

Roll.No.

20UNDAT3003

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.Sc.CND - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - III

20UNDAT3003 - Fundamentals of Biochemistry

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the essential role of B vitamins in coenzymes and prosthetic groups.
2. Illustrate and explain any three general reactions of monosaccharides and disaccharides.
3. Analyze the process of oxidation of glucose to pyruvate by glycolysis.
4. Explain the Inborn errors of metabolism caused due to Fructosuria.
5. Explain the chemical properties of amino acids that arise from the presence of both amino and carboxyl functional groups.
6. Explain the secondary structure of proteins.
7. Briefly describe the β -oxidation theory of fatty acids.
8. Assess the functional necessity of both nucleic acids and nucleotides in biological systems.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Interpret the inter relationship between carbohydrate, fat and protein metabolism.
10. Prepare a detailed schematic diagram illustrating the overall pathway of fatty acid biosynthesis.
11. Explain the Krebs Cycle as the principal pathway for energy generation in aerobic respiration.
12. Relate the mechanism of action of enzymes and the factors affecting enzyme activity.
13. Discuss the following process in amino acids
 - i) Denaturation
 - ii) Hydrolysis
 - iii) Transamination
 - iv) Precipitation
