

III Semester B.Sc. Examination, November/December 2018
 (Semester Scheme) (F+R) (CBCS/NS)
 GENETICS – III
 GNT 301 : Cytogenetics

Time : 3 Hours

Max. Marks : 70

Instructions : 1) Answers should be written **completely** either in **English** or in **Kannada**.

2) Draw diagrams **wherever** necessary.

PART – A

I. Answer **any five** of the following.

- 1) What is euchromatin ?
- 2) Write a note on telomeres.
- 3) What is a map unit ?
- 4) Define sex linked genes with an example.
- 5) Write a short note on linkage group in Drosophila.
- 6) List any three salient features of cytoplasmic inheritance.
- 7) What are duplication ? Mention its types.



(5×3=15)

PART – B

II. Answer **any five** of the following.

(5×5=25)

- 1) Distinguish between primary and secondary constriction.
- 2) Explain Coupling and Repulsion hypothesis.
- 3) Comment on the construction of genetic map with a suitable example.
- 4) Explain sex linkage in Drosophila.
- 5) Distinguish between Interference and coincidence.
- 6) Give an account on 'polyploidy'.
- 7) Differentiate between pericentric and paracentric inversions.



PART – C

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

(2×10=20)

- 1) Describe the structure of polytene chromosome with a neat labelled diagram.
- 2) Discuss on CMS in Maize.
- 3) Give an account on molecular mechanism of crossing over.
- 4) Explain :
 - a) Deletion
 - b) Translocation.

PART – D

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

(1×10=10)

- 1) With a neat labelled diagram explain nucleosome model of chromosome.
- 2) Describe :
 - a) Attached X-chromosome
 - b) Trisomy.

