



V Semester B.Sc. Examination, Nov./Dec. 2018  
(Semester Scheme) (CBCS/NS) (F+R)  
**GENETICS – V**  
**GNT-501 : Recombinant DNA Technology**

Time : 3 Hours

Max. Marks : 70

**Instructions** : i) Answers should be written **completely** either in **Kannada or English**.  
ii) **Draw diagrams wherever necessary.**

**PART – A**I. Answer **any five** of the following :**(5×3=15)**

- 1) What are shuttle vectors ? Give an example.
- 2) Explain the role of polynucleotide kinase in RDT.
- 3) Comment on 'Molecular Probes.
- 4) Mention the steps involved in PCR.
- 5) Write a note on colony hybridisation.
- 6) What are Klenow fragments ?
- 7) List any three applications of transgenic poultry.

**PART – B**II. Answer **any five** of the following :**(5×5=25)**

- 1) Explain the uses of Exonuclease-III and RNA dependent DNA polymerase in RDT.
- 2) Describe PUC 18 vector with a neat labelled diagram.
- 3) Comment on expression vectors in Eukaryotes.
- 4) Write short notes on Genomic library.
- 5) What are scorable markers ? Explain with an example.
- 6) Give an account on applications of transgenic plants.
- 7) Explain the steps involved in nif gene transfer.

P.T.O.



## PART - C

III. Answer **any two** of the following :

(2×10=20)

- 1) Explain Northern blotting technique with a neat labelled diagram.
- 2) Describe :
  - a) Type I and Type II restriction enzymes.
  - b) Cosmid.
- 3) Discuss various methods of direct gene transfer.
- 4) Explain SDS-PAGE in detail.

## PART - D

IV. Answer **any one** of the following :

(1×10=10)

- 1) Describe vector mediated gene transfer using Agrobacterium tumefaciens.
- 2) Explain :
  - a) Visual screening method.
  - b) Plaque formation method.

