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AR-18

M.Sc

M.Sc 3rd SEMESTER REGULAR EXAMINATIONS, NOV/DEC 2019-20

Subject code: III.1

Subject: GENETIC ENGINEERING & DNA TECHNOLOGY

Time: 3 Hours

Max Marks: 80

The figures in the right hand margin indicate marks.

SECTION A

Q.1 Answer any four of the following:

[4 x 4 =16]

- Explain restriction endonucleases . Give an account of different types of restriction endonucleases.
- Elaborate suicide gene therapy technique.
- Explain Sanger’s method of DNA sequencing.
- What is the role of Klenow enzyme in genetic engineering.
- Explain briefly about SNP.
- Give an account of Bacterial artificial chromosome.

OR

Q2. Answer all questions from the following

[2 x 8 =16]

- Explain the function of Alkaline phosphatase.
- What are linkers and adaptors?
- What are cloning vectors?
- Explain briefly about cDNA library.
- What is pedigree analysis?
- Describe advantages of RFLP technology.
- Write the properties of ligase enzyme.
- Define chromosome walking.

SECTION-B

Answer all Questions:

[16 x4 =64]

Q3.

- Describe briefly about different enzymes used in genetic engineering.

OR

- What are DNA polymerases? Elaborate the role of DNA polymerase in rDNA Technology

Q4.

- Describe cosmids as vectors.

OR

- Explain yeast two- hybrid system.

Q5.

- Explain the methods used for isolation and purification of RNA.

OR

- Describe genomic library and their function.

Q6.

- What is gene silencing? Describe si RNA and mi RNA gene silencing techniques.

OR

- Explain about the types and applications of molecular markers.