

Mid Semester Test: August-2017

Microbiology and Genetics

GUJARAT NATIONAL LAW UNIVERSITY GANDHINAGAR

Course: Microbiology and Genetics

Semester-I (Batch: 2017-22)

Mid Semester Test: August-2017

Date: 24th August, 2017

Duration: 1 ½ hours

Max. Marks: 20

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.
- No questions or clarifications can be sought during the exam period, answer as it is, giving reason, if any.

Part-A

Answer the following questions briefly:

Marks
(2x2=
04)

- Q.1 A cell has 38 chromosomes. After mitosis and cell division, one daughter cell has 39 chromosomes and the other has 37. What might have caused this abnormal chromosome numbers? Explain the same.
- Q.2 In humans, red-green colour blindness is an X-linked recessive trait. If a man with normal Vision and a colour blind woman have a son, what is the chance that the son will be colour blind? What is the chance that a daughter will be colour blind?

Part-B

Answer the following:

(4x4=
16)

- Q.3 Describe the important cell cycle regulators.
- Q.4 Describe how a protein can be infectious?
- Q.5 The white Leghorn breed of chickens is known to carry in homozygous conditions a colour allele (C) and a dominant Inhibitor (I) that prevents the expression of C. The white Wyandote (iicc) has neither the inhibitor nor the colour gene. Give the F2 phenotypes and proportions expected from crossing a white Leghorn (IICC) and white Wyandote (iicc).
- Q.6 What is apoptosis? What are the major changes observed in an apoptotic cell? Name any one example of apoptosis.

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