

أجب عن جميع الأسئلة

Question One: (15 Marks)

1. List the different types of oil and gas rigs used in onshore and offshore drilling.
2. What is hoisting system and with drawing show the equipments of this system?
3. What is the function of the circulating and rotary systems?
4. What is the difference between primary and secondary well control systems?
5. What are the types of drilling bits? What is the function of casing?

Question Two: (14 Marks)

1. A drillstring with a buoyant weight of 100,000 lbs must be pulled from the well. A total of 12 lines are strung between the crown block and the travelling block. Calculate the following:
 - Tension in the fast line
 - Tension in the deadline
2. Consider a triplex pump having stroke length of 13 in, liner diameter of 5 square inches, a pumping speed of 120 stroke per minute (SPM), pump efficiency of 90%, and a discharge pressure of 2500 psi. Estimate the flow rate & HHP output of this pump?
3. Three rotating cone bits have the following properties as described in the table below:

| Drilling Bit | Bit Cost (\$) | Rotating Time (Hrs) | Penetration Rate (ft/hr) |
|--------------|---------------|---------------------|--------------------------|
| A | 500 | 13 | 10 |
| B | 3000 | 80 | 20 |
| C | 1400 | 32 | 15 |

Knowing that the rig rent is 1800\$/hr, tripping time is 7 hours, and the connection time is 3 hours. Determine which bit will be selected in order to continue the drilling process?

باقى الأسئلة عند الصفحة
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Question Three: (16 Marks)

1. What are the main reasons for drilling deviated wells? What are the three main parameters for deviated well trajectory?
2. What is the major functions for the following drilling tools:
(a) Drill string (b) Drill collar (c) stabilizers (d) Drilling jars
3. Draw the basic process scheme for oil and gas facilities?
4. Show with sketches the basic components of horizontal gravity separators?

Question Four: (15 Marks)

1. Give the functions of the following wireline tools:
 - a. Gauge cutter
 - b. Impression block
 - c. Blind box
 - d. Swage
 - e. Caliper
2. List the main forms of artificial lift?

انتهت الأسئلة