

Roll.No.

20UNDAT1001

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

**20UNDAT1001 - Allied Chemistry - I**

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

### Section B

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

1. What are strong and weak electrolytes? Give examples for each.
2. How will you classify the organic compounds?
3. Give one method of preparation for thiophene, pyrrole and pyridine.
4. Write the statements of Grothus- Draper's law and Stark-Einstein's law. Explain quantum yield.
5. List the uses of urea, ammonium sulphate, Superphosphate and triple super phosphate.
6. Predict the products of nitration and sulphonation of benzene, giving their mechanism.
7. Compare the basicity of pyridine and pyrrole and show which is more basic.
8. Differentiate between phosphorescence and fluorescence.

### Section C

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

9. Show that Henderson equation is used to measure the pH of a buffer solution.
10. Explain the softening of hard water using the principle of reverse osmosis.
11. a. Applying the concept of hybridisation, explain the structure of ethane and acetylene. b. Classify the reactions and explain the elimination and condensation reaction.
12. a. Give one method of preparation of Furan, Pyrrole and pyridine. (6)  
b. Thiophene is more aromatic than furan. Why? (4)
13. a. Justify the high quantum yields in hydrogen-chlorine reaction. (7)  
b. Define chemiluminescence with examples. (3)

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