Roll No. | | | | | | | | | | |

B.E (FT) END SEMESTER EXAMINATIONS – APR / MAY 2025

Computer Science and Engineering
Semester II
CY6251 & Engineering Chemistry
(Regulation 2018 - RUSA)

Time: 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Define the term functionality.
2. What is meant by degree of polymerization?
3. State Lambert-Beer law.
4. What is the principle of UV-Visible spectroscopy?
5. Write any two Industrial applications of adsorption.
6. Define autocatalysis with suitable example.
7. State the Second law of thermodynamics.
8. Distinguish between bulk particles and nano particles.
9. What is single layer PCB?
10. Define hybrid composites and give an example.

PART – B (8 x 8 = 64 marks)
(Answer any 8 questions)

11. Distinguish between thermoplastics and thermosetting plastics.
12. Discuss the free radical mechanism of polymerization with suitable example
13. Explain the suspension polymerization technique with a neat diagram.
14. Describe about the Jablonski diagram of various photophysical processes with a neat diagram.
15. Write a brief note on (i) Chemiluminescence and (ii) Photosensitation.
16. Explain the principle, instrumentation, working of IR spectroscopy and mention it's two applications
17. Derive Michaelis Menten's equation for an enzyme catalyzed reaction.
18. Explain the factors affecting the width and intensity of the spectral lines.
19. Derive the Clausius-Clapeyron equation. Discuss its applications.
20. Describe the preparation of nanotubes by chemical vapour deposition with a neat diagram.
21. Explain in detail about the preparation of nanowires by electrospinning method.
22. Discuss the techniques of fabrications of printed circuit boards.

PART – C (2 x 8 = 16marks)

23. Derive Gibbs Helmholtz equation and write its applications.
24. Discuss about the applications of composites in electrical and electronics.