

I Semester B.Sc. Examination, Nov./Dec. 2014  
 (Semester Scheme) (F + R/CBCS)  
 BIOTECHNOLOGY – I  
 BTT – 101 : Cell Biology and Genetics  
 (70 – 2011-12 and Onwards)  
 (60 – Prior to 2011-12)

Time : 3 Hours

Max. Marks : 70/60/CBCS

- Instructions :**
- 1) 70 marks for students 2011-12 onwards/CBCS
  - 2) 60 marks for **Repeater** students prior to 2011-12.
  - 3) Section **A, B, C** common to all.
  - 4) Section **D** for students of 2011-12 onwards/CBCS.
  - 5) Draw **neat** labelled diagrams **wherever** necessary.

SECTION – A

I. Write short notes on the following :

(5×2=10)

- 1) Microbodies
- 2) Cell theory
- 3) Spontaneous mutations
- 4) Telomere
- 5) Incomplete dominance.

SECTION – B

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

(4×5=20)

- 6) Explain the structure and function of Golgi complex.
- 7) Explain Down's syndrome.
- 8) Give an account on Free Radical Theory of Aging.
- 9) Explain the structure and biological importance of t-RNA.
- 10) Describe the mechanism of crossing over.

P.T.O.



## SECTION - C

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

(3×10=30)

- 11) Describe the structure and functions of chloroplast.
- 12) What is autopolyploidy ? Explain chromosomal evolution of wheat and cotton.
- 13) Give a detailed account on stages of Meiosis I and Meiosis II and its significance.
- 14) Describe the structure of Lamp brush chromosome with a neat labelled diagram.
- 15) What is multiple allelism ? Explain with reference to blood group in human beings.

## SECTION - D

(From 2011-12 batch onwards + CBCS)

IV. Answer the following in **one** sentence :

(1×10=10)

- 16) Who coined the term chromosome ?
  - 17) What is inversion ?
  - 18) Who proposed chemiosmotic theory ?
  - 19) What are complimentary genes ?
  - 20) What is principle of dominance ?
  - 21) What is an idiogram ?
  - 22) Name the two types of proteins associated with chromosome.
  - 23) What is aneuploidy ?
  - 24) Write the Chargaffs rule of base equivalence.
  - 25) Define phagocytosis.
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