note on linkages and recombination. (07)

OR

Q-2 Attempt all questions (14)

- (a) Enlist the types of mutation and write detail on point mutation. (07)
- (b) Write a brief note on conjugation. (07)

Q-3 Attempt all questions (14)

- (a) Write a short note on multiple alleles. (07)
- (b) Write a detail note on complementation test. (07)

OR

Q-3 (a) Enlist the laws given by Mendel and explain each with appropriate examples. (14)



SECTION – II

- Q-4** Attempt the Following questions ((07)
- a. Define: Somatic mutation. (01)
 - b. What is multiple allele? (01)
 - c. What is the function of Lac Z in Lac operon? (01)
 - d. Enlist the bacterial transposable element. (01)
 - e. Define: Transduction (01)
 - f. Write full name of Dtr system of conjugation. (01)
 - g. What are pheromones? (01)

- Q-5** Attempt all questions (14)
- (a) Give a detail note on generalize and specialized transduction. (07)
 - (b) Write a detail note on lytic and lysogenic cycle of bacteriophages. (07)

OR

- Q-5**
- (a) Write a brief note on Lac operon. (07)
 - (b) Enlist the types of DNA repair and explain any one in detail. (07)

- Q-6** Attempt all questions (14)
- (a) Write a detail note on regulation of competence in *B.subtilis* (07)
 - (b) Give a short note on molecular mechanism of crossing over. (07)

OR

- Q-6**
- (a) Write a detail note on Ara operon. (07)
 - (b) Give a short note on transformation. (07)

