


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Course: Petroleum Geology		Semester: I	
Program: M. Sc Petroleum Geoscience		Time : 03 hrs.	
Course Code: PEGS 7004		Max. Marks: 100	
Instructions:			
I. All questions are compulsory.			
II. Read question carefully and write appropriate answer.			
III. Write correct unit in numerical after calculation.			
IV. Draw neat diagram with proper labeling to explain the answer			
SECTION A (5Qx4M=20Marks)			
Q. No.		Marks	CO
1	Define source and reservoir rocks with examples.	4	CO1
2	Differentiate Primary and Secondary migration of Hydrocarbon.	4	CO1
3	“In some cases, oil may be accumulated without closure” Justify the statement with reason?	4	CO1
4	Categorize sedimentary basins of India according to hydrocarbon prospectively.	4	CO2
5	Discuss the role of temperature and pressure in migration of oil.	4	CO2
SECTION B (4Qx10M= 40 Marks)			
6	Define permeability taking help of Darcy's Law. What do you understand by absolute, effective and relative permeability of a reservoir?	10	CO3
7	Enumerate fundamental differences between a sandstone and carbonate reservoir keeping in view their porosity and permeability character?	10	CO3
8	How the geometry of the folded reservoirs and the direction of water flow through it influence the amount of petroleum accumulations in them?	10	CO4
9	'Depending on the sequence of different lithology, accumulation or dissipation of heat would take place in a particular rock type' - Justify this statement with proper example and illustrative figures?	10	CO4
SECTION-C (2Qx20M=40 Marks)			
10	Discuss the components of petroleum system with their importance in hydrocarbon generation, migration and accumulation in economical condition.	20	CO3
11	Discuss the mechanism of salt tectonics, help in formation of hydrocarbon trap. With suitable illustrations, discuss different mechanisms of stratigraphic trap formation. OR Correlate possible tectonic motions in creating of structural and stratigraphic traps with examples and diagrams.	20	CO4