

25047985



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Reg. No.....

Name.....

**M.Sc. MICROBIOLOGY DEGREE (C.S.S.) EXAMINATION, OCTOBER 2025**

**First Semester**

MB 1PG02—BIOPHYSICS, BIOINSTRUMENTATION AND BIOINFORMATICS

(2018 to 2015 Admissions—Mercy Chance)

Time : Three Hours

Maximum Weight : 30

I. Write short notes on any *five* questions. Weight 1 each :

- 1 GM counter.
- 2 Cot curve.
- 3 Zinc fingers.
- 4 X Ray diffraction.
- 5 Spectrophotometer.
- 6 DNA polymorphism.
- 7 Ramachandran Plot.
- 8 BLAST.

(5 × 1 = 5)

II. Write short essay on any *five* questions. Weight 2 each :

- 9 MASCOT database.
- 10 Protein - drug interaction.
- 11 High energy molecules.
- 12 Cheminformatics in biology.
- 13 NMR spectra and its applications.
- 14 Protein families, alpha domain and beta domain.

**Turn over**





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- 15 DNA databases.
- 16 DNA Histone interaction.

(5 × 2 = 10)

III. Answer any *three* in detail. Weight 5 each :

- 17 Principle and applications of electrophoresis.
- 18 Phylogenetic analysis and construction of phylogenetic tree.
- 19 Laws of thermodynamics, Enthalpy, entropy and free energy.
- 20 Applications of bioinformatics in Pharmaceutical industry.
- 21 Types of microscopes.
- 22 Types of chromatography and applications.

(3 × 5 = 15)

