

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.NFSMD - END SEMESTER EXAMINATIONS - NOV'2024
SEMESTER - I

20UFMAT1001 - 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? Explain with examples.
2. Elaborate on the classification of the reagents based on their charge and give examples for each.
3. Compare the basicity of pyridine with pyrrole.
4. Write the statements of Grothus-Draper's law and Stark- einstein's law. Explain quantum yield based on that.
5. Discuss the composition and the uses of water gas, natural gas and semi-water gas.
6. Explain hybridisation? Discuss the hybridisation in ethane.
7. Prove that thiophene is more aromatic than furan?
8. Discuss the mechanism of photosynthesis and explain the importance of photosensitizer in photosynthesis.

Section C

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

9. Write about Henderson equation. What are its limitations?
10. a. Outline the process of purification of water for domestic use. (5)
b. Explain the process of softening of water by the process of reverse osmosis?(5)
11. a. Discuss the mechanism of nitration and sulfonation of benzene. (5)
b. Explain addition and condensation reactions with example. (5)
12. a. Explain why electrophilic substitution in pyrrole takes place at 2 position where as in pyridine it takes place at 3 position? (5)
b. Give one method of synthesis of furan and thiophene. (5)
13. a. Explain the following with examples.
i. Fluorescence ii. Phosphorescence iii. Chemiluminescence. (6)
b. Discuss briefly about hydrogen-chlorine reaction. (4)
