Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST - 1

Even Semester: 2018-19 | **Date**: 05 March 2019

Course Code: PET 210 | **Time**: 1 Hour

Course Name: Well Logging and Formation Evaluation | **Max Marks**: 40

Programme & Sem: B.Tech (PET) & IV Sem | **Weightage**: 20%

Instructions:

(i) Read the questions 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 **three** marks. (5Qx3M=15)

1. (a) What are the objectives of learning Well Logging and Formation Evaluation (Petrophysics)? (b) What are the expected deliverables from well log analysts?
2. What are the information that a Reservoir Engineer would like to get from the analysis of well logs?
3. Write full form and units of "NPV", "GIIP", "GBV", "STOIIP", "HWC", and "HCPV",
4. Name at least 6 tools used for Wireline Openhole Logging.
5. What is "Stuck Tools"? Name any 2 types of sticking found to occur during logging.

Part B

Answer **all** the Questions. **Each** question carries **five** marks. (3Qx5M=15)

6. List 5 applications of Well Logging used in petroleum industry.
7. What is conventional core analysis? What are the information that a Petrophysicist can learn from conventional core analysis?
8. What are the functions of drilling mud?

Part C

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

9. What are the two categories of solid components that a Log Analyst distinguish in rock? Describe both the categories.
10. Discuss the measurements directly obtained from core plugs and used for Petrophysical Model.

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PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST - 2

Even Semester: 2018-19 | **Date**: 15 April 2019

Course Code: PET 210 | **Time**: 1 Hour

Course Name: Well Logging and Formation Evaluation | **Max Marks**: 40

Program & Sem: B.Tech. & IV Sem | **Weightage**: 20%

Instructions:

(i) Read the questions 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 **three** marks. (5Qx3M=15)

1. (a) Draw and explain the SP log signature for 'fining upward sequence'.
   (b) Name the depositional environment for 'fining upward sequence'.
2. (a) Name the logging tool that record while going down the well.
   (b) How it detects gas bearing zones?
3. Discuss basic principle of Neutron.
4. Name and explain the principles of two logging tools that can be used for determining permeability.
5. Draw and explain at least two SP log curves that represent different geological environments.

Part B

Answer **all** the Questions. **Each** question carries **five** marks. (3Qx5M=15)

6. (a) Compare the working principles of Induction log and Latero Resistivity log.
   (b) Write the Mud systems in which these tools work.
7. (a) Explain with neat diagram basic principle of Gamma Ray Detector and Photo-Multiplier tube.
   (b) Write the formula of V-shale.
8. (a) Write the names of 4 porosity tools and 3 litho logs.
   (b) Discuss the formula used for Density-Porosity calculation.

Part C

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

9. (a) Explain the basic principle of Density tool.
   (b) When Cycle-Skipping of Sonic tool will occur?
10. Discuss at least 4 Quality Checks for Acoustic Log.