## B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2012

### 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  Methyl orange is used as ————.

   2  Fluorescein is an example of ———— type of dye.

   3  ———— is used as a drug for cancer.

   4  Schiff's reagent is used for detecting ————.

II.  5  Mention *one* use of Raney Nickel.

   6  What is Anlagin chemically ?

   7  Write the formula of Phenyl Hydrazene.

   8  What are Epoxy resins ?

III.  9  Name *one* Synthetic Rubber.

   10  What are the *two* fautomeric forms of Nitro methane ?

   11  What is NBS Mention one of its use ?

   12  How many PMR signals are obtained for Benzene ?

IV.  13  One mode of vibration of $CO_2$ molecule will not give IR spectra. Name it.

   14  How will you convert Benzene diazonium chloride into phenol ?

   15  $CH_3NH_2$, $\begin{array}{c} CH_3 \\ CH_3 \end{array}\Big\rangle NH$ and $C_6H_5NH_2$ write the order of Basicity.

   16  Write *one* example for vat dye.

$(4 \times 1 = 4)$

Turn over

## Section B

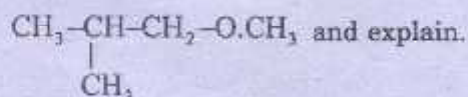*Answer any* **five** *questions.*
*Each carries a weight of* 1.

17  What is Grabriel-Phthalimide Synthesis ?

18  How is Malachite Green prepared ?

19  Give the 'structure and application' of Paracetamol.

20  What do you mean by phase transfer catalyst ? Explain how Quartenary amine salt act as phase transfer catalyst ?

21  What are Ziegler-Natta Catalyst ? Mention *one* of its use in organic synthesis.

22  How will you distinguish between *ortho* hydroxy Benzoic acid and p-hydroxy Benzoic acid using IR spectra ?

23  What is coupling reaction ? Explain with an example.

24  Give one method for the preparation of Phenyl Hydrazene. Name *one* use of it related to Glucose.

$(5 \times 1 = 5)$

## Section C

*Answer any* **four** *questions.*
*Each carries a weight of* 2.

25  Write briefly on LAS and ABS detergents.

26  Discuss on Formaldehyde resins its preparation and applications.

27  Explain the theory of Colour and Constitution.

28  Discuss Norrish reactions of acylic ketones.

29  Write briefly on the structure and mode of action of Chloramphenicol.

30  Give the NMR splitting pattern of the signals for the Hydrogen atoms in the spectra of

$CH_3-CH-CH_2-O.CH_3$ and explain.
  $|$
  $CH_3$

$(4 \times 2 = 8)$

## Section D

*Answer any* **two** *questions.*
*Each carries a weight of* 4.

31  (a)  Explain in detail any *two* synthetic applications of Diazomethane.

   (b)  What is Arndt-Eistert synthesis ? Explain the mechanism involved.

32  (a)  Write in detail the reduction product of Nitro benzene in alkaline medium and hyeletrolytic reduction.

(b)  Explain the principle involved in the determination of molecular mass by mass spectroscopy.

33  Explain the following :—

(a)  Diels Alder reaction.

(b)  Photo Fries rearrangement.

(c)  Gahermann reaction.

(d)  Hoffmann Bromamide reaction.

$(2 \times 4 = 8)$