

T.Y.B.SC. SEM – VI (CBCS - 2016 Course) : SUMMER - 2019
SUBJECT: MICROBIOLOGY GENETICS OF EUKARYOTES AND GENE
MANIPULATION

Day: Monday
Time: 15/04/2019

S-2019-0911

Date: 03.00 P.M. To 06.00 P.M
Max. Marks: 60

N.B.:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.

Q.1 Answer **ANY TWO** of the following (12)

- a) What is extranuclear inheritance? Write the types with suitable example.
- b) Describe the trait of infections heredity in killer yeast.
- c) Describe Various types of restriction enzymes.

Q.2 Answer **ANY TWO** of the following (12)

- a) Write the structure and properties of F plasmid.
- b) Describe the PCR technique.
- c) Explain the joining of DNA fragments by addition of homopolymers.

Q.3 Answer **ANY TWO** of the following (12)

- a) Explain the inheritance of coiling pattern in snails.
- b) What are poky mutants in *Neurospora crassa*.
- c) Describe in brief- structure and effect of mitochondrial genome.

Q.4 Write short notes on **ANY THREE** of the following (12)

- a) Agarose gel Electrophoresis.
- b) Restriction Enzymes.
- c) cDNA Library.
- d) Shuttle vectors

Q.5 Answer **ANY FOUR** of the following (12)

- a) What are Vectors? Describe plasmids as Vectors.
- b) Draw the diagram to demonstrate blotting technique and its significance.
- c) What is YAC? Give its significance in recombinant DNA technology.
- d) What is Ti plasmid? Write the properties and use of Ti plasmid .
- e) Describe in short the in vitro plasmid transfer by Electrotransformation.
- f) Write the methods for Purification of Plasmid.

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