GCC-2101 Seat No. _____

M. Sc. (Sem. IV) Examination

April/May - 2017

CHN - 701 (O) Organic : Paper - I

Time : 3 Hours] [Total Marks : 70

1 Answer any two : 14

(1) Describe chemical relationship between α-Amylose and β-Amylose.

(2) Write a short note on photosynthesis of carbohydrates.

(3) Write a synthesis of thymine and uric acid.

(4) Discuss the attachment of sugar to base in purine nucleoside.

2 Answer any two : 14

(1) Describe stereochemisry of bicyclo [2, 2, 2] octane and bicyclo [2, 1, 1] hexane.

(2) Discuss conformational analysis of benzene hexa chloride.

(3) Discuss the conformational analysis of cyclohexane 1,2 dicarboxylic acid.

(4) Describe conformation of 2-OH-methyl-1-cyclo propane dicarboxylic acid and cyclohexanone system.

3 Answer any two : 14

(1) Describe the structure of progesterone.

(2) Write a synthesis of cortisone.

(3) Explain proof for the position of nature of side chain in Ergosterol.

(4) Write in detail the general biosynthesis of steroids.

4 Answer any two : 14

(1) Write a short note on nuclear overhouses effect.

(2) Explain the TOCSY spectrum information of β-lactose.

(3) Give a brief account on NMR shift reagents.

(4) Explain about H–^{13}C cosy, and ^{1}H–^{1}H cosy.

5 Answer any seven : 14

(1) Draw a structure of cellulose.

(2) Write synthesis of adenine.

(3) What is perbiotic chemistry ?

(4) Draw only structure of bicyclo (1,1,1) pentane.

(5) Define : Conformer and draw a conformers of monocyclic compound cyclopropane.

(6) Give any one difference between oestrone and oestriol.

(7) Draw a structure of lanosterol.

(8) What is the meaning of spin decoupling ?

(9) Write the main difference between CW and FT NMR.

(10) Write full form of HMBC and HMQC.