

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, Dec 2022

Course: Geochemistry
Program: M Sc. Petroleum Geosciences
Course Code: PEGS 7030

Semester: I
Time 03 hrs.
Max. Marks: 100

Instructions: All questions are compulsory.

SECTION A

S. No.		Marks	CO
Q 1	Define in one sentence the biosphere and elaborate how other super systems of earth support biosphere.	4	CO1
Q 2	Define AQI and list four major components of air pollution.	4	CO1
Q 3	Name four types of equipment used for geochemical analysis of rock and mineral samples. Write in brief what elemental and mineral analysis each equipment performs.	4	CO1
Q 4	Define two great oxidation events in the life cycle of earth along with their age and evidences that are present in geological record.	4	CO1
Q 5	Describe in brief what is global warming? Name four gases, which are primarily responsible for global warming?	4	CO1

SECTION B

Q 6	Discuss various hypotheses for origin of ocean water on earth.	10	CO2
Q 7	Describe solid solution. With help of forsterite-fayalite phase diagram, explain the formation of olivine solid solution while cooling of basaltic magma.	10	CO2
Q 8	Explain theory of continental drift and substantiate it with credible evidences proposed by earth scientists? Explain how theory of plate tectonics relates to continental drift.	10	CO3
Q 9	With suitable chemical equations, define chapman mechanism of formation of ozone in upper atmosphere.	10	CO3

SECTION-C

Q 10	Discuss in detail about atmosphere by drawing a diagram that shows its various layers and vertical variation of temperature and pressure. Assess the role of troposphere and stratosphere in sustaining life on earth.	20	CO4
Q 11	Examine in detail various factors involved in construction of geochemical cycle model and describe in detail oxygen biogeochemical cycle.	20	CO5