

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. END SEMESTER EXAMINATIONS APRIL-2022

SEMESTER - I

17UCHCT1002 - General Chemistry - II

Total Duration : 3 Hrs.

Total Marks : 60

Section A

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

1. a. What is called by Compton effect? (2)
b. Derive De-Broglie equation. (3)
2. Write a brief account on 4 types of quantum numbers.
3. Explain the variable oxidation states of d-block elements.
4. Describe the Pauling's and Mulliken's electro negativity scales.
5. Write down the preparation of alkanes by Wurtz reaction and hydrogenation of alkenes.
6. Explain the all types of symmetry elements.
7. Write a note on Schottky and Frenkel defect.
8. Give a brief account on protic and aprotic solvents

Section B

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

9. List out the postulates of Bohr's model of an atom and mention its limitations.
10. Illustrate the following periodic properties along rows and columns
a. Atomic radii b. Ionisation potential c. Electron affinity d. Electronegativity
11. Explain the following reactions with mechanism
a. Nitration of Ethane b. Sulphonation of Propane
12. a. Explain the diffraction of X-rays and derive Bragg's equation. (5)
b. Illustrate the FCC structure with suitable crystal. (5)
13. a. Define Buffer solution and describe common ion effect (5)
b. Discuss about Arrhenius theory and Lewis theory of acids and bases. (5)
