

<b>Name:</b>	
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**Online End Semester Examination, December 2020**

<b>Course Name:</b> B.Tech. GSE	<b>Semester:</b> V
<b>Program:</b> Formation Evaluation & Well Logging	<b>Time:</b> 3 hrs.
<b>Course Code:</b> PEAU 4003	<b>Max. Marks:</b> 100
<b>Nos. of page(s)</b> 2	

**SECTION A**  
**Attempt all questions**  
**Maximum 60 words for each answer**

S. No.	Question	Marks	CO
Q 1	Write short note on Caliper Logging.	5	CO3
Q.2	State the applications of drilling fluid in well logging. Define Transit Time.	5	CO2
Q.3	Write the applications of K-Th cross plot analysis.	5	CO5
Q.4	Write the steps of Sonic log tool calibration.	5	CO1
Q.5	Provide the names of well logs used in both open and cased hole well analysis.	5	CO6
Q.6	What is the main application of Photo Electric logging?	5	CO3

**SECTION B**  
**Attempt all questions**  
**Maximum 200 words for each answer**

Q.7	Write short Notes on any two- I- Mud Logging II- Micro resistivity tool III- Temperature Log	10 (5+5)	CO3
Q.8	Describe the parameters of downhole well environment with their standard symbols.	10 (5+5)	CO2
Q.9	Summarize the steps of porosity calculations with the help of log interpretation flow chart for mono-mineral lithological formation.	10	CO6
Q.10	Construct the model of primary interaction with atom. What is gamma ray logging? Explain the Gamma Ray primary interaction with atom.	10 (4+6)	CO4
Q. 11	What is Induction Logging? Why do we use induction logging in formation evaluation?  Or Differentiate the LSS and BHC tools with help of their design and mechanism of data collection.	10 (6+4)	CO4

**SECTION-C**  
**Maximum 500 words**

Q.12	<p>Conclude the process of Shaly Sand analysis and its different steps, each step should be accomplished in specific order. Determine the effective water saturation (<math>S_w</math>) with the help of various methods for different lithologies.</p> <p style="text-align: center;">Or</p> <p>Describe coring in well logging. How do we handle and preserve it? Differentiate conventional and sidewall coring methods. Explain various data obtain from core analysis.</p>	<b>20</b> (5+5+5+5)	<b>CO5</b>
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