

Roll.No.

25UNDGT1001

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 - I

25UNDGT1001 - Chemistry - I

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Derive Henderson – Hasalbach equation.
2. Discuss the hybridization and geometry in acetylene.
3. How is furan prepared? Explain the electrophilic substitution reaction of it.
4. Analyse the concept of fluorescence with examples.
5. Discuss the softening by reverse osmosis with example.
6. Examine the various types of organic reactions with suitable examples.
7. Exemplify the amination, oxidation and reduction reaction of pyridine.
8. Compare thermal reactions and photochemical reactions.

Section C

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

9. Discuss the concept of buffer solutions and its action in biological process.
10. Discuss the preparation and uses of the following
(a) Urea (b) Natural gas (c) Water gas (d) NPK (e) Ammonium sulphate
11. Ascertain the electrophilic substitution reaction of nitration in benzene with energy profile diagram.
12. Explain the general methods of preparation of pyrrole and discuss its chemical reactions.
13. (a) Examine the photochemical reactions of Hydrogen – Chlorine.
(b) Discuss the various laws of photochemistry.
