SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2015

(UG–CCSS)

Core Course

Chemistry

CH6 B16—ORGANIC CHEMISTRY—III

me : Three Hours   Maximum : 30 Weightage

I. Multiple choice or fill in the blank type. Answer *all* questions. Each question carries a weightage of ¼ :

1. The finger print region in the IR spectrum lies between ——————— and ———————.

2. Starch is a ——————— saccharide.

3. Bromine water oxidation of glucose gives ———————.

4. Which among the following is a non-reducing sugar ?

   (a) D(+)–glucose.   (b) fructose.

   (c) sucrose.   (d) L(–)–glucose.

5. Among the following which is optically inactive ?

   (a) serine.   (b) alanine.

   (c) glycine.   (d) cystine.

6. ——————— is the oldest known dye.

7. ——————— is an example of an acidic amino acid.

8. Which among the following is not present in DNA ?

   (a) uracil.   (b) adenine.

   (c) guanine.   (d) thymine.

9. The most basic among the following is :

   (a) pyrrole.   (b) pyridine.

   (c) piperidine.   (d) quinoline.

10. ——————— is an example of an anthraquinone dye.

11. Green chemistry reduces the use and generation of ———————substances.

12. ——————— coined the term green chemistry.

(12 × ¼ = 3 weightage)

Turn over

II.   Short answer type questions. Answer all *nine* questions. Each question carries a weightag

13   Arrange anthracene, benzene and naphthalene in the decreasing order of λ max ?

14   Why TMS is used as an internal standard in NMR spectroscopy ?

15   How will you distinguish between ethanol and acetone by IR spectra ?

16   What is Hoffman's elimination ?

17   Write the products obtained by the complete hydrolysis of triglycerides.

18   What are the vitamins present in vitamin B_6 ?

19   What happens when quinoline is treated with sodamide ?

20   Give the microwave assisted Diels-Alder reaction.

21   What is meant by atom economy ?

$(9 \times 1 = 9$ weig

III.   Short essays or paragraph questions. Answer any *five* questions. Each question carries a wei
of 2 :

22   Explain the principle of thin layer chromatography.

23   Represent a purine nucleoside.

24   Draw the resonating structures of pyrrole.

25   What happens when ethyl aceto acetate is treated with hydroxylamine ?

26   How phenolphthalein is synthesized ?

27   Explain briefly the biosynthesis of proteins.

28   Give an account of ultrasound assisted reactions.

$(5 \times 2 = 10$ weig

IV.   Essay Questions. Answer any *two* questions. Each question carries a weightage of 4 :

29   Discuss the primary, secondary and tertiary structure of proteins.

30   Describe the various steps involved in Killiani-Fischer synthesis.

31   Give an account of the structure and biological importance of :

   (i)   nicotine.

   (ii)   piperine.

$(2 \times 4 = 8$ weig