



EASTERN UNIVERSITY, SRI LANKA

FIRST SEMESTER THIRD EXAMINATION IN SCIENCE

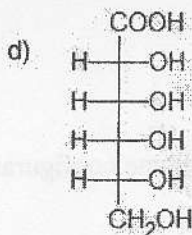
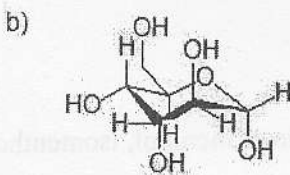
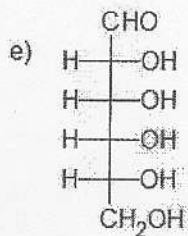
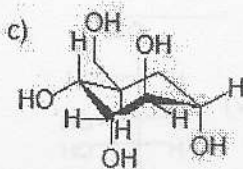
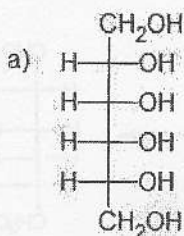
2009/2010 (JUNE – JULY 2011)

CH 301: CHEMISTRY OF NATURAL PRODUCTS
(Proper & Repeat)

Answer all questions

Time Allowed: One hour

1(i). Which of the following compounds belong to carbohydrates family? Give reasons.



(20 marks)

(ii). Glucose-6-phosphate isomerase catalyzes the interconversion of glucose-6-phosphate (an aldose) and fructose-6-phosphate (a ketose). Draw the structure(s) of the reaction intermediate(s).

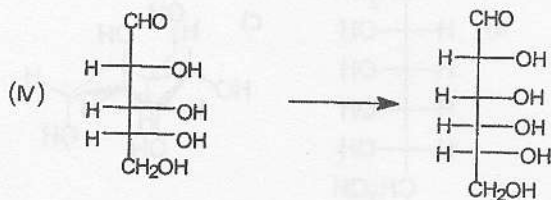
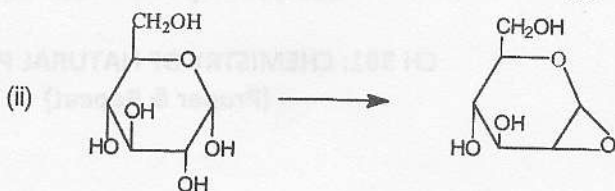
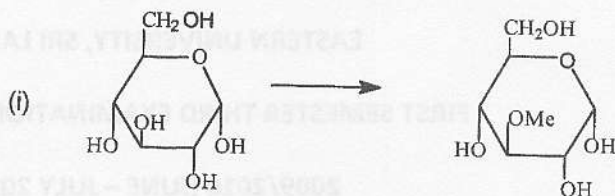
(20 marks)

(iii). What is muta-rotation? Explain with a suitable example.

(20 marks)

Contd.

(iv). By means of equations show how the following transformations may be effected. Give essential experimental conditions



(40 marks)

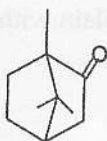
2(i). Write the cyclohexane configuration of menthol, isomenthol, neomenthol and neoisomenthol.

(20 marks)

(ii). Give the isomeric natures of Citral and discuss a method to synthesis one of its isomers.

(20 marks)

(iii). Outline one method to synthesis of camphor starting from readily available compounds.



camphor

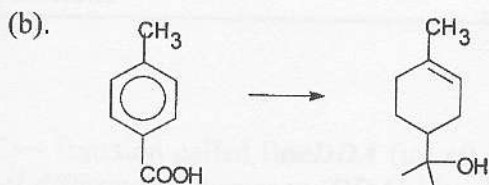
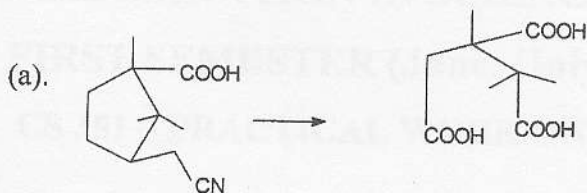
(20 marks)

Contd..

(iv). Show how Phenyl isothiocyanate (Ph-NCS) could be used to determine the N-terminal residue in a peptide.

(20 marks)

(v) By means of equations, show how the following conversions could be effected. Give essential experimental conditions.



(20 marks)