

E 2201

(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2011

Fifth Semester

Core Course—BASIC ORGANIC CHEMISTRY-II

(Common for B.Sc. Chemistry Model I and Model II, B.Sc. Petrochemicals and B.Sc. Chemistry Environment and Water Management)

Time : Three Hours

Maximum Weight : 25

Write equations wherever necessary.

Section A

Answer all questions.

Each bunch of four questions carries a weight of 1.

I. Fill in the blanks :

- 1 One Natural dye is _____.
- 2 Borsche's reagent is _____.
- 3 Nylon 6 is prepared from _____.
- 4 Chloroquine is used for the treatment of _____.

II. 5 What is Soft Soap ?

- 6 Draw the Two Tautomeric forms of Nitro methane.
- 7 What are Teflons ?
- 8 Mention one synthetic application of Lead Tetraacetate.

III. 9 How is Diazonium chloride prepared from aniline ?

- 10 Name the reagent used for the separation of Primary Secondary and Tertiary amines.
- 11 Write the reagents for Hoffmann Bromamide reaction.
- 12 Write the monomer units in Natural Rubber.

IV. 13 What is Benedict's reagent ?

- 14 What are chromophores ?
- 15 What is DCC ?
- 16 Name one Anthraquinone dye.

(4 × 1 = 4)

Section B

Answer any five questions.

Each carries a weight of 1.

- 17 How is Bismark Brown prepared ?
- 18 How is Formaldehyde resins prepared ?

Turn over

- 19 Explain the relative stability of Cyclohexane and Cyclobutane.
- 20 How can NMR spectroscopy be employed in distinguishing Ethane, Ethylene and Acetylene?
- 21 Write the products formed when Nitrobenzene is reduced in alkaline medium.
- 22 Explain Sandmeyer reaction with suitable mechanism.
- 23 What are the advantages of using TMS as internal standard in NMR spectroscopy? Explain.
- 24 What is Fehling 'Solution'? How will it react with Glucose?

(5 × 1 = 5)

Section C

Answer any four questions.

Each carries a weight of 2.

- 25 Give one method each for the preparation of Alizarin and Indigo.
- 26 How will you separate Primary, Secondary and Tertiary amines? Explain.
- 27 Write the composition of Soap and explain its detergent action.
- 28 Draw the structure and explain the mode of action of Sulphanilide.
- 29 Write briefly on the synthesis of SBR and Nitrile rubbers.
- 30 An organic liquid containing C, H and O gives an I.R. absorption at 1720 cm^{-1} . $^1\text{H NMR}$ has a single peak at δ 2.1. Identify the possible structure of the compound and explain your answer.

(4 × 2 = 8)

Section D

Answer any two questions.

Each carries a weight of 4.

- 31 Explain the mechanism of the following:
 - (a) Gattermann reaction.
 - (b) Arndt-Eistert synthesis.
 - (c) Schiemann reaction.
 - (d) Hoffmann Bromamide reaction.
- 32 Write briefly on:
 - (a) LAS and ABS detergents.
 - (b) Norrish reactions of acyclic ketones.
 - (c) 1,4 addition of Butadiene.
- 33 Discuss on-Quarternary amine salt:
 - (a) Phase transfer catalyst.
 - (b) Write briefly on two synthetic applications of Diazo acetic ester.

(2 × 4 = 8)