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| **Name:**<br>**Enrolment No:** | UPES |

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**
**End Semester Examination, July 2020**

**Course: Safety in Drilling (HSFS 7008)** **Semester: II**
**Program: M.Tech HSE & M.Tech HSE Spl in DM**
**Time: 03 hrs.** **Max. Marks: 100**

**Instructions: Please read all the questions before giving answers**

| | QUESTIONS | OPTIONS | | | |
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| 1 | The _____is an important part of the rotary drilling system. | a) Drillstring | b) Bottom-hole pressure | c) Differential pressure | d) None of the above |
| 2 | The drillstring is sometimes also called . | a) Drillstem | b) Drill weight | c) Drill pressure | d) None of the above |
| 3 | _____is a connection between the rig and the drill bit. | a) Drillstring | b) Drilling fluid | c) Drill line | d) None of the above |
| 4 | The drill bit is attached to the drill collars by means of a . | a) Bit sub | b) Bit hub | c) Bit tool | d) None of the above |
| 5 | Drillstring provides . | a) Weight on rock | b) Weight on bit | c) Weight on mud | d) None of the above |
| 6 | The drilling mud is circulated inside the . | a) Drillstring | b) Drill line | c) Drill crew | d) None of the above |
| 7 | ____are placed above the bit to control the direction in which the drill bit penetrates the formation. | a) Stabilizers | b) Kelly | c) Drill collars | d) None of the above |
| 8 | Kelly fit into the device called . | a) Kelly bushing | b) Kelly pushing | c) Kelly fitting | d) None of the above |
| 9 | Kelly bushing then fits into the which is mounted on the rotary table. | a) Master bushing | b) Master kelly | c) Master swivel | d) All of the above |
| 10 | Which of the following is a function of kelly? | a) Transmit rotation and weight to the drill bit | b) Carry the total weight of the drillstring | c) A & B | d) None of the above |
| 11 | At the one end of the drillpipe there is the box, which has the . | a) Female threads | b) Male threads | c) Circular threads | d) None of the above |
| 12 | At the one end of the drillpipe there is the pin, which has the . | a) Female threads | b) Male threads | c) Circular threads | d) None of the above |

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| 13 | Heavy wall drillpipe has a wall thickness _____than ordinary drillpipe. | a) Greater | b) Smaller | c) Too high | d) None of the above |
| 14 | Major functions of heavy wall drillpipe are | a) To reduce failures at transition zone | b) To reduce downhole torque | c) To reduce differential sticking | d) All of the above |
| 15 | _____is the component of the drillstring located directly above the drill bit and below the drillpipe. | a) BHA | b) WOB | c) Drilling fluid | d) None of the above |
| 16 | The primary component of the BHA is the . | a) Stabilizers | b) Drill collars | c) Drillpipes | d) None of the above |
| 17 | _____ is used between the drillstring and drill collars. | a) Crossover sub | b) Shock sub | c) Bit sub | d) All of the above |
| 18 | Kelly is always positioned at | a) The top of drill collars | b) The top of the drillpipe | c) The top of the drillstring | d) b and c |
| 19 | What is the primary function of the slips | a) Suspend the drillstring in the rotary table | b) Suspend the drillstring in the hook while drilling | c) Suspend the drillstring in the TDS while drilling | d) All of the above |
| 20 | The cementing process involves mixing powder cement with water and some additives to prepare . | a) Drilling fluid | b) Cement slurry | c) Brine solution | d) None of the above |
| 21 | The cementing process is performed after the_____ have been run in the wellbore. | a) Casing strings | b) Drilling fluid | c) Drillpipe | d) None of the above |
| 22 | ____is used most commonly to shut off water influx permanently into the well during the production phase. | a) Packers | b) Cementing | c) Drillpipe | d) None of the above |
| 23 | ___ is the process of injecting cement into a confined zone behind the casing such as casing leaks and flow channels in formations. | a) Sidetracking | b) Cementing liner strings | c) Squeeze cementing | d) None of the above |
| 24 | is a remedial job required to repair faulty primary cementing at a later age of well life. | a) Squeeze cementing | b) Sidetracking | c) Cementing liner strings | d) None of the above |
| 25 | _____is always cemented to surface. | a) Production casing | b) Intermediate casing | c) Conductor pipe | d) None of the above |
| 26 | ___ occurs when the water in the cement slurry leaves it and invades the permeable formation. | a) Compressive strength | b) Fluid loss | c) Thickening time | d) None of the above |
| 27 | Which of the following is not a component of oil well cement? | a) Cement powder | b) Chemical additives | c) Water | d) Gravel |
| 28 | Cementing process can be performed | a) After drilling the hole | b) After running the casing string | c) After installing the well head | d) All of the above |
| 29 | Successful cement design depends mainly on | a) Wellbore geometry | b) Well depth | c) Type of formation fluid | d) All of the above |
| 30 | Which of the following is the major cement objectives? | a) Protect casing from corrosion | b) Protect surface water aquifers from contamination | c) Eliminate shallow gas kicks | d) All of the above |
| 31 | To abandon the well, cement should be set | a) In the annulus between well and casing | b) In certain cement plugs inside the casing | c) Inside the casing from bottom to the top of the well | d) None of the above |
| 32 | Oil well cementing can be used in many applications such as | a) Side tracking | b) Well abandonment | c) Shut off water zones | d) All of the above |
| 33 | Squeeze cementing is normally used to solve problems such as | a) Unconsolidated formations | b) High initial water saturation | c) Casing leaks | d) All of the above |
| 34 | Which one is not a component of the cable tool rig? | a) Derrick | b) Crown block | c) Rotary table | d) Drilling cable |

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| 35 | Which one is not a basic component of the rotary rig? | a) Kelly | b) Annulus | c) Rotary table | d) Drill pipe |
| 36 | In rotary drilling, drill cuttings are removed by | a) Drilling mud | b) Bailer | c) Water | d) Acidizing |
| 37 | Which one is responsible for transmitting power to other rig systems? | a) Hoisting system | b) Power system | c) Circulating system | d) Rotary system |
| 38 | Which one of the following is responsible for lowering or lifting the drillstring, casing string in and out of the hole? | a) Hoisting system | b) Power system | c) Circulating system | d) Rotary system |
| 39 | Which one is a part of rotary drilling system? | a) Hoisting system | b) Power system | c) Circulating system | d) All of the above |
| 40 | Which one is not a component of power system of drilling rig? | a) Drawworks | b) Mud pumps | c) Rotary table | d) Drilling line |
| 41 | The steel structure part of rig which provides vertical height required to raise pipe sections is | a) Derrick | b) Draw works | c) Crown block | d) Traveling block |
| 42 | The total derrick load is not distributed equally over all four derrick legs due to the placement of | a) Drilling line | b) Draw works | c) Crown block | d) Traveling block |
| 43 | A parameter used to evaluate various drilling line arrangements is | a) Derrick load | b) Derrick efficiency | c) Hook load | d) Wind load |
| 44 | Crown block, traveling block and drilling line are components of | a) Hook and load | b) Block and tackle | c) Block and load | d) Fastline and deadline |
| 45 | The hook load is completely carried over by | a) The traveling block | b) Crown block | c) Block and tackle | d) Drilling line |
| 46 | The load imposed on the drawworks is equal to the____ in the fast line. | a) Tension | b) Compression | c) Friction | d) Shear |
| 47 | The main function of drilling fluid is | a) Remove cuttings | b) Formation of mud cake | c) Cools the bit | d) All of above |
| 48 | Following is a type of drilling fluid | a) Oil-based mud | b) Water-based mud | c) Invert oil emulsion | d) All of above |
| 49 | Which one is a part of mud-cleaning process? | a) Desander | b) Desilter | c) Degasser | d) All of the above |
| 50 | The rotary system includes all of the equipment, which is used to attain | a) Weight on bit | b) Bit rotation | c) Drill string load | d) Derrick load |
| 51 | Which one is not the basic component of the power system? | a) Rotary table | b) Block and tackle | c) Draw works | d) Mud pump |
| 52 | A mechanical device that suspends the weight of the drill pipe, provides for the rotation of the drill pipe beneath it while keeping the upper portion stationary, and permits the flow of drilling mud from the standpipe without leaking is named as | a) Kelly | b) Rotary table | c) Swivel | d) Drill Pipe |
| 53 | Which one is not the basic component of the hoisting system? | a) Derrick and substructure | b) Block and tackle | c) Draw works | d) Mud Pump |
| 54 | Which one is not associated with the rotary system? | a) Kelly | b) Annulus | c) Rotary Table | d) Drill Pipe |
| 55 | Which of the following component connects most of the hoisting system components together? | a) Crown block | b) Traveling block | c) Drilling line | d) Elevator |
| 56 | Maximum hook load occurred while | a) Pulling drillstring up | b) Running drillstring down | c) Suspending the string | d) None of the above |
| 57 | Which one of the following components is not the part of block and tackle? | a) Crown block | b) Traveling block | c) Drilling line | d) Drawworks |

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| 58 | To maintain the drilling line, which one of the following actions should be done frequently? | a) Perform a specified cut and slip program | b) Change all the drilling line | c) Inspect all the drilling line after each well drilled | d) All of the above |
| 59 | The first equipment to remove drill cuttings from the drilling mud is the | a) Desander | b) Desilter | c) Degasser | d) None of the above |
| 60 | A decision to run the production casing for exploration wells should be made directly | a) After complete drilling | b) After running and evaluating logging tests | c) Before drilling the well | d) None of the above |
| 61 | In which situations open hole completion is preferred? | a) Pay zone is thin | b) Formation is strong and consolidated | c) Formation fluid is gas | d) All of the above |
| 62 | What is the main advantage of open hole completion? | a) Decrease formation damage | b) No need for well cleanout | c) Easy to isolate any portion of the pay zone | d) All of the above |
| 63 | What is the main disadvantage of open hole completion? | a) Cannot be converted to liner perforation | b) Selective stimulation is difficult | c) Rig time is greater than other types | d) None of the above |
| 64 | All of the following are the functions of packers except | a) Protect casing from formation fluids | b) Isolate damaged areas | c) Provide selective production | d) None of the above |
| 65 | Which of the following equipment is used to control well pressures? | a) Christmas tree | b) Downhole safety valve | c) Surface safety valve | d) All of the above |
| 66 | What is the best way of preventing well casings from corrosion? | a) Add anti-corrosion additives in the casing fluids | b) Install tubing string with packer | c) Use anti-corrosion coating | d) All of the above |
| 67 | All of the following are main objectives of well completion except: | a) Maximum recovery | b) Identifying the pay-zone | c) Less cost | d) Safe operation |
| 68 | 50. If a zone in a well produces gas as a result of gas conning, what should be the temporary solution? | a) Shut off that zone | b) Produce above critical flow rate | c) Increase production to get more oil | d) None of the above |
| 69 | Well control means assurance of formation fluids that does not flow in an way. | a) Uncontrolled | b) Controlled | c) Semi-controlled | d) None of the above |
| 70 | An unexpected entry of formation fluids into the wellbore is known as | a) Punch | b) Kick | c) Tension | d) None of the above |
| 71 | Technology used to control the fluid invasion and to maintain a balance between borehole pressure and formation pressure is known as | a) Well control system | b) Reservoir management system | c) Well engineering system | d) None of the above |
| 72 | Which of the following is not an option in well control system? | a) Detect a kick | b) Close the well at surface | c) Remove formation fluid | e) None of the above |
| 73 | The first line of defense in well control is to have sufficient pressure in the wellbore. | a) Drilling fluid | b) Formation pressure | c) Abnormal pressure | d) None of the above |
| 74 | If the formation pressure is greater than the mud pressure, there is the possibility to have a . | a) Oil | b) Kick | c) Gas | d) None of the above |
| 75 | Equipment used to control blowouts is | a) BOPs | b) WOB | c) Drilling rig | d) None of the above |
| 76 | BOPs are referred to as the component of well control system. | a) Active | b) Passive | c) Auxiliary | d) None of the above |
| 77 | Kick occurs due to the pressure . | a) Transition | b) Balance | c) Imbalance | d) None of the above |
| 78 | Which of the following causes pressure imbalance? | a) Low mud density | b) Low fluid level | c) Lost circulation | d) All of the above |

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| 79 | The _____of the well at all times must remain above the pore pressure of the formation to prevent additional influx of the formation fluids. | a) Bottom-hole pressure | b) Drilling mud | c) Lost circulation | d) None of the above |
| 80 | The most recent well control principle developed as blowout prevention is | a) Primary control | b) Secondary control | c) Tertiary control | d) None of the above |
| 81 | Which of the following is a well control principle? | a) Primary control | b) Secondary control | c) Tertiary control | d) All of the above |
| 82 | Which of the following well control principles is defined as the control by confirming that the borehole pressure is greater than the formation pressure? | a) Primary control | b) Secondary control | c) Tertiary control | d) None of the above |
| 83 | The pit gain indicates that the over the well has been lost. | a) Primary control | b) Secondary control | c) Tertiary control | d) All of the above |
| 84 | Purpose of secondary control is to | a) Stop the flow of unexpected fluids | b) Safely discharge the influx | c) Prevent further influx | d) All of the above |
| 85 | Pulling the drillstring too fast can cause | a) Lost circulation | b) Changes in the drilling mud properties | c) Swabbing | d) All of the above |
| 86 | All of the following are the reasons of lost circulation except | a) Running the drillstring too fast | b) High mud weight | c) Pressure due to annular circulating frictions | d) None of the above |
| 87 | The Acronym “MSDS” stands for | Mass Safety Data Sheet | Material Security Data Sheet | Material Safety Data Sheet | Master Security Data Sheet |
| 88 | TREM card signifies | Transport remediation card | Transport emergency card | Transportation removal card | All of the above |
| 89 | HAZCHEM code starting with letter 3 signifies which extinguishing media | Water jet | Fog | Foam | Dry agent |
| 90 | EIP stands for | Environment impact protocol | Emergency information panel | Entire indian platform | All of the above |
| 91 | NFPA stands for National fire protection agency | TRUE | FALSE | | |
| 92 | UN classification "2" stand for | Flammable solid | Gases | Explosive | None of the above |
| 93 | PEL is the shortform for permissible exposure limit | TRUE | FALSE | | |
| 94 | Lethal concentration 50 or LC50 is the amount of concentration when inhaled will kill 50% of the population | TRUE | FALSE | | |
| 95 | TREM card stands for Transport emergency card | TRUE | FALSE | | |
| 96 | HAZCHEM code is hazardous chemistry code | TRUE | FALSE | | |
| 97 | Acute effect is immediate affect towards the exposure of certain hazardous chemicals | TRUE | FALSE | | |
| 98 | MSDS stands for Material safe data summary | TRUE | FALSE | | |
| 99 | CAS number is the shortform for chemical abstract service | TRUE | FALSE | | |
| 100 | Which OISD standrad tells about recommended practice on Oil storage and Handling | OISD 105 | OISD 110 | OISD 108 | OISD 110 |