

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & ADV. ZOOLOGY

FIRST SEMESTER – APRIL 2013

CH 1100 - CHEMISTRY FOR BIOLOGISTS - I

(12 BATCH ONLY)

Date : 26/04/2013

Dept. No.

Max. : 100 Marks

Time : 1:00 - 4:00

Part- A

Answer **ALL** questions:

(10 × 2 = 20 marks)

1. What is meant by R_f value?
2. What is absolute error?
3. What is EDTA?
4. Define covalent bond.
5. Mention the biological role of hemoglobin
6. What is rate law?
7. What is enzyme catalyst?
8. Define catalysis
9. Mention the function of adrenaline hormone.
10. Draw the structure of vitamin B

Part – B

Answer any **EIGHT** questions:

(8 × 5 = 40 marks)

11. Discuss three types of errors.
12. Describe wet packing of column chromatography
13. Mention five differences between precision and accuracy
14. Explain the structure and function of chlorophyll.
15. Discuss the crystal structure of NaCl.
16. Discuss the geometrical isomerism of octahedral complexes.
17. How would you distinguish order and molecularity?
18. Explain the mechanism of basic buffer.
19. Define the following terms a) Normality b) Molarity.

20. What are the biological effects of thyroid hormones?

21. Discuss the occurrence and composition of fats.

22. Write the classification of fats analysis.

Part-C

Answer any **FOUR** questions:

(4 × 10 = 40 marks)

23. Discuss the storage and handling of acids

24. a) Mention the postulates of Werner's theory. (5)

b) Explain different types of hydrogen bonding with an example. (5)

25. a) Discuss the hybridization and geometry of CH₄ and H₂O (7)

b) What is dipole – dipole induced interaction? (3)

26. a) Derive the rate expressions for I order reactions. (5)

b) What are the prerequisites for the preparation of primary standard solutions? (5)

27. Explain homogeneous and heterogeneous catalysts with suitable example.

28. Give in detail the structure and functions of vitamin A, C and K.
