



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

SECOND SEMESTER EXAMINATIONS, MAY, 2015

COURSE NO: **PE/GL 234**

COURSE NAME: **TRAINING ON OIL RIGS**

CLASS: **PE II**

TIME: **2.5 HRS.**

Name: _____

Index Number: _____

SECTION A

You are to answer all questions. This section carries a total of 40 marks. Each question under this section only carries an equal mark of 2.

1. The earlier drilling platform used at swampy areas at depths around 30 feet is known as.....
2. The bottle type rigs are modified models of the swamp barges, to meet up with drilling operation at farther areas offshore. True or false
3. The air gap set for Jackup rigs is based on the prevailing wave condition of sea. True or False
4. For barge units to move on and out of location, they either have to.....or.....
5. For deeper offshore areas of harsh sea conditions, which of the following drilling rigs is preferred for drilling operations at that spot.
 - a. Jackup rigs
 - b. Drill ship
 - c. Semi-submersible
6. The rig platform with the self-elevating mechanism on racks and pinion is known as.....
7. The primary well control system used during drilling operation is called.....
8. What rigs are usually used for offshore drilling operations at water depths of 2000 m?.....
9. The rig equipped to drill several wells at a stationary position is known as
 - a. Cantilever rig
 - b. Movable rig
 - c. Portable rig
10. The secondary well control system or equipment installed during drilling operation is known as.....
11. The BOPs used offshore and onshore are the same in function and structure. True or False.

12. All the following equipment can be used onshore except
 - a. BOP
 - b. Christmas tree
 - c. Telescopic joint
 - d. Drill pipe and drill collar

13. Mention one rig stabilizing equipment.....

14. For water depths ranging between 100-120 meters, which of the following rigs will be most suitable to use for a drilling operation?
 - a. Barges and bottle type
 - b. Jackup and drill ship
 - c. Drillship and Barges

15. Which of the following offshore platforms is a mobile units but not a floating unit?
 - a. Drillship
 - b. Semisubmersible
 - c. Jackup

16. What is the function of the moonpool on the Drillship?

17. The equipment used to connect the subsea wellhead system to the surface production is called
 - a. Mudline suspension system
 - b. The base guard
 - c. The tie-back system

18. Spillage is a major environmental issue for only land drilling operations. True or false

19. The wearing of proper foot gears and helmet on the platform is important to prevent slipping on the floor and avoid..... respectively.

20. Safety and efficiency considerations require constant monitoring of the well to detect drilling problems. True or false

SECTION B

Answer any one of the following two questions

QUESTION ONE (20marks)

- I. What is a rig? *2marks*
- II. Mention the two main types of drilling techniques we have in the Petroleum industry. *4marks*
- III. Outline two advantages of rotary drilling rigs over cable tool drilling rigs. *2marks*
- IV. List four of the functions of drilling mud or fluid during drilling operation. *4marks*
- V. Give the three types of offshore rigs that can be found in the Petroleum Industry. *6marks*
- VI. Mention two positioning equipment or systems that are used on offshore platforms to prevent drifting of the rigs. *2marks*

QUESTION TWO (20 marks)

- I. State the six main components of a rotary rig. *6marks*
- II. Mention three of the parts of the rotary system. *3marks*
- III. State one function of the hoisting system. *2marks*
- IV. What equipment comprises the block and tackle system? *3marks*
- V. State one use of traveling block *2marks*
- VI. Give the three main objectives of well planning. *4marks*

Mr. AMARFIO, Eric Mensah