Name:

Enrolment No:



Semester: VI

Time: 3 hrs.

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

Course Name: B.Tech. APE-UP

Program: Formation Evaluation & Well Logging

Course Code: PEAU 3020 Max. Marks: 100

Nos. of page(s) 2

Instructions: All questions are compulsory

SECTION A (5Qx4M=20Marks)

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S. No.		Marks	СО
Q 1	What is the reason behind Bell Shaped or Funnel shaped Spontaneous Potential (SP) curve seen on some thick reservoir.	4	CO2
Q 2	Write the steps of Sonic log tool calibration.	4	CO4
Q 3	Write the applications of K-Th cross plot analysis.	4	CO3
Q 4	Write short note on natural gamma ray origin.	4	CO3
Q 5	Provide the names of common well logs used in both open and as well as in cased hole well analysis.	4	CO5
	SECTION B		1
	(4Qx10M=40 Marks)		
Q 6	Explain the following- a. Mud Logging b. MWD OR Write short notes on the following-	10	CO1
Q 7	a. Indonesian Equation b. Dual Water Model Analyze the different types of probe use in hold up measurement with	10	CO5
	the help of suitable diagram.	10	003
Q 8	Sketch and define the production logging in horizontal well.	10	CO5
Q 9	Explain invasion of resistivity profile in water bearing and oil-bearing zones by using oil base mud. Please draw appropriate diagrams to explain.	10	CO3
	SECTION-C		
	(2Qx20M=40 Marks)		
Q 10	Explain the steps of porosity calculations with the help of log interpretation flow chart for mono-mineral lithological formation and	20	CO4

	draw a separate flow chart for saturation interpretation.		
Q 11	Explain the process of Shaly Sand analysis and its different steps, each step should be accomplished in specific order. Determine the effective water saturation (Sw) with the help of various methods		
	OR	20	CO5
	What is Neutron log? Explain it with the help of its principle, neutron interaction with matter, neutron energy classification; and draw a rough neutron curve for hydrocarbon bearing sandstone formation that is sandwiched by shale.		