Reg. No.: [redacted]

Name: [redacted]

University of Kerala

Y7913

Fourth Semester FYUGP Degree Examination, May 2026

Discipline Specific Core Course

CHEMISTRY

UK4DSCCHE200 - INORGANIC CHEMISTRY II

Academic Level: 200-299

2024 Admission

Time: 1 Hour **Max. Marks: 28**

Part A. 4 Marks ,Time 5 Minutes (Cognititve Level :Remember(RE)/Understand(UN))Objective Type 1 mark each, Answer all questions

Qn No.	Question	CL	CO
1	Define silicone fluid.	RE	1
2	Name two halogen containing chemical warfare agents.	RE	2
3	Name the device worn by radiation workers to continuously monitor their accumulated radiation exposure.	UN	3
4	State the role of H_2S in qualitative analysis.	UN	4

Part B. 8 Marks ,Time 15 Minutes (Cognitive Level :Understand(UN)/Apply(AP))Short Answer 2 marks each, Answer all questions

Qn No.	Question	CL	CO
5	Give the structure of P_4O_{10} .	UN	2
6	Describe the common ion effect and its role in qualitative analysis.	UN	4
7	The packing fraction of Iron-56 is 0.00783 amu per nucleon. Calculate its binding energy per nucleon.	AP	3
8	Explain the structural features of carboranes ?	AP	1

Part C. 16 Marks ,Time 40 Minutes (Cognitive Level :Apply(AP)/Analyse(AN)/Evaluate(EV)/)Long Answer 4 marks each, Answer all questions choosing among options* within each question

Qn No.	Question	CL	CO
9	A) An engineer selects silicon carbide for making abrasives explain why? OR B)	AP	1, 1

Qn No.	Question	CL	CO
	Explain the application of Zeolite Y and A.		
10	A) Analyze and compare the structures of phosgene and diphosgene. OR B) Analyze why IF_7 exhibits a pentagonal bipyramidal geometry while IF_5 shows a square pyramidal geometry.	AN	2, 2
11	A) Evaluate how the introduction of radiotherapy has revolutionised medical treatment. OR B) The atom bomb and hydrogen bomb both derive their destructive power from nuclear reactions .Compare their underlying principles and assess which poses a greater threat to humanity.	EV	3, 3
12	A) Develop a protocol for separation of Group III cations. OR B) Construct a flow chart for the systematic analysis of common anions in qualitative analysis.	CR	4, 4