

Reg. No.:



Y8595

Name:

University of Kerala

Second Semester FYUGP Degree Examination, June 2026

Discipline Specific Core Course

CHEMISTRY**UK2DSCCHE106 - GENERAL CHEMISTRY - II**

Academic Level: 100-199

2024 Admission onwards

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 was the name of the toxic gas that leaked during the Bhopal Gas Tragedy?	RE	2
2	Define fullerenes.	RE	1
3	Give two examples for neutral amino acids.	UN	3
4	Give the components of producer gas.	UN	4
5	Articulate any one peculiarity of the Lycurgus Cup.	UN	1
6	Give an example for an ionic liquid at room temperature.	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	Explain how chemical industries contribute to environmental pollution. Provide an example of a specific pollutant and its impact.	UN	2
8	How nutrients lead to eutrophication?	UN	2
9	Choose one naturally occurring nanosystem and describe how its nanoscale architecture determines its functions.	AP	1
10	If one of the strands of DNA has the following sequence of bases running in the 5'-->3' direction, 5'-G-G-A-C-A-A-T-C-T-G-C-3'. What is the sequence of bases in the complementary strand?	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) Compare and contrast the structure of polysaccharides starch and cellulose. OR B) Apply your understanding of different types of RNA to explain the role of each RNA in protein synthesis.	AP	3, 3
12	A) Analyse the factors that influence the size and shape of nanoparticles during synthesis. How do they affect the properties and applications of nanomaterials? OR B) How carbon nanotubes can be applied in aerospace applications, such as spacecraft or satellite components?	AN	1, 1
13	A) Ionic liquids are considered safer alternatives to traditional organic solvents. Evaluate their potential benefits and challenges in large-scale industrial applications. OR	EV	2, 2

Qn No.	Question	CL	CO
	B) After the Bhopal Gas Tragedy, significant discussions on safer chemical processes emerged. Assess how the tragedy influenced the adoption of green chemistry principles worldwide.		
14	A) Predict how thermal pollution from industries affects the dissolved oxygen levels in water and design a dual-stage industrial wastewater treatment system that uses activated charcoal and reverse osmosis. OR B) Design a water treatment system for a small community that includes sustainable and cost-effective methods.	CR	4, 4