

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination May 2021

Program: B. Tech APE-UP-VIII Sem
Course: Production Logging
Course Code: PEAU 4004
Number of pages: 04

Semester: VIII
Time: 180 minute (3 hours)
Max. Marks: 100

SECTION A

Each question carries 5 marks
Attempt all questions

6 X 5 = 30 M

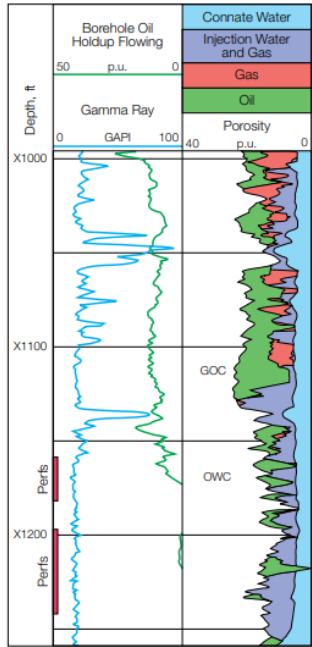
Q.No	Question	CO
1.	In Kappa-Emeraude Software, as discussed in the class, identify parameters that require match between observed and calculated logs for accurate calculation of phase-wise flow rates.	CO1
2.	State two advantages of coiled tubing and two limitations of coiled tubing in horizontal well applications.	CO1
3.	Name at least three tools that can indicate damage or corrosion in the internal part of the production casing/tubing.	CO1
4.	Identify factors affecting tractor performance in horizontal wells (cased or open hole).	CO1
5.	In Kappa-Emeraude Software in the Zoned method, state two strategies that you may apply for improvement in measured vs. calculated parameters matches at the inflow zones. Also, state what step is required in the software to address negative inflow values in a producing well.	CO2
6.	A well produces additional oil higher up in the well through the upper perforations in a oil-water system. Is the oil slippage velocity greater or smaller at the upper perforations compared to the lower perforations? Explain briefly.	CO2

SECTION B

Each question carries 10 marks
Attempt all questions

5 X 10 = 50 M

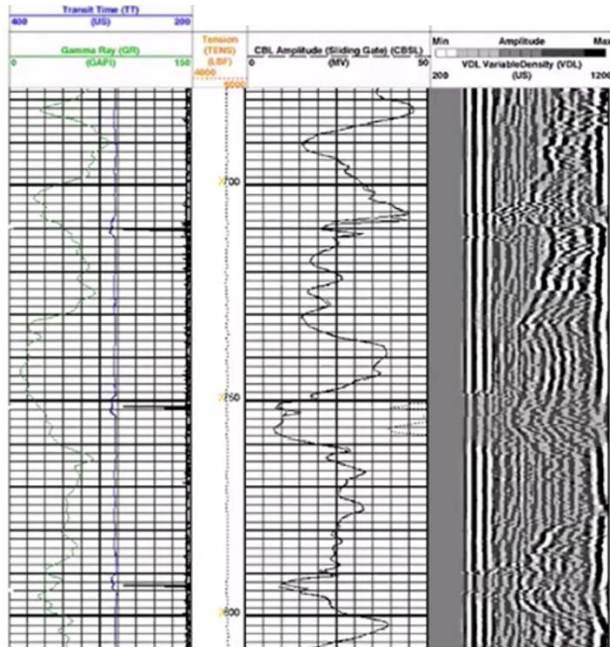
Note: The operator is not concerned with minor changes in oil production. It is only interested in reduced water cut without making new perforations.



5. Evaluate the figure below:

- Is it an overall good or poor cementing job? Explain briefly. Draw sketches, if needed.
- Is the formation velocity faster or slower than the casing velocity? Explain briefly. Draw sketches, if needed.

CO4



SECTION C

Each question carries 20 points
Attempt one question for your choice

1 X 20 = 20 M

Q.No	Question	CO
1.	<p>Perform a comparative evaluation of the two different methods used for calculating multiphase flow rates in horizontal wells. State the assumptions, if any, in these methods. Provide the limitation and advantages of these methods. Draw sketches and state equations if necessary. State your analysis regarding which method is easier to implement and which is more accurate.</p> <p style="text-align: center;">OR</p> <p>For vertical wells, describe in detail an overview of 3-phase holdup measurement using an RST tool (use sketches and equations if required). If an RST tool is not available in the field, present in brief, an alternate method (non-RST method) for three-phase holdup measurement calculations (no sketches or equations required for alternate method). Can there be discrepancies between the holdups calculated by RST and non-RST methods. If so, state your reasons regarding what may be causing such discrepancies. Also, Describe the advantages (if any) of using the RST method over the non-RST method of holdup measurement.</p>	CO5