QP Code: RD21MSC069 | Reg. No | | | | | | | | | | | AR 21

GIET UNIVERSITY, GUNUPUR – 765022

M. Sc. (Third Semester) Examinations, December – 2022

20CHPE302 - Organic Chemistry – III

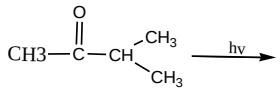
(Chemistry)

Time: 3 hrs | Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 10 = 20 Marks)**

Q.1. Answer ALL Questions	CO #	Blooms Level
a. What are HOMU and LUMO? Why those orbitals are so important in pericyclic reactions?	CO1	K1
b. [1,3] sigma tropic shift of hydrogen is thermally forbidden but photo chemically allowed. Explain?	CO1	K1
c. Discuss about Grothur's Drapper law.	CO2	K1
d. Complete the reactions.	CO2	K2



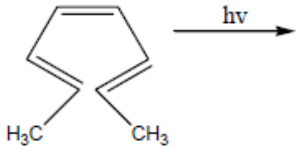
e. Why aliphatic aldehyde is not suitable for perkin reaction?	CO3	K1
f. What is semi pinacolone rearrangement?	CO3	K2
g. Write the product of the following reaction	CO4	K2

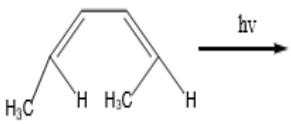
$HCHO + C_2H_5MgI \longrightarrow$

h. Discuss sigma tropic shift of alkyl group.	CO1	K2
i. What is quenching mechanism?	CO2	K2
j. How will you prepare long chain fatty acids using dialkyl cadmium?	CO3	K1

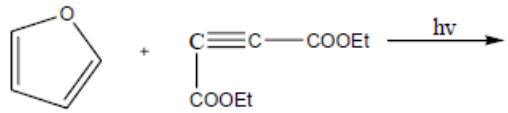
PART – B **(10 x 5 = 50 Marks)**

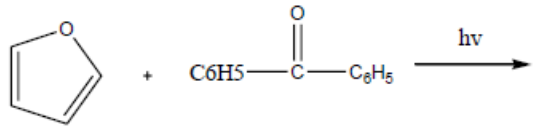
Answer ***ANY FIVE*** the questions	Marks	CO#	Blooms Level
2. a. What is Claisen rearrangement? Discussed with example.	6	CO1	K1
b. Write the products of the following electrocylic reactions and write whether the reaction proceeds in a conrotatory or disrotatory fashion. Also give the stereochemistry of the products.	4	CO1	K2



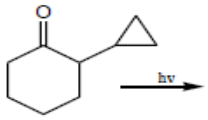


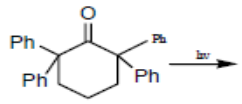
3.a. Write a details about Diel's alder reaction and what do you mean by zwitter ion?	6	CO2	K2
b. Complete the following reactions and give their mechanisms.	4	CO2	K1



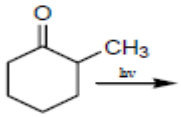


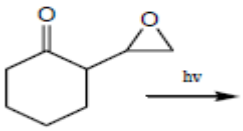
4. a.	Explain Jablonski Diagram in detail.	6	CO2	K2
b.	Find out the products of the following	4	CO2	K1



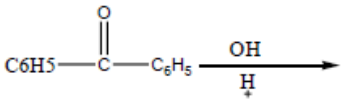


5.a.	Write Norrish type –2 reaction in details.	6	CO2	K2
b.	Find out the products of the following	6	CO2	K2





6.a.	Give the brief idea about Pinacol-Pinacolone rearrangement.	4	CO3	K1
b.	Write a short note on name reaction (i) Semi pinacolon rearrangement (ii) Fries rearrangement (iii)Witting rearrangement	6	CO3	K1
7.a.	What is Stobbe condensation write with mechanism and application ?	5	CO3	K1
b.	Complete the reaction with mechanism	5	CO4	K1



8.	Write a note on Organozinc compound.	10	CO4	K1

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