

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 APRIL-2023

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. Explain the role of Buffer in biological systems.
2. Illustrate the common ion effect with an example.
3. Explain the preparation, properties and uses of  
(i) Triple Super Phosphate (ii) NPK
4. Discuss the composition and uses of (i) Semi water gas (ii) Water gas
5. Express an example for the substitution reaction and Polymerisation reaction.
6. Illustrate the mechanism of Sulphonation of benzene.
7. Sketch the ring opening reaction of (i) Pyrrole (ii) Furan
8. Define the following terms with suitable example  
(i) Quantum Yield (ii) Chemiluminescence (iii) Photosensitization

### Section C

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

9. Define pH and Derive the Henderson equation.
10. (i) Explain the method of reverse osmosis utilized in the purification of water.  
(ii) Discuss the experimental method for the determination of permanent hardness of water
11. Illustrate the hybridisation present.  
(i) Methane (ii) acetylene
12. Explain the preparation, properties and uses of Pyridine.
13. (i)  $H_2-Cl_2$  is a chain reaction. Justify the statement.  
(ii) State the law (a) Grothus Draper Law (b) Stark Einsteins Law.

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