

EXERCISE COMPLETION EQUIPMENT 2

1. We are opening a closed gate valve, with one side having a pressure of 3,500 psi and the other side having no pressure [zero]. Which of the following are two (2) correct statements? [TWO ANSWERS]
 - a) Gate valves are designed to maintain pressure and to be opened with pressure on one side only.
 - b) High pressure differential across a gate valve can damage the equipment on the lower pressure side due to sudden surge effects.
 - c) The high differential pressure assists the gate to move easily when opening.
 - d) The mechanical force which is required to turn the valve handle can damage the valve itself, and especially the stem.
 - e) The equalizing poppet in the gate ensures that the pressure is equalized across the valve as soon as we start to open the valve.

2. The statement is made that, if an inflow test on a barrier is not possible, an Integrity Test can be performed by applying pressure from above.
 - a) TRUE
 - b) FALSE

3. How should we perform a test a closed Sliding Sleeve [SSD], if the annulus is filled with brine and the tubing is filled with diesel oil?
 - a) Flow the well so that we perform an inflow test
 - b) Bleed off the Shut-In Tubing Head Pressure [SITHP]
 - c) Pressure test the annulus side
 - d) Bleed off the annulus pressure

4. What is the primary advantage of a Wireline Retrievable Down-Hole Safety Valve?
 - a) Can be retrieved such as to allow intervention operations through the tubing.
 - b) Can be installed and retrieved with wireline.

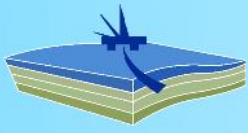
5. Given data: -

Tubing capacity:	0.0055 bbl/ft
Casing capacity:	0.0381 bbl/ft
Annular capacity:	0.0293 bbl/ft
Tubing depth:	6,500 ft (TVD/MD)
Well/Casing Depth:	8,500 ft
Pump Output:	0.85 bbls/min

If we use forward circulation, calculate time in minutes required to pump from the bottom the annulus to the surface?

Answer: _____ Minutes





6. When does the column of fluid become an effective barrier?
- a) When the static BHP of this fluid column is equal to reservoir pressure
 - b) When the static BHP of this fluid column is less to reservoir pressure
 - c) When the static BHP of this fluid column is more to reservoir pressure
7. Why is it necessary to select an appropriate kill fluid to kill a well that is on production (TWO ANSWERS)?
- a) To avoid over excessive pressure on the formation
 - b) To reduce potential annulus losses
 - c) To maintain higher kill rate
 - d) It enables us to select lower kill rate
 - e) To ensure we have a fluid compatible with formation fluid and rock

8. The following data has been collected from a producing oil well: -

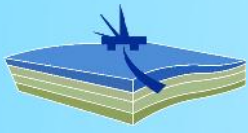
SITHP:	2,500 psi
SSD depth:	7,500 ft [TVD/MD]
Packer depth:	7,900 ft [TVD/MD]
Well/Casing depth:	9,000 ft [TVD/MD]
Top Perforations:	8,000 ft [TVD/MD]
Brine in Annulus:	0.48 psi/ft
Oil in Tubing:	0.36 psi/ft
Form. Press. at Top Perfs:	5,380 psi

What is the differential pressure between tubing and annulus at the underside of the tree/well head?

Answer: _____psi

9. When a side pocket mandrel is being used for gas-lift or chemical injection, how are well fluids prevented from flowing into the production annulus?
- a) By means of a pressure differential across the gas lift mandrel
 - b) By means of a check valve in the gas lift mandrel
 - c) By means of a venture effect across the gas lift mandrel
10. When installing a BOP Stack with a rated WP of 10,000 psi onto a wellhead with a rated WP of 5,000 psi, which of the following statements is correct?
- a) The BOP Stack/wellhead combination permits a max. WP of 10,000 psi
 - b) The BOP Stack/wellhead combination permits a max. WP of 7,500 psi
 - c) The BOP Stack/wellhead combination permits a max. WP of 5,000 psi
 - d) The wellhead rating does not play any role, because only the BOP ensures that we have wellhead integrity on a live well





11. During a work over operation, and after retracting and unseating a retrievable packer, what procedure should be followed prior pulling the unseated packer to prevent potential swabbing?
 - a) Wait for about 1 minute to allow packer element to relax and retract, then start pulling out the completion string.
 - b) Set weight down on the packer to relax and retract the element, then start pulling out of hole
 - c) Unseat the packer by a straight pull, and slowly come out of the hole.
 - d) Wait for 1 hour or more to allow packer element to relax and retract, then start pulling out the completion string

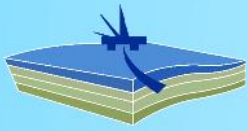
12. During [body] testing of a 10,000 psi valve body, it has failed the test at 150% of its rated WP. Is it permitted to use this valve for a well operation with a maximum expected surface pressure of 7,000 psi?
 - a) Yes, because the applied test pressure is more than its expected working pressure
 - b) No, because the valve body test criteria remain to be 150% of its working pressure

13. When should testing of well control equipment, such as BOPs, be carried out prior using it?
 - a) Well control equipment should be tested every 21 days as per API Standard 53, regardless of testing performed in the workshop.
 - b) After the initial test in the workshop, we should test well control equipment once more after a component fails during scheduled operations.
 - c) There is no need to test well control equipment again, because it is always tested in the workshop prior transporting it to well site.
 - d) After installing well control equipment onto the wellhead and/or Xmas tree, it should be tested prior commencing any operation.

14. What are the main functions of a production packer? (TWO ANSWERS)
 - a) It isolates the annulus from the completion string
 - b) It allows anchoring of and sealing with the completion string
 - c) It allows suspension of the tubing string
 - d) It permits gas lifting on wells that can only produce by artificial lift

15. How often do we have to pressure test permanent barriers? (TWO ANSWERS)
 - a) Every year
 - b) Every 5 years
 - c) Before installation
 - d) After installation
 - e) When we detect a fault or leak, after we have performed a repair
 - f) Before and after installation





WORKBOOK COMPLETION EQUIPMENT – ANSWER KEYS

EXERCISE COMPLETION EQUIPMENT-1	
1.	b, e
2.	b, c
3.	a
4.	b
5.	a, c
6.	b
7.	a
8.	c
9.	b, d
10.	b
11.	c, d
12.	a, d
13.	a
14.	a, c

EXERCISE COMPLETION EQUIPMENT-2	
1.	b, d
2.	a
3.	c
4.	b
5.	224 minutes
6.	c
7.	a, e
8.	2500 psi
9.	b
10.	c
11.	d
12.	b
13.	d
14.	a, b
15.	d, e

