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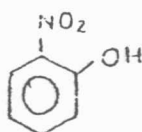
2008-2009  
B.Sc. (HONS.) (PART-I) EXAMINATION  
(CHEMISTRY)  
ORGANIC CHEMISTRY  
(CH 112)

Maximum Marks : 26

Duration : Two Hours

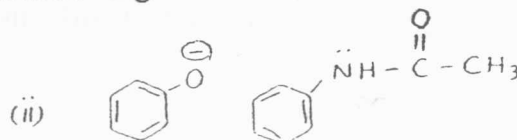
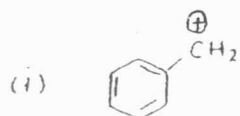
NOTE: Answer all questions. Marks are indicated against each question.

- 1 (a) Which of the following compounds is less soluble in water. Give reason. (1½)

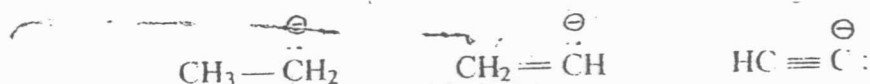


- (b) Give an account of localized and delocalized chemical bonds. (1½)

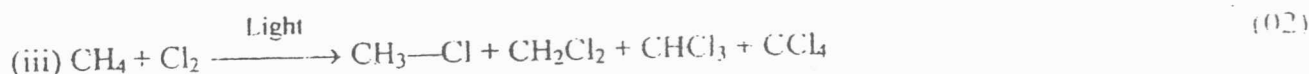
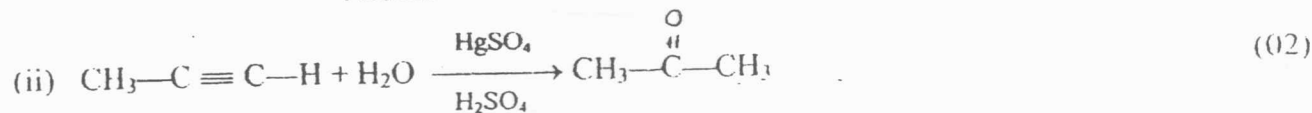
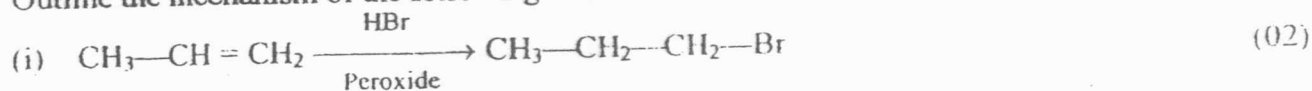
- (c) Draw the resonating structures of the following. (1½)



- (d) Compare the stability of the following carbanions. Give reason to your answers. (1½)



2. Outline the mechanism of the following.



OR

- 3 (a) Describe briefly the hydroboration-oxidation reaction of alkene. (02)

- (b) What are various types of dienes. Illustrate 1,2 and 1,4-addition reactions of conjugated dienes with suitable examples. (02)

- (c) Give an account on acidity of alkynes. (02)

- 3 (a) Explain the role of activating and deactivating substituents in electrophilic aromatic substitution reactions. (2½)

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- (b) Discuss  $S_N^1$  and  $S_N^2$  mechanism in alkyl halides. Support your answer with energy profile diagram. (2½)
- (c) Explain preparation of cyclopentane using Dieckmann condensation. (02)

OR

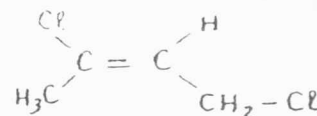
3. Predict the product and give the mechanism for the following transformations.



4. (a) What is the difference between configuration and conformation. Give all the possible conformational isomers of n-butane and compare their stability. (2½)
- (b) Explain E & Z isomers of alkene and identify the following compounds as E or Z isomers. (2½)



(ii)



- (c) Explain the term R & S configurations with suitable examples. (02)