

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Chemistry—Core Course

CH 6B 16—ORGANIC CHEMISTRY—III

Time : Three Hours

Maximum : 30 Weightage

I. Multiple choice and fill in the blanks type questions. Answer all *twelve* questions**1 Paper chromatography is basically _____ chromatography,****(a) Adsorption.****(b) partition.****(c) both of the above.****(d) None of the above.****2 The most basic among the following is _____****(a) p****(b) pyridine.****(c)****(d) piperidine.****3 Green synthesis involves _____****(a) enzymes.****(b) minimum solvents.****(c) minimum reagents,****(d) All of the above.****4 Carbohydrates are characterised by the presence of _____****(a), OH. groups.****(b) Carbonyl groups.****(c) chiral carbons.****(d) All of the above.****5 Which of the following reagent reacts with glucose and fructose to give the same product ?****(a) Hydroxyl amine.****(b) phenyl hydrazine.****(c) hydrazine.****(d) all of the above.****6 Which of the following is an azo dye ?****(a) Alizarin.****(b) Methyl orange.****(c) phenolphthalein.****(d) All of the above.****7 A group that gives the colour of a dye is called _____.****8 Malonic ester reacts with urea in presence of POCl_3 gives _____.****9 The attacking electrophile in the nitration of benzene using nitrating mixture is _____.**

Turn over

- 10 Suggest the sugar present in RNA.
- 11 Suggest the monomer of Nylon 6.
- 12 UV spectroscopy is also called _____ spectroscopy.

(12 x ¼ = 3 weightag

II. Short answer type questions. Answer all *nine* questions :

- 13 Explain the importance **R_f** value.
- 14 Draw the structure of malachite green.
- 15 Explain the **tautomerism** in **nitromethane**.
- 16 Mention any two applications of UV spectroscopy.
- 17 Explain the term **isoelectric point**.
- 18 What is Gabriel **phthalimide** synthesis ?
- 19 How is ethanol differentiated from **ethanal** using IR spectroscopy ?
- 20 Enlist any two functions of lipids.
- 21 What is Lactose

(9 x 1 = 9 weightage)

III. Short essays *or* paragraph questions. Answer any *five* questions :

- 22 Discuss briefly the principle of column chromatography.
- 23 Discuss the **NMR characteristics** of ethyl bromide.
- 24 Discuss solid phase peptide synthesis.
- 25 Explain-the Strecker synthesis of amino **acids**.
- 26 Discuss the structure of pyridine and comment on its **electrophilic** and **nucleophilic** reactions.
- 27 Discuss the structure of sucrose and comment on its reducing property.
- 28 Outline the synthesis and any two applications of **ethyl acetoacetate**.

(5 x 2 = 10 weightage)

N. Essay questions. Answer any *two* questions :

- 29 Discuss in detail the structure of RNA and **cellobiose**.
- 30 Discuss a method of preparation of aniline and **quinoline**. Explain any two **substitution** reactions of each of **them**.
- 31 Discuss any *eight* principles of green chemistry citing examples.

(2 x 4 = 8 weightage)