

M. Sc. DEGREE EXAMINATION, NOVEMBER 2015
BIOINFORMATICS
FIRST SEMESTER

COURSE : CORE
PAPER : BIOPHYSICS
TIME : 3 HOURS

MAX. MARKS: 100

SECTION - A

ANSWER ALL OF THE FOLLOWING QUESTIONS:

20x1=20

1. Define Valency.
2. Define enthalphy.
3. What are orbitals?
4. State beer-lambert's law.
5. What are Fluorophores?
6. What is the wavelength range of visible & UV light?
7. What is hyperchromic effect?
8. What is chemical shift?
9. IR-spectra.
10. Tandem Analyser.
11. Nuclear spin.
12. AFM.
13. MALDI-TOF.
14. Crystal growth.
15. Resonance.
16. CFM.
17. Chromophores.
18. Entrophy.
19. Crystallography.
20. Spin-spin interaction.

SECTION B

ANSWER ANY FOUR OF THE FOLLOWING:

4x10=40

21. Explain De-Broglie theory of matter.
22. State the laws of thermodynamics & give its application.
23. Explain 'Fingerprinting' using Raman spectra.
24. Explain the Nuclear overhauser effect.
25. What are the components of crystal growth?
26. Explain the steps involved in crystallography?
27. Explain the principle & application of Fluorescence spectroscopy.

SECTION C

ANSWER ANY TWO OF THE FOLLOWING

2x20 = 40

28. Explain NMR & its application.
29. Derive Schrodinger wave equation & explain its interpretation.
30. Explain the principle & working of MALDI-TOF.
31. Write the principle, instrumentation & application of UV-Visible spectroscopy.
