

Roll.No.

20UPHAT2002

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.Chemistry - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - II

20UPHAT2002 - Allied Chemistry -II

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Write the preparation of a dipeptide using Bergmann method.
2. Give the composition and uses of (i) Water gas. (ii) Producer gas.
3. Distinguish between fluorescence and phosphorescence.
4. Derive Henderson's equation to calculate the pH of a buffer solution.
5. Define the following giving examples.
(i) Antipyretics (ii) Anaesthetics (iii) hypnotics
6. What are carbohydrates? How are they classified? Give examples.
7. Explain the process of photosensitisation with suitable examples.
8. What is the pH of (i) $0.01M HCl$ and (ii) $0.04M HNO_3$.

Section C

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

9. (i) How will you show the presence of an aldehyde group and primary alcoholic group in glucose? (ii) Give points to differentiate between DNA and RNA.
10. What are the causes of cancer and AIDS? What treatment options are available to cure them?
11. Write the preparation and uses of (i) urea and (ii) triple superphosphate.
12. (i) State and explain the laws of photochemistry.
(ii) A certain system absorbs 2×10^{16} quanta of light/second. At the end of 10 minutes 6.023×10^{20} molecules have reacted. Calculate the quantum yield.
13. (i) Examine the construction and working of the calomel electrode with the help of a neat diagram.
(ii) Justify the buffer action in biological systems.
