

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
 TEST-2 EXAMINATION-2016
 B.Tech 2nd Semester

COURSE CODE: 14B11BT211

MAX. MARKS: 25

COURSE NAME: General chemistry

COURSE CREDITS: 04

MAX. TIME: 1 Hr 30 Min

Note: All questions are compulsory. This paper contains two pages.

Q1. Answer the following questions.

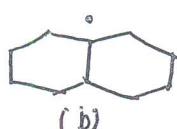
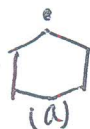
[1x4=4]

a) Explain why ethers, but not alcohols, are used as solvents for reactions that involve Grignard reagents?

b) Give IUPAC name of following compounds



c) Rank the following radical in order of increasing stability (least stable first).



d) Why Vitamins are often sold in brown bottles?

Q2. How alcohols and carboxylic acids are synthesized using appropriate Grignard reagent? [2]

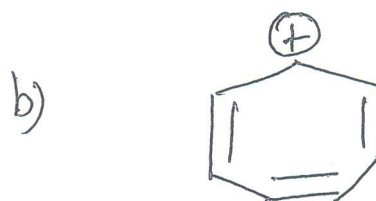
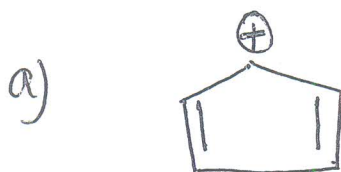
Q3. Explain Baeyer strain theory for cycloalkane and highlight its limitation. [2]

Q4. Consider the following reaction. Predict whether an increase in temperature will favor reactant or product. Justify your answer. [2]



Q5. Explain aromatic substitution by electrophile in stepwise manner. [2]

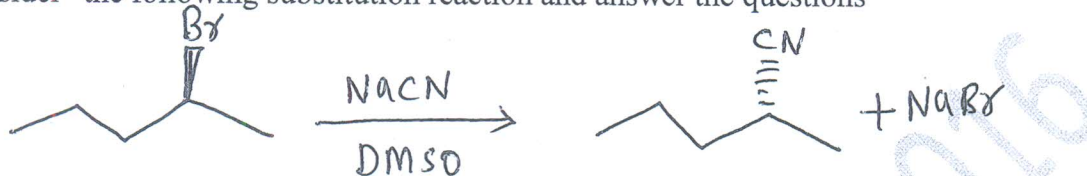
Q6. Explain criteria for aromaticity and determine whether each of the following ions is aromatic, nonaromatic or anti aromatic? [3]



Q7. When 2-methyl propene reacts with HBr then addition takes place according to markonikov rule. But when the same reaction is carried out in the presence of peroxide (ROOR) antimarkonikov addition product results. Explain Why?

Q8. Write E1 and E2 mechanism for elimination reaction by taking suitable example. [3]

Q9. Consider the following substitution reaction and answer the questions [4]



- Determine whether this reaction proceeds via SN1 or SN2 process
- Draw the mechanism of this reaction
- What is the rate equation of this reaction?
- Draw energy diagram of the reaction above.