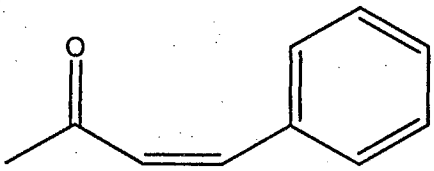
Uva Wellassa University, Sri Lanka
End Semester Examination – June 2010
CHE 361-1 Advanced Organic Chemistry

Time: One (01) hour

Total six (06) Questions
Question three (03) is compulsory
Answer one (01) question from Part A and three (03) questions from Part B

Part A

1. Consider the *compound A* given bellow



compound A

I. Sketch the ^{1}H-NMR spectrum of the *compound A.*
II. Sketch the ^{13}C-NMR spectrum of the *compound A.*

(50 marks)

2. Deduce the Structure of *Compound B* ($C_{10}H_{12}O$) having the following spectral data. IR $\sqrt{}_{max}$ 1715 cm^{-1}; ^{1}H-NMR 7.30 (s,5H) 1.53 (d,3H), 2.13 (s,3H), 3.81(quartet,1H)

(50 marks)

Part B

3. Giving reactions, illustrate the three steps of chain growth polymerization (initiation, propagation, termination), using propene as the monomer molecule. (20 marks)

4. I. Define the term surfactant
   II. Explain the structure of a typical soap molecule and how does it involve in clearing an oily patch from a surface

(15 marks)

5. I. Briefly describe three main steps in the processing of crude oil.?
   II. Explain the purpose of adding antiknocking compounds to gasoline (petrol)?

(15 marks)

6. Write a short account on one of the following topic
   I. Petrochemicals
   II. Natural Rubber

(15 marks)