Roll No. .....

# 21203

## B. Sc. (Pass Course) 2nd Semester Examination – May, 2019

### CHEMISTRY-III (Organic Chemistry-III)

**Paper : CH-203**

*Time : Three hours ]* *[ Maximum Marks : 29*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

***Note :*** Attempt ***five*** questions in all, selecting ***one*** question from each Unit. Question No. **1** is ***compulsory*** and is of **5** marks. All other questions are of **6** marks.

**1.** Compulsory Question : 5 × 1 = 5

(a) What is Hoffmann elimination reaction ? Explain with suitable example.

(b) Write down the attacking species in sulphonation of benzene.

(c) Define anti-aromatic compounds. Give examples.

P. T. O.



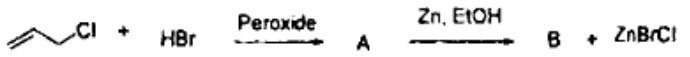


(d) What happens when $CaC_2$ is treated with $H_2O$ ?

(e) Write down the structure of 1-chloro-2,2 dimethylpropane.

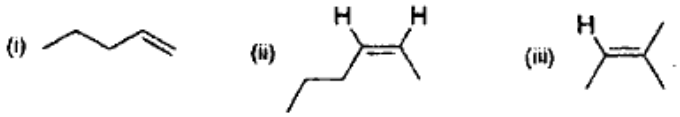
### SECTION – A

**2.** (a) Identify A and B in the following reaction : 3

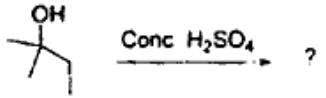



(b) How will you differentiate between 1-pentene and 2-penetene by ozonolysis method ? 3

**3.** (a) Write IUPAC name of the following compounds : 3

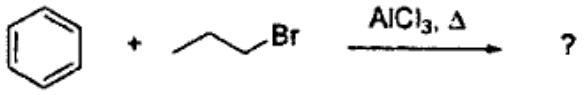



(b) Write down the product with mechanism for the following reaction : 3



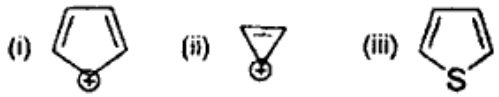

### SECTION – B

**4.** (a) Describe the mechanism of following Friedel-Crafts alkylation reaction : 3



(b) Write down the steps involved in the n
toluene with mechanism.

5. (a) Which of the following has aromatic ch
why ?




(b) How will you account for the fact th
group at the benzene ring is *ortho-*
directing while –CHO group is *meta-* d
nature ?

## SECTION – C

6. (a) Discuss the orbital structure of acetyl
will you explain the acidic nature of C-
acetylene ?

(b) Write down the effect of temperature o
to conjugated dienes.

7. (a) Write a short note on Diels-Alder reactio

(b) Discuss the relative stabilities of the c
dienes over isolated dienes.





## SECTION – D

(a) Why are $S_N^2$ displacements more difficult with 2-chloro-2-methylbutane than with 1-chloro-2-methylbutane ? 3

(b) Explain the mechanism of $S_N^1$ reaction of R-X with energy profile diagram. 3

(c) How does the resonance theory explain the low reactivity of halides ? 3

(d) Give mechanism of elimination-addition reaction in halides and also give evidence in support of it. 3