

Reg. No.:



Name:

University of Kerala

U8713

Second Semester FYUGP Degree Examination, April 2025

Discipline Specific Core Course

CHEMISTRY

UK2DSCCHE103 - ESSENTIALS OF ORGANIC CHEMISTRY

Academic Level: 100-199

Time: 1 Hour 30 Minutes(90 Mins.)

Max. Marks: 42

Part A. 6 Marks.Time:6 Minutes.(Cognitive Level:Remember(RE)/Understand(UN)) Objective Type. 1 Mark
Each.Answer all questions

Qn No.	Question	CL	CO
1	What is Cation exchanger?	RE	3
2	Name two crude drugs used for their antimicrobial properties.	RE	4
3	Arrange the following compounds in the increasing order of dipole moment CH_3I , CH_3Br , CH_3Cl	UN	1
4	How can we calculate R_f value?	UN	3
5	What is ash value?	UN	4
6	Draw the R isomer of lactic acid.	UN	2

Part B.8 Marks.Time:24 Minutes.(Cognitive Level:Understand(UN)/Apply(AP))Short Answer. 2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	What is meant by reaction intermediates? List four of them.	UN	1
8	Describe the concept of diastereomers and explain how they differ from enantiomers.	UN	2
9	A patient suffering from both pain and fever is advised to take paracetamol. Explain why paracetamol is suitable for this condition based on its mode of action.	AP	4
10	A water sample contains excess calcium ions. How would you set up a chromatographic method to purify this water?	AP	3

Part C. 28 Marks.Time:60 Minutes (Cognitive Level:Apply(AP)/Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer.7 marks each.Answer all 4 Questions choosing among options * within each question

Qn No.	Question	CL	CO
11	A) Design a step-by-step procedure to separate a mixture of amino acids using paper chromatography. OR B) Apply the principles of adsorption and partition chromatography to explain the separation of a dye mixture.	AP	3, 3
12	A) Compare the influence of electronic effects on the acidity and basicity of organic molecules using suitable examples. OR	AN	1, 1

Qn No.	Question	CL	CO
	B) Examine and compare the influence of electronic effects on the stability of carbocations and carbanions.		
13	A) Describe the optical isomerism in tartaric acid. Also assign R-S notation for meso-tartaric acid OR B) Critically evaluate the significance of symmetry elements in determining the optical activity of organic compounds, using examples such as lactic acid and meso-tartaric acid.	EV	2, 2
14	A) Explain the classification of drugs based on their action OR B) Explain the synthesis of aspirin and paracetamol.	CR	4, 4