MAHATMA GANDHI UNIVERSITY

CBCSS B Sc PROGRAMME IN CHEMISTRY 2011

Fifth Semester
Core Course: CH5B02– Basic Organic chemistry-II
(Write equations wherever necessary)

Model Question Paper

Time: Three hours Total weightage: 25

Section A
(Answer all questions. Each bunch of four questions carries a weightage of 1)

I. *Fill up the blanks*
1. Nitromethane when reduced by zinc in aqueous NH_4Cl forms ----------
2. Soft soaps generally contain----------
   a. KOH b. NaOH c. $Ca(OH)_2$ d. All of the above
3. A dye has a characteristic colour due to the presence of a ----------
4. The excited state having a net magnetic moment is named ----------

II
5. Name the first synthetic fibre to be used.
6. What is the product formed when ethylene glycol is treated with periodic acid?
7. What are antibiotics? Give an example.
8. Draw the transoid conformation of butadiene

III
9. Which spectroscopic technique is the best to differentiate between acetone and ethanal.
10. What are the monomers of Nylon 6,6.
11. Mention a use of Benedict solution.
12. What is Barford's reagent

IV
13. Name a drug used against Leukimia.
14. A soap to have the best cleansing action, it should contain ----- carbon atoms. .
15. Name the predominant product formed when butadiene is treated with Br_2 at low temperature.
16. Mention any synthetic application of NBS.

Section B
(Answer any 5 questions. Each carries a weightage of 1)

17. How will you determine the molecular mass of a compound by Mass spectrometry? ?
18. What is DCC? Mention its use.
19. What is paracetamol chemically? What is its use?
20. Explain the relative stabilities of cyclohexane and cyclobutane?
21. How will you prepare phenyl hydrazine? Explain its use.
22. Outline Schiemann reaction?
23. Draw the structure of fluroescein?
24. How is Buna S rubber prepared?

Section C
(Answer any 4 questions. Each carries a weightage of 2)

25. How is urea formaldehyde resins synthesised? Mention its use
26. Outline the synthesis of Malachite green.
27. Explain the detergent action of soap.
28. Explain Arndt-Eistert synthesis.
29. What is Sulphanilamide? How is it acting as an antibacterial agent?
30. A compound C_2H_5Br showed two peaks-a quartet at $\delta 3.5$ and a triplet at $\delta 1.5$ in the ratio 2:3. Identify the compound with sufficient reasoning

Section D
(Answer any two questions. Each carries a weightage of 4)

31. a. Explain Norrish reactions of acyclic ketones.
    b. What is Sandmayer reaction. Explain its mechanism.
32. a. What are the products formed when nitrobenzene is reduced under neutral, acidic and alkaline medium?
    b. Explain phase transfer catalysis using quarternary amine salt.
33. Explain the structure and uses of the following
    a. Chloramphenicol b. N-bromosuccinimide c. Nitrile rubber d. Indigo