B. Sc. DEGREE END SEMESTER EXAMINATION MARCH 2018

SEMESTER – 4: CHEMISTRY (COMPLEMENTARY COURSE FOR BOTANY AND ZOOLOGY)

COURSE: 15U4CPCHE4.2: ADVANCED BIO-ORGANIC CHEMISTRY - II

Common for Regular (2016 Admission) & Supplementary (2015 Admission)

Time: Three Hours   Max. Marks: 60

PART A

Answer *all* the questions. Each question carries *1* mark.

1. Sucrose on hydrolysis gives ……………………
2. Glucose on heating with Tollen's reagent gives ………………….
3. …………………… is Millon's reagent.
4. Name the enzyme which catalyses the hydrolysis of urea.
5. Beri-beri is caused by the deficiency of ……………………
6. Write an example of sex hormone.
7. Distillation of succinimide with zinc dust gives ……………….
8. Name an alkaloid used as antimalarial. $(1 \times 8 = 8)$

PART B

Answer *any Six* questions. Each question carries *2* marks.

9. Draw the structure of pyrimidine.
10. What happens when glucose is treated with NH_2OH?
11. What is meant by isoelectric point?
12. Define iodine value.
13. Explain the term mutarotation.
14. What is cyanocobalamine? Mention its importance.
15. Which is the most abundant steroid?
16. Explain the term R_f value $(2 \times 6 = 12)$

PART C

Answer *any Four* questions. Each question carries *5* marks.

17. State Huckel′s rule? Illustrate by taking furan as an example.
18. Explain the classification of lipids.
19. What is meant by inversion of cane sugar? Explain with relevant equations.
20. Explain the mechanism of enzyme action.
21. Discuss isoprene rule and special isoprene rule.
22. What are essential oils? How they are extracted from plants. $(5 \times 4 = 20)$

PART D

Answer *any Two* questions. Each question carries *10* marks.

23. How was the structure of nicotine established?

24. What are hormones? Discuss the classification of hormones. In what respects vitamins differ from hormones?

25. i) Give the industrial applications of cellulose.

    ii) How would you establish that D-glucose has pyranose structure?

26. What are oils and fats? What are the different methods for the analysis of oils ad fats?

$(10 \times 2 = 20)$

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