

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Supplementary Examination, Dec 2023

Course : Well Site Geology & Formation Evaluation

Semester : III

Programme : MSc (Petroleum Geo Science)

Time : 03 hrs

Course Code : PEGS 8005

Max. Marks : 100

Nos. of page(s) : 1

Instructions: Assume any data missing

SNo	SECTION A (5Qx4M=20Marks)	Marks	CO
Q 1	List various method to identify petroleum signatures in drilling mud.	4	CO1
Q 2	List various laboratory methods to evaluate the permeability of a core.	4	CO1
Q 3	List various applications of caliper log.	4	CO2
Q 4	Define shale index.	4	CO4
Q 5	Define Hydrogen Index (HI).	4	CO5
SECTION B (4Qx10M= 40 Marks)			
Q 6	Explain with a neat diagram the working of gas analyzer used to detect the hydrocarbon gas signatures in drilling mud.	10	CO1
Q 7	Classify various electrical logs and explain with a neat diagram the working of dual lateral log tool.	10	CO3
Q 8	Explain with neat schematic the working of a formation density log tool.	10	CO4
Q 9	Demonstrate with neat diagram the working a neutron log tool.	10	CO5
SECTION-C (2Qx20M=40 Marks)			
Q 10	Elaborate with neat diagram the electro-chemical and electro-kinetic interactions of ions contributing to individual as well as the combined Spontaneous Potential (SP) in the low saline formation.	20	CO3
Q 11	i. Explain with schematic elaboration the processes of gamma ray scattering and absorption in radioactive logging. ii. Illustrate with a neat diagram the working principle of a gamma ray log tool.	20	CO5