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(FOR THE CANDIDATES ADMITTED

23UCY510

DURING THE ACADEMIC YEAR 2023-2024 ONLY) REG.NO. :

N.G.M. COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS: NOVEMBER 2025

B.Sc. CHEMISTRY

MAXIMUM MARKS: 75

SEMESTER-V

TIME: 3 HOURS

PART - III
DYE CHEMISTRY

SECTION – A (10X1=10MARKS)

ANSWER THE FOLLOWING QUESTIONS (K1)

1. The wavelength of visible light is _____
a) 200-400 nm b) 400-800 nm c) above 200 nm d) below 200 nm
2. Which dye becomes linked to the fiber by chemical reactions?
a) Acid dye b) Direct dye c) Disperse dyes d) none of these
3. What is a key use of crystal violet outside of microscopy?
a) Staining chromosomes b) Dyeing textiles and paper
c) Detecting lipids d) Staining cell walls
4. Fluorescent brighteners may be called as
a). Red dye b). orange dye c) white dye d) purple dye
5. Which one of the following is Vat dye?
a) Malachite green b) Alizarin c) Indigo d) Methyl orange

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. What is chromophore?
7. Define nitro dyes.
8. List the common application of xanthene dyes.
9. What are pigments?
10. Name some hydrophilic fibres.

SECTION – B (5 X 5 = 25 marks)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS (K3)

11. a. Discuss the Otto Witt's theory.

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(OR)

b. Enumerate the Molecular orbital theory of various electronic transitions.

12. a. Synthesis and applications of Eriochrome black – T

(OR)

b. Discuss the preparation of Fast green O.

13.a. Synthesis, reactions and uses of Auramine O dyes..

(OR)

b. Isolation and application of Phenolphthalein indicator.

14.a. Elucidate the preparation of Solway ultra blue B.

(OR)

b. Compare the terms Toner and Lakes.

15.a. Discuss the types of rayon and their sources.

(OR)

b. Write a short note on Disperse dyeing.

SECTION – C**(5 X 8 = 40 marks)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 (Or) K5)**

16. a. Comment on the following

i) Bathochromic shift ii) Hypsochromic shift iii) Hypochromic shift iv) Hyperchromic shift

(OR)

b. Describe the Classification of dyes according to their mode of applications.

17. a. Define diazotisation. Elucidate the mechanism of diazotization.

(OR)

b. Discuss the synthesis and applications of methyl orange and congo red dye.

18. a. Write a note on (i) Malachite green (ii) Rosaniline

(OR)

b. Appraise the synthesis and uses of Indigotin

19.a. Describe a synthesis of Alizarin and Alizarin Blue dyes.

(OR)

b. Discuss Classification and properties of Fluorescent brightening agents

20. a. Outline the properties and the uses of cotton, silk and wool.

(OR)

b. Appraise the Non-textile uses of dyes in leather, paper, foods, drugs.
