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**GN-272**

100018

V Semester B.Sc. Examination, December - 2019

(CBCS-F+R) (Semester Scheme)

**GENETICS - V**

**Recombinant DNA Technology**

Time : 3 Hours

Max. Marks : 70

- Instructions :** (i) Answer should be written Completely in **English**.  
(ii) Draw diagrams wherever necessary.

**PART - A**

**I. Answer any five of the following : 5x3=15**

1. Mention the roles of Polynucleotide kinase and alkaline Phosphatase in Recombinant DNA Technology.
2. List any three properties of an ideal Vector.
3. Write a note on 'Ti Plasmid Vector'.
4. Comment on insertional inactivation method of Selection of recombinants.
5. What is Autoradiography ?
6. List any three applications of transgenic fish.
7. What are Scorable markers ?

**PART - B**

**II. Answer any five of the following : 5x5=25**

1. Explain 'CaMV' as a plant vector.
2. What are restriction enzymes ? Explain its types.
3. Give an account on 'SV40 vectors'.
4. What is PCR ? Explain the steps involved in it.
5. List the applications of transgenic sheep.
6. Explain the steps involved in nif gene transfer.
7. What are molecular probes ? Explain its types.

**P.T.O.**

**PART - C****III. Answer any two of the following :****2x10=20**

1. Describe integrative DNA transfer by using Agrobacterium vector.
2. Explain Western blotting technique with a neat labelled diagram.
3. Discuss any two methods of direct gene transfer.
4. Describe the methodology involved in the production of knockout mouse. Add a note on its application.

**PART - D****IV. Answer any one of the following :****1x10=10**

1. Give an account of 'Plasmid Vectors'.
2. Describe :
  - (a) Complementation method of screening
  - (b) Colony hybridization

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