



SN – 411

III Semester B.Sc. Examination, November/December 2017
(Semester Scheme) (F + R) (CBCS/NS)
GENETICS – III
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 : (5×3=15)

- 1) What are telomeres ?
- 2) Draw a neat labelled diagram of Lampbrush Chromosome.
- 3) Define extra chromosomal inheritance.
- 4) Define sex linkage.
- 5) Write short note on "Interference".
- 6) What is crossing over ? Write different types of it.
- 7) With a suitable example define haploidy.

PART – B

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

- 1) Mention the differences between Euchromatin and Heterochromatin.
- 2) Give an account of 'Nucleosome' with a neat labelled diagram.
- 3) Explain Bridges theory of nondisjunction.
- 4) Discuss the inheritance pattern of Sigma factor in Drosophila.
- 5) Describe Stern's experiments of crossing over.
- 6) Explain linkage groups in Man.
- 7) Explain Nullisomy with an example.

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PART - C

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

(2×10=20)

- 1) With a neat labelled diagram, explain the structure of Salivary gland chromosome in Drosophila.
- 2) Explain :
 - a) Inheritance of mitochondrial - DNA.
 - b) Attached X-chromosome.
- 3) Describe Holiday model of Crossing over.
- 4) What are inversions ? Explain its types and their evolutionary significance.

PART - D

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

(1×10=10)

- 1) Discuss :
 - a) Karyotype and Idiogram.
 - b) Sex linked genes in Moth.
- 2) Explain :
 - a) Polyploidy.
 - b) Deletions.