


Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Semester Examination, Dec 2020

Course: Organic Chemistry II

Semester: III

Program: B.Sc. Hons. Chemistry

Time 03 hrs.

Course Code:

Max. Marks: 100

SECTION A

1. Each Question will carry 5 Marks

2. Instruction: Complete the statement / Select the correct answer(s)

S. No.	Questions	Cos
Q 1	(True or false) a. Aldehydes are more reactive than ketone b. Protons in the active methylene group are acidic c. Vicinal alcohols undergo dehydration in the presence of acidic medium d. Clemmensen reduction is used to convert carbonyl group to alkanes. e. Reaction of carboxylic acid with LiAlH_4 gives alcohols	CO1
Q 2	a. _____ Reagent is used in Wolf Kishner reaction b. Acidity of α -chloro acetic acid is _____ compared to acetic acid. c. Reaction of acetic acid with thionyl chloride yields _____ d. Carboxylic acids have _____ boiling point due to Hydrogen-bonding. e. Kolbe electrolysis of Carboxylic acids results in the formation of _____	CO1
Q 3	Lucas test is used to differentiate _____	CO1
Q4	Write the names of the reagents for the following conversions a. Benzaldehyde to toluene b. Acetone to isopropanol.	CO1
Q5	Write the reagents for the following name reactions a. Wittig reaction b. Meervin Ponderf Verley reaction c. Benzoin condensation	CO2
Q6	Claisen condensation involves the self-condensation of _____ in the presence of sodium ethoxide to yield _____	CO2

SECTION B

1. Each question will carry 10 marks

2. Instruction: Write short / brief notes

Q 7 a.	Discuss the application of Clemmensen reduction.	CO1
b.	Which type of reactants undergo Knoevenagel condensation. Discuss in details.	

Q 8 a.	What are the general types of organic reactions possible in alkyl halides? Discuss.	CO1
b.	Explain the stereochemistry of the product obtained by making tert. butyl chloride to react with aqueous potash in the presence of formic acid.	
Q9	Write the final products of Claisen Schmidt reaction with a suitable mechanism	CO2
Q10 a.	Evaluate preferable site of attack of methyl chloride on p-nitro toluene in the presence of anhydrous aluminium chloride.	CO2
b.	Discuss two examples of nucleophilic substitution reactions in aromatic compounds.	
Q11	Write a detailed mechanism of Perkin Condensation.	CO3

SECTION-C

1. Each Question carries 20 Marks.

2. Instruction: Write long answer.

Q 12 a.	Write a mechanism for the esterification of carboxylic acids	CO3
b.	Write a detailed mechanism for the following conversion	
	$\text{R-CH}_2\text{-COOH} \xrightarrow{\text{PBr}_3} \text{R-CH(Br)-COOH}$	
a.	Carry out following conversions: i. Methane to isopropyl alcohol ii. Ethane to perchlorodiethyl ether	CO3
b.	Explain: i. Write the mechanism for the decarboxylation of the silver salts of carboxylic acids in the presence of bromine or chlorine. ii. An organic reaction (with mechanism) utilizing carbene as intermediate.	