APRIL 2017 **1712102/UCYA21A**

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer any TEN questions.

Each question carries 2 marks.

1. State EAN rule.

2. What is chelating agent?

3. Name the following complexes :
   $[Cr(H_2O)_3Cl_3]$, $[Co(NH_3)_4Cl_2]Cl$.

4. What are the classifications of carbohydrate? Give an example.

5. Give any two methods of control of diabetes.

6. What is isoelectric point?

7. What are the functions of nucleotides?

8. What are conjugated proteins?

9. What is buffer solution? Give an example.

10. Define degree of hydrolysis.

11. What is crystallisation?

12. What are the applications of column chromatography? (any two).

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

Each question carries 5 marks.

13. Explain the formation of $[Ni(CN)_4]^{2-}$ complex.

14. How is aluminium estimated using oxime?

15. What are the differences between glucose, fructose and sucrose?

16. Describe the secondary structure of protein.

17. What are the advantages and disadvantages of glass electrode?

18. Discuss the hydrolysis of salt of weak acid and strong base.

19. Explain the principle of volumetric analysis.

20. Explain principle and application of paper chromatography.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

Each question carries 10 marks.

21. What are the biological role of heamoglobin and chlorophyll?

22. Explain the interconversion of glucose to fructose and fructose to glucose.

23. Distinguish DNA and RNA.

24. What is corrosion? Explain any two methods of prevention of corrosion.

25. Discuss gas - liquid chromatography with neat diagram.

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