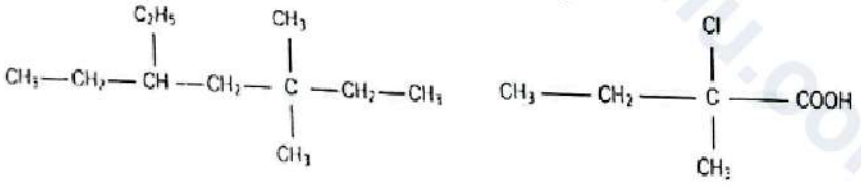
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Daffodil International University

Department of Nutrition and Food Engineering
Faculty of Health and Life Sciences
B.Sc. in Nutrition and Food Engineering
Midterm Examination Fall 2026

Course Code: 0531-1201
Level and Term: L-1, T-2
Time: 1 hour 30 minutes
Section: 262 All
Course Title: Organic Chemistry
Course Teacher Initials: DMR, DFR, SKP
Total Marks: 25

Maintaining the order of the questions is highly appreciated

				Marks
1	(a)	Write down the IUPAC names of the following organic compounds. i) ii) 	[CLO1, PLO1, C1]	2
	(b)	Show the possible structural isomers of $C_4H_{10}O$.	[CLO1, PLO1, C1]	3
2	(a)	Differentiate between addition and elimination reactions with examples.	[CLO1, PLO1, C2]	2
	(b)	Write the structure of the following compounds. i)3-ethyl-2,4-dimethylhexane (ii) 3-ethyl-4,5-dimethyloct-2-ene (iii) 3,5-dimethylheptan-3-ol	[CLO1, PLO1, C2]	3
3	(a)	Identify the following as nucleophilic or electrophilic reagents with justifications: i) H_2O, ii) OH^-, iii) SO_3, iv) NH_3	[CLO1, PLO1, C3]	2
	(b)	Explain: (i) Why are alkanes almost insoluble in water? (ii) Why does a cis-isomer generally have a higher boiling point than its corresponding trans-isomer?	[CLO1, PLO1, C3]	3
4	(a)	How does combustion of an alkane cause environmental problems?	[CLO2, PLO2, C3]	2
	(b)	Explain the mechanism for the chlorination of an alkane.	[CLO2, PLO2, C3]	3
5	(a)	Explain why a branched-chain alkane has a lower boiling point than its straight-chain isomer.	[CLO2, PLO2, C4]	2
	(b)	Outline the mechanism of addition of Br_2 to $CH_2=CH_2$.	[CLO2, PLO2, C4]	3