

Exam. Code : 103201

Subject Code : 1269

B.A./B.Sc. 1st Semester

CHEMISTRY

(Organic Chemistry—I)

Time Allowed—Three Hours] [Maximum Marks—35

Note :—Attempt **FIVE** questions selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

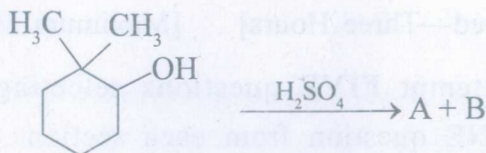
SECTION—A

1. (a) Out of ethylamine and acetamide, which one is more basic and why ? 3
- (b) An aqueous solution of tropyllium bromide on treatment with AgNO_3 gives precipitate of AgBr . Explain. 4
2. (a) Cyclohexnone exists in keto form while cyclohexa-2,4-dien-1-one exists in enol form, explain. 3
- (b) Arrange the following carbanions in increasing order of stability and justify :
 ${}^{\ominus}\text{CH}_2\text{COOC}_2\text{H}_5$, $(\text{CH}_3)_3\text{C}^{\ominus}$, $(\text{CH}_3)_2\text{HC}^{\ominus}$ 4

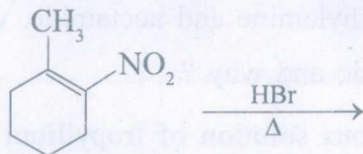
SECTION—B

3. (a) Discuss Corey-House reaction with a suitable example. 3

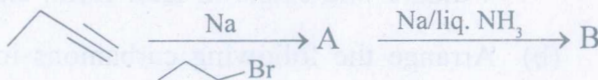
(b) Complete the following reaction and provide a suitable mechanism : 4



4. (a) Complete the following reaction and provide a suitable mechanism : 3



(b) Complete the following reaction by providing the structure of A and B. Also provide a suitable mechanism for the formation of B : 4

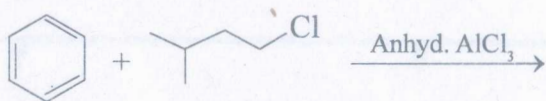


SECTION—C

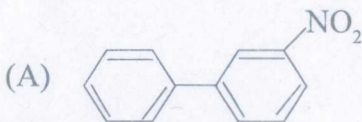
5. (a) Enlist the differences between S_N1 and S_N2 reaction. 5
- (b) How do you account for the racemization of (+)-2-iodobutane when it is allowed to react with iodide ion ? 2
6. Discuss Baeyer's strain theory. How it is used to explain the reactivity of cyclopropane and cyclobutane rings ? Also discuss its limitations. 7

SECTION—D

7. (a) Complete the following reaction and provide a suitable mechanism : 5



- (b) Predict the product of mono-nitration of the following : 2



8. Predict the product/products in the following reactions :

3+2+2

