Code No: 56599 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, December - 2017
WELL COMPLETIONS AND TESTING
(Petroleum Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) Explain about various factors influencing completion design.
b) Describe the conventional single-zone completion with neat diagram. [7+8]

2.a) Describe the cased hole logging equipment and its applications.
b) Explain in detail the liner completion with neat diagram. [7+8]

3.a) Discuss about the bottom no-go landing nipples and its applications.
b) Explain how to install the Christmas tree and bringing the well on stream. [7+8]

4.a) Give a brief note on SCSSV and explain how to sett and test the SCSSV.
b) Describe briefly the sliding sleeve circulating valve with neat diagram. [7+8]

5. Design tubing for relatively deep high-pressure gas well with CO_2 and H_2S. Assume the following conditions: casing designation = 5 1/2-23.00-L80; measured depth, Dm = 14,000 ft; true vertical depth, DtV, = 13,000 ft; gas rate = 15 MMcf/D, 10 bbl of condensate per MMcf, 40 ppm hydrogen sulfide resulting in a partial pressure of 0.40 psi for the H_2S and a 2% (20,000 ppm) carbon dioxide; pwh = 10,000 psi during stimulation; pbh = 9,000 psi; Tbh = 250^0F; Tsf = 125^0F; completion fluid weight = 14.0 ppg of inhibited solids free salt water; fluid gradient = 0.728 psi/ft; anticipated drag on tubing when pulling = 5,000 lbf; and packer shear pins setting = overpull = 25,000 lbf. [15]

6.a) Explain in detail the various reasons for workover operations and its applications.
b) Describe the horizontal well completions with neat sketch. [8+7]

7. Define well servicing and explain its applications as well as objectives of well servicing. [15]

8.a) Describe the pressure buildup for two-or-three phase flow with neat diagram.
b) Explain in detail the various theoretical considerations of pressure drawdown analysis. [7+8]

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