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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -2 EXAMINATION- 2019
B.Tech IIIrd Semester

COURSE CODE: 18B1BT314

MAX. MARKS: 25

COURSE NAME: GENERAL CHEMISTRY

COURSE CREDITS: 03

MAX. TIME: 1.5 HR

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1. Answer/ explain the followings.

[COV] [1x8=8]

- Difference between nucleophilicity and basicity
- Name any two polar aprotic solvent
- Reactivity of anion is high in polar aprotic solvent
- Spontaneity in terms of free energy and enthalpy
- Criteria for aromaticity
- Reactive intermediates
- How many moles of potassium bromide are contained in 150 ml of 1.5 M potassium bromide solution
- IUPAC name of the following compounds

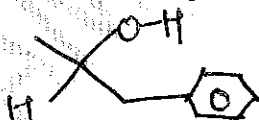


Q2.

a) Draw step by step mechanism of nucleophilic substitution and elimination reactions with explanation of rate equation, stereochemical requirement and outcome, and energy diagram. Explain with suitable example the competition between substitution and elimination reaction.

[6] [CO III]

b) Complete the synthesis of following molecule using appropriate Grignard reagent. [2] [CO III]



Q3. a) Draw the structure of various types of diene. Give any one method of preparation of diene. [1.5]

b) Give any two examples of pericyclic reactions. [1.5]

c) What product forms when HBr added to 2-methyl propene? (Explain mechanism) [2]

d) Consider the following reaction and predict whether direction of reaction at very high and very low temperature. [2]



e) predict all the products formed in following reaction. Use appropriate arrow to explain product formation. [2]

[CO III]

