



ROLL NO:

**PRESIDENCY UNIVERSITY, BENGALURU**  
**SCHOOL OF ENGINEERING**

Weightage: 20 %

Max Marks: 20

Max Time: 1 hr.

Monday, 24<sup>th</sup> September, 2018

**TEST – 1**

Odd Semester 2018-19

Course: **PET 210 Well Logging and  
Formation Evaluation.**

V Sem. Petroleum

**Instruction:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

(2 Q x 2 M = 4 Marks)

1. Which tool is used to determine the ability of a borehole to produce hydrocarbon?
2. What is porosity and write the basic equation.

**Part B**

(2 Q x 4 M = 8 Marks)

3. Write about the brief history of well logging. What measurement provides by the well logging from a production well.
4. What are the different types of well logging? Write about the specific problems due to the well log measurements.

**Part C**

(1Q x 8 M = 8 Marks)

5. State the principle of induction log tool with a neat diagram. Write about the various types of micro-resistivity tools. Discuss about the various factors affecting micro resistivity tools with a diagram.



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**TEST 2**

**Odd Semester:** 2018-19

**Course Code:** PET 210

**Course Name:** Well Logging and Formation Evaluation

**Branch & Sem:** PET & V Sem

**Date:** 27 November 2018

**Time:** 1 Hour

**Max Marks:** 20

**Weightage:** 20%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

Answer **all** the Questions. **Each** question carries **two** marks. (2x2=4)

1. Define GM. What does GM counter stands for?
2. What is natural gamma radioactivity and it's role during well logging?

**Part B**

Answer **all** the Questions. **Each** question carries **four** marks. (2x4=8)

3. Explain the origin of natural radioactivity in rocks.
4. What are the different methods of measuring gamma radiation? Mention some applications of these methods.

**Part C**

Answer the Question. Question carries **eight** marks. (1x8=8)

5. Describe three process of neutron logging with suitable diagrams. Define hydrogen-index with an equation. Determine partial concentration of hydrogen using the hydrogen-index equation.



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**END TERM FINAL EXAMINATION**

**Odd Semester:** 2018-19

**Course Code:** PET 210

**Course Name:** Well Logging and Formation Evaluation

**Programme & Sem:** PET & V Sem

**Date:** 27 December 2018

**Time:** 2 Hours

**Max Marks:** 40

**Weightage:** 40%

**Instructions:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

**Part A**

Answer **both** the Questions. **Each** question carries **five** marks. (2Qx5M=10)

1. Write about the primary importance for advanced log interpretation techniques. What are the two improved equations that have been generally used for the advanced log interpretation?
2. What are the fundamental factors affecting the measurement from a density log?

**Part B**

Answer **both** the Questions. **Each** question carries **ten** marks. (2Qx10M=20)

3. Define caliper log. Write its various application and factors that influence caliper log responses.
4. What is the importance of saturation-height analysis? Define J-function and write its significance on density log interpretation.

**Part C**

Answer the Question. Question carries **ten** marks. (1Qx10M=10)

5. Explain sonic log measurements with proper diagrams. Determine oil saturation for an uncompacted clean sandstone formation, where porosity is 35%, gas saturation is 0.115,  $R_w = 0.27 \Omega m$  at 140 °F and true resistivity found to be 25  $\Omega m$ .