



Reg. No.:

Name:.....



University of Kerala
First Semester Degree Examination, November 2024
Four Year Under Graduate Programme
Discipline Specific Core Course
CHEMISTRY
UK1DSCCHE105 - GENERAL CHEMISTRY I
Academic Level: 100-199

Time: 1½ Hours

Max. Marks: 42

Part A.
Answer All Questions
Objective Type. 1 Mark Each.
(Cognitive Level: Remember/Understand)
6 Marks. Time: 6 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	How does observation differ from an experiment?	Remember	CO-1,2
2.	Which scientist won Nobel prize for Chemistry and peace?	Remember	CO-3
3.	What is one benefit of using fluoride in toothpaste?	Understand	CO-4
4.	What does MSDS stand for?	Understand	CO-5,6
5.	What is deductive reasoning?	Understand	CO-1,2
6.	Name an acid-base indicator that changes color around pH 7?	Understand	CO-5,6

Part B.
Answer All Questions
Short Answer. 2 Marks Each.
(Cognitive Level: Understand/Apply)
8 Marks. Time: 24 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
7.	What are the main ingredients found in most shampoos, and how do they contribute to hair cleaning?	Understand	CO-4
8.	What immediate steps should be taken if someone receives an electric shock in the lab? Describe two actions.	Understand	CO-5,6
9.	Give an example of a specific chemical technique and its application in assessing water quality.	Apply	CO-1,2
10.	What was Joseph Priestley's key discovery, and why is it considered important in the history of chemistry?	Apply	CO-3

Part C.
Answer all 4 Questions, choosing among options within each question.
Long Answer. 7 marks each.
(Cognitive Level: Understand/Apply/Analyze)
28 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
11.	a. What are the primary branches of chemistry, and how do they interrelate with each other? OR b. Reflect on the significance of scientific literacy in society. How can understanding the scientific method and chemistry benefit individuals and communities?	Understand	CO-1,2
12.	a. What are the major contributions of Antoine Lavoisier, John Dalton and J. J. Thomson? OR b. Explore how Marie Curie's discoveries in radioactivity have influenced both chemistry and physics. How can her work be connected to current advancements in nuclear medicine and energy research?	Apply	CO-3
13.	a. Discuss how the chemical structure of detergents enables them to remove stains and grease from various surfaces. Provide examples of specific types of stains that detergents are particularly effective against. OR b. Analyze the chemical reactions of firecrackers. Discuss the importance of following safety guidelines when handling firecrackers and provide examples of such guidelines.	Apply	CO-4
14.	a. What steps would you take to handle an electric shock incident in the lab? Outline a basic first aid response. OR b. Describe the process of a redox titration. Which indicators can be used, and how do you determine the endpoint of the titration? Illustrate using potassium permanganate (KMnO_4) and iron(II) sulfate (FeSO_4) titration as an example.	Analyze	CO-5,6