


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Geochemistry Program: M Sc Petroleum Geosciences Course Code: PEGS 7030		Semester: I Time: 03 hrs. Max. Marks: 100	
Instructions: Attempt all questions. Internal choices are given in Q 8 and Q 10.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q1	Distinguish between fog and smog?	4	CO1
Q2	Describe four geochemical differences between crust and mantle.	4	CO1
Q3	Distinguish between phase and component of a thermodynamic system	4	CO1
Q4	Differentiate between conservative and recycled dissolved constituents in sea water.	4	CO1
Q5	Draw a cross section profile of earth showing its major discontinuities and label their distance from surface of earth.	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q6	Elaborate the reasons for formation of ozone hole in earth's atmosphere	10	CO2
Q7	Explain with a suitable diagram the working principle of ICP MS.	10	CO2
Q8	Elaborate the geochemical similarity of lunar rocks with earth's crustal rocks. OR Describe mineralogy and chemistry of rocks on mars.	10	CO3
Q9	Illustrate with examples, five major sources of air pollution in India.	10	CO3
SECTION C (2Qx20M=40 Marks)			
Q10	Explain the importance of carbon in biosphere and describe with suitable diagram the carbon biogeochemical cycle. OR Draw a vertical profile of earth's atmosphere and illustrate the role of various layers of atmosphere in making earth a dynamic livable planet.	20	CO5

Q11	Define hydrosphere and elaborate in detail various theories related to genesis of water / oceans on earth.	20	CO4
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