

Roll No. _____

[Total No. of Pages : 2

SIS 074 B-2K12

B.Sc. Ist Semester Degree Examination

Biotechnology (Optional)

Cell Biology And Genetics

Paper - 1.5

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates :

- i) Answer *all* questions.
- ii) Draw diagram wherever necessary.

I. Answer the following in one word or in one sentence. (15×1= 15)

- 1) Monohybrid.
- 2) Spindle fibers
- 3) What is genotype
- 4) Who is the father of Genetics
- 5) Nucleotide
- 6) Crossing over
- 7) Mutagen
- 8) Centromere
- 9) Peroxisomes
- 10) Define basic unit of life
- 11) What is muscle cell.
- 12) What is cytosol
- 13) Define the law of segregation.
- 14) What is heterozygous and Homozygous
- 15) Hydrophilic

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

- 16) Differentiate between plant cell and animal cell.
- 17) Explain the structure and function of Golgi complex
- 18) Explain the chemical nature of DNA.

- 19) Explain the structure of chloroplast
- 20) Explain XX-XO type of Sex determination.
- 21) Explain the induced Mutation in plant cell and animal cell.
- 22) Explain specialized Transduction.

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

(4×10=40)

- 23) Explain the structure and Functions of Endoplasmic reticulum.
 - 24) Describe the polytene chromosome.
 - 25) Explain Replica plating technique.
 - 26) Describe watson and crick model of DNA.
 - 27) Describe the characteristics of Down's syndrome.
 - 28) What is Zig-zag inheritance? Explain with reference to haemophilia.
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