


Quiz-1: Reservoir Geophysics and Deepwater Imaging (GPD 510)

Total points 17/26 

Answer all questions; no negative marks


Maximum marks: 26

Time: 8:00 am to 8:30 am

4th sem. M.Sc.Tech. & 8th sem. Integrated M.Tech.

The respondent's email (shiwani.19mc0074@agp.iitism.ac.in) was recorded on submission of this form.


 How many types of core acquisition are used to analyse petrophysical evaluation? * 1/2

Conventional core, Whole core 

Correct answer

Two, Side wall Core and Conventional Core

 Hydrocarbon has been found in the following basin/basins. * 2/2

- Bhiana-Kaladgi
- Bastar
- Karewa
- None of the above 



✗ Estimate the permeability of a clean formation where $GR = 22$ API units. .../2
ID = 100 Ohm m, $\rho_B = 2.55$ gm/cc and Porosity = 18%. ID = Deep resistivity and ρ_B = Bulk Density *

0.4 mD

✗

Correct answer

25.6 mD

✓ Which factor/factors affect/affects the porosity of the rock matrix? * 2/2

- Particle shape
- Particle arrangements
- Cementation
- Above all

✓

✓ What is MWD and LWD for acquiring borehole information? * 2/2

Measurement while drilling, Logging while drilling

✗

Correct answer

Measurement While Drilling and Logging While Drilling, simultaneous measurement.

✓ What will be the 1st choice for logging tool to identify the bed thickness? 2/2
*

Gamma Ray log (Image log if available)

✗

Correct answer

GR or bore hole Image



✗ What are the principal diagenetic changes/process for deep burial history? * 1/2

Chemical compaction, Early maturation, porereductn ✗

Correct answer

Compaction and Lithification

✗ What is micro porosity? * 1/2

The part of the pore space that has a dimension less than 1-2 micron. ✗

Correct answer

Porosity between crystal lattice and mud sized particle.

✗ Provide example on growth fault with anticline structure and detachment of fault. * 1/2

Rollover Anticline, common in deltas e.g. Niger ✗

Correct answer

Niger delta and Red Sea

✓ What is the full form EDA in elements of reservoir Geophysics? * 2/2

Exploratory Data Analysis ✗

Correct answer

Exploratory data analysis



✗ What are the less-restrictive conditions for lab-based analysis of Darcy's law? * 3/3

Laminar flow, Core visibilty, Saturation ✗

Correct answers

1. Darcy's law could be extended to fluid other than water
2. The constant of proportionality is actually the mobility ratio k/u
3. Independent of the directions of flow in the Earth's gravitational field

✓ What is CRZ & EEZ in deepwater exploration? * 1/1

Coastal Regulatory Zone, Exclusive economic zone ✗

Correct answer

Coastal Regulatory Zone/ Exclusive Economic Zone

✓ Trap sealed by the salt dome and domal trap can be present in the same reservoir formation * 2/2

True ✓

False

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