

(FOR THE CANDIDATES ADMITTED  
DURING THE ACADEMIC YEAR 2021-22 ONLY)

SUBJECT CODE

21 UPS 4A5 /  
21 UBY 4A5/  
21 UZY 4A5

REG.NO.

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

**END-OF-SEMESTER EXAMINATIONS : MAY – 2023**

**B.Sc. PHYSICS / BOTANY/ZOOLOGY**

**MAXIMUM MARKS: 70**

**IV SEMESTER**

**TIME : 3 HOURS**

**PART - III**

**INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.**

**MULTIPLE CHOICE QUESTIONS.**

**(K1)**

1. Identify the decoloriser used in glass manufacturing \_\_\_\_\_.  
a)  $\text{MnO}_2$       b)  $\text{CuO}$       c)  $\text{Na}_2\text{O}$       d)  $\text{B}_2\text{O}_3$
2. Which one of the following is azo dye?  
a) indigo      b) alizarin      c) fluorescein      d) methyl orange
3. Which one of the following is neutral amino acid?  
a) serine      b) lysine      c) alanine      d) tyrosine
4. Sucrose is a \_\_\_\_\_.  
a) monosaccharide      b) disaccharide      c) polysaccharide      d) triose
5. Which one of the following is an aerosol colloid?  
a) milk      b) smoke      c) cheese      d) butter

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.**

**(K2)**

6. Mention the chemical composition of LPG.
7. Define chromophore with examples.
8. Draw the structure of DNA.
9. Mention the uses of cellulose.
10. Define Gibbs phase rule.

**(CONTD....2)**

**SECTION – B**

**(5 X 4 = 20 MARKS)**

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

**(K3)**

11. a) Illustrate the characteristics of good fuel.

(OR)

- b) Write the urea manufacturing process.

12. a) Classify dyes based on the application.

(OR)

- b) Sketch the preparation and uses of PVC.

13. a) Summarize the properties of glycine.

(OR)

- b) Explain the colour tests used for the confirmation of proteins.

14. a) How will you convert glucose to fructose?

(OR)

- b) Draw the structure of sucrose with its preparation.

15. a) List the applications of colloidal solution.

(OR)

- b) Explain the mechanism of catalytic action.

**SECTION - C**

**(4 X 10 = 40 MARKS)**

**ANSWER ANY FOUR OUT OF SIX QUESTIONS**

**(16<sup>th</sup> QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS (FROM Qn. No : 17 to 21))**

**(K4 (Or) K5)**

16. Discuss glass manufacturing process.

17. How is cement manufactured by wet process?

18. Explain the preparation and uses of nylon-6,6 and Buna-S rubber.

19. Discuss the structure of proteins.

20. Elucidate the structure of glucose.

21. Draw the phase diagram of H<sub>2</sub>O.