

Note: Answer all questions

Select the correct answer (60 marks):

Q1- Shallow reservoirs are characterized by:

- A- more gas in solution and oil of reduced viscosity
- B- reduction in porosity and permeability due to increased compaction.
- C- lower internal reservoir pressures
- D- All above

Q2- High capillary pressure of reservoirs is resulted from:

- A- Large pore throat diameters.
- B- the decrease in the amount of surface tension.
- C- small pore throat diameters

Q3-The absence of Rt and Rxo log curves separation indicate:

A-hydrocarbon bearing zone B-water bearing zone C-impermeable zone

Q4- The porosity logs are influenced by formation characteristics other than porosity, notably by their:

- A-lithology, clay content, and the presence of gas.
- B- lithology and the presence of fractures and gas.
- C-lithology and the presence of hydrocarbons.

Q5- Type II kerogen:

- A-is dominated by lipid compounds
- B- is low in aliphatic compounds
- C-is rich in aliphatic compounds
- D-is abundant in algae such as Bottryococcus

Q6- Chemical paleothermometers techniques include:

- A- Pyrolysis
- B- Gas chromatography
- C- Vitrinite reflectance
- D-A and B

7- Most recrystallized limestones generally:

- A- possess intercrystalline porosity
- B- possess negligible porosity
- C-possess microporosity

Q8- The permeability of a reservoir can be measured by means of:

- A-drill stem
- B-wireline logs
- C-permeameter
- D-all above

Q9-A tilted oil:water contact (OWC) may be caused by:

- A-water hydrodynamic flow
- B- cementation of the water zone followed by tilting
- C- facies changes
- D-all above

Q10-Pinchout traps are:

- A-associated with unconformities
- B-unassociated with unconformities
- C-diapirs
- D-all above

Q11-Increasing the contact area of the pay zone with the well bore requires:

- A-vertical wells B-directional wells C-well casing

Q12- The presence of gas causes the density log to give:

- A-too high porosity B- too low porosity C-no change in porosity

Answer the following questions (40 marks):

Q13/Discuss the primary factors affecting sandstone reservoir quality.

Q14/What are the main differences between Carbonate and sandstone reservoirs?

Q15/ Why salt domes are important in hydrocarbon accumulation?

Q16/ What are biological paleothermometers? Explain one of them.

Q17: What are the differences between Ductile shear zone and Brittle shear zone?

Q18: Illustrate by drawing a cross section, only the main tectonic zones of Iraq.

Q19: What are the differences between (Geologic; Tectonic; and Topographic) map?

Q20: List the seven major lithospheric plates of our planet.