



Reg. No. :

Name :



M 27320

II Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.)
Examination, March 2015
(2013 and Earlier Admn.)
BOTANY

Paper B VI : Cytology, Genetics and Molecular Biology

Time : 3 Hours

Max. Marks : 70

Instruction : Draw diagrams wherever necessary.

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

- 1) Write an account of Karyotype and its relation to evolution.
- 2) Explain the molecular mechanism of cellular differentiation.
- 3) Describe the mechanism of DNA replication in prokaryotes.
- 4) Write an account of regulation of gene function and gene expression in bacteriophages. **(2×10=20)**

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

- 5) Explain the ultra structure of DNA.
- 6) Write an account of the molecular characteristics and its significance in development and evolution. **(1×10=10)**

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

- 7) Minisatellites and microsatellites.
- 8) Direct gene transfer technique.
- 9) DNA recombination.
- 10) One gene one polypeptide concept.
- 11) RFLP. **(3×5=15)**

P.T.O.

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

- 12) Ti plasmid.
- 13) Gene cloning.
- 14) Genetic drift.
- 15) 60S ribosomal subunit.
- 16) Synaptosomal complex.
- 17) Retinoblastoma.
- 18) Coding sequences.
- 19) c-DNA.

(5x3=15)

V. Answer **any five** of the following :

- 20) c-Value paradox.
- 21) Extracellular aging.
- 22) Polymerase.
- 23) Nuclease.
- 24) Noncoding sequences.
- 25) Erythroblastosis foetalis.
- 26) Isochromosomes.

(5x2=10)

(3x2=12)

P.T.O.