

Name:	
Enrolment No:	

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

<b>Course Name:</b> B.Tech. GSE & GIE	<b>Semester:</b> VII
<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> 1	

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

S. No.		Marks	CO
Q 1	Write short note on natural gamma ray origin.	5	CO3
Q.2	State the applications of drilling fluid in well logging. Define Transit Time.	5	CO2
Q.3	Write the applications of Neutron –Density cross plot analysis.	5	CO5
Q.4	Write the steps of gamma ray 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	Which log curve would be used to identify carbonate lithology?	5	CO3

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

Q.7	Write short Notes on any two I- Temperature Log II- Caliper log III- VSP	10 (5+5)	CO1
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	Describe the parameters of downhole well environment with their standard symbols	10	CO4
Q.11	Differentiate the principle of spectral gamma ray logging with natural gamma ray logging? Explain the Gamma Ray primary interaction with atom. Or Demonstrate the formation of Spontaneous Potential with help of suitable diagram. Explain applications of SP Log and effect of bed thickness on SP.	10 (4+6)	CO4

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

Q.12	Evaluate the collision of Neutrons with the formation atom and how it would be used to construct Neutron log? Explain it with the help of its principle, neutron interaction	20 (5+5+5+5)	CO5
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with matter, neutron energy classification; and draw a rough neutron curve for hydrocarbon bearing sandstone formation that is sandwiched by shale.		
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Or

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.		
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