

**GUJARAT NATIONAL LAW UNIVERSITY
GANDHINAGAR****Course: Microbiology and Genetics
Semester-I (Batch: 2014-19)****End Term Examination: Oct-Nov. 2014****Date: 1st November, 2014****Duration: 2 hours****Max. Marks: 40****Instructions:**

- Read the questions properly and write the answers in the given answer book.
- The respective marks for each question are indicated in-line.
- Do not write any thing on the question paper.
- Indicate correct question numbers in front of the answers.
- Draw **diagrams only with pencil**.
- No questions or clarifications can be sought during the exam period, answer as it is, giving reason, if any.

Q.1 Define any five of the following:**Marks
(5x1=
05)**

- Plasmids
- Horizontal gene transfer
- Transduction
- Holandric genes.
- Viroids
- Lethal genes.

Q.2 Answer any five of the following:**(5x3=
15)**

- Assume a chromosome with the sequence ABCD. EFGH (.Represents the Centromere) shows the following aberrations. Identify the specific kind of aberration and write a note on it.
 - ABCD.EFH -----
 - ABCDCD.EFGH -----
 - ADCBE .FGH -----
- Differentiate between Eugenics, Euthenics and Euphenics.
- What is mitosis? Briefly describe the significance of mitosis.
- Write short notes on Prions.
- What is linkage? Briefly explain the types of linkage.
- What is IPPC ? Write the main objective of IPPC.

Q.3 Answer any four of the following:**(4x5=
20)**

- Describe numerical aberrations in chromosomes.
- Briefly describe the major characteristics of microorganisms
- Describe the industrial application of microorganisms.
- What is Hardy-Weinberg equilibrium? Briefly discuss the conditions necessary for the maintenance of this equilibrium in any population?
- What is multiple gene inheritance? Discuss this with the help of an example.
