**General Knowledge**

1. **What is the primary component of natural gas?**
   1. Methane
   2. Ethane
   3. Propane
   4. Butane
2. **Which country is the world's largest oil producer as of 2021?**
   1. Saudi Arabia
   2. Russia
   3. United States
   4. China
3. **What is the process called when crude oil is separated into different hydrocarbon components based on their boiling points?**
   1. Distillation
   2. Cracking
   3. Reforming
   4. Polymerization
4. **What is the estimated age of the fossilized remains from which crude oil and natural gas are formed?**
   1. Thousands of years
   2. Millions of years
   3. Billions of years
   4. Trillions of years
5. **Which organization is often referred to as the "oil cartel" and influences oil prices globally?**
   1. OPEC (Organization of the Petroleum Exporting Countries)
   2. UN (United Nations)
   3. EU (European Union)
   4. ASEAN (Association of Southeast Asian Nations)
6. **Which drilling technique involves drilling vertically and then horizontally to extract oil or gas from unconventional reservoirs?**
   1. Offshore drilling
   2. Hydraulic fracturing (fracking)
   3. Directional drilling
   4. Rotary drilling
7. **What is the process of using high-pressure fluids to create fractures in rock formations to release oil or gas?**
   1. Seismic exploration
   2. Geothermal energy extraction
   3. Hydraulic fracturing (fracking)
   4. Oil well cementing
8. **Which environmental concern is associated with offshore oil drilling?**
   1. Soil erosion
   2. Air pollution
   3. Coral reef destruction
   4. Groundwater contamination
9. **What is the term used for the process of converting heavy hydrocarbons into lighter ones to produce high-value products like gasoline?**
   1. Cracking
   2. Refining
   3. Fractionation
   4. Distillation
10. **Which country is known for having the largest proven oil reserves in the world as of 2021?**
    1. Venezuela
    2. Saudi Arabia
    3. Canada
    4. Iraq

**Mathematics**

1. **An Oil and Gas company has a total of 20 oil wells in operation. If they shut down 3 wells for maintenance, how many wells are still operational?**
2. 17 wells
3. 13 wells
4. 15 wells
5. 18 wells

*Answers: (20 wells - 3 wells = 17 wells)*

1. **The company's natural gas field has estimated reserves of 1.5 trillion cubic feet (TCF). If they produce 8 billion cubic feet of gas per day, how many days will their reserves last?**
2. 186.5 days
3. 187.5 days
4. 188.5 days
5. 189.5 days

*Answers: (1.5 trillion cubic feet ÷ 8 billion cubic feet/day = 187.5 days)*

1. **The company's refinery processes 200,000 barrels of crude oil per day. If each barrel of crude oil yields 50% gasoline, how many barrels of gasoline are produced daily?**
2. 98,000 barrels
3. 101,000 barrels
4. 99,000 barrels
5. 100,000 barrels

*Answers: (200,000 barrels/day x 50% = 100,000 barrels)*

1. **An Oil and Gas company needs to transport 1.5 million barrels of oil. If each tanker truck can carry 10,000 barrels of oil, how many trucks are required for transportation?**
2. 150 trucks
3. 160 trucks
4. 170 trucks
5. 140 trucks

*Answers: (1.5 million barrels ÷ 10,000 barrels/truck = 150 trucks)*

1. **The company drills a new exploration well that reaches a depth of 4,500 meters. If each drilling pipe used is 30 meters long, how many pipes did they use in total for this well?**
2. 150 pipes
3. 160 pipes
4. 130 pipes
5. 140 pipes

*Answers: (4,500 meters ÷ 30 meters per pipe = 150 pipes)*

1. **The company's oil tanker has a capacity of 2.8 million barrels. If they currently carry 2.5 million barrels, what percentage of the tanker's capacity is utilized?**
2. 88.5%
3. 87.3%
4. 89.3%
5. 90.5%

*Answers: (2.5 million barrels ÷ 2.8 million barrels x 100% = 89.3%)*

1. **An Oil and Gas company has three drilling rigs in operation. The first rig drills an average of 2 wells per month, the second rig drills 1.5 wells per month, and the third rig drills 2.5 wells per month. How many wells are drilled in total in 6 months?**
2. 13 wells
3. 14 wells
4. 15 wells
5. 16 wells

*Answers: (2 wells + 1.5 wells + 2.5 wells = 6 wells per month; 6 wells x 6 months = 36 wells)*

1. **The company estimates that their natural gas production will increase by 25% in the next quarter. If they currently produce 4 million cubic feet of gas per day, how much gas will they produce in the next quarter?**
2. 3 million cubic feet
3. 4 million cubic feet
4. 5 million cubic feet
5. 6 million cubic feet

*Answers: (4 million cubic feet x 125% = 5 million cubic feet)*

1. **An Oil and Gas company spends 20% of its revenue on exploration, 40% on production costs, and 15% on transportation. If their total revenue is $800 million, how much money do they spend on production costs?**
2. $430 million
3. $320 million
4. $540 million
5. $330 million

*Answers: ($800 million x 40% = $320 million)*

1. **The company plans to invest $15 million in a new drilling project. If they secure 60% of the funding from investors, how much money do they need to raise?**
2. $11 million
3. $6 million
4. $7 million
5. $9 million

*Answers: ($15 million x 40% = $6 million)*

**Computer Technology**

1. **Which technology is used to track the movement of oil and gas products along the supply chain, ensuring transparency and traceability?**
   1. Blockchain
   2. Artificial Intelligence (AI)
   3. Virtual Reality (VR)
   4. Cloud Computing
2. **Which computer-based system is used to manage and optimize the scheduling and routing of oil and gas shipments?**
   1. Internet of Things (IoT)
   2. Geographic Information System (GIS)
   3. Enterprise Resource Planning (ERP)
   4. Augmented Reality (AR)
3. **What is the term used for the process of digitally mapping the subsurface rock formations to identify potential oil and gas reservoirs?**
   1. 3D Printing
   2. Reservoir Simulation
   3. Seismic Imaging
   4. Data Mining
4. **Which technology enables Oil and Gas companies to remotely monitor and control offshore drilling rigs and production facilities?**
   1. Robotics
   2. Edge Computing
   3. Drones
   4. Quantum Computing
5. **What is the purpose of using SCADA (Supervisory Control and Data Acquisition) systems in Oil and Gas companies?**
   1. Exploration of new oil and gas reserves
   2. Real-time monitoring and control of industrial processes
   3. Managing financial transactions
   4. Designing marketing campaigns
6. **Which programming language is widely used for data analysis, machine learning, and AI applications in the Oil and Gas industry?**
   1. C#
   2. JavaScript
   3. Python
   4. Swift
7. **Which technology allows Oil and Gas companies to perform seismic surveys using autonomous underwater vehicles instead of traditional ships?**
   1. Augmented Reality (AR)
   2. LiDAR (Light Detection and Ranging)
   3. Robotics
   4. Internet of Things (IoT)
8. **What is the term used for the computer-based modeling and analysis of the flow of fluids in pipelines and reservoirs?**
   1. Computational Fluid Dynamics (CFD)
   2. Geographic Information System (GIS)
   3. Cloud Computing
   4. Virtual Reality (VR)
9. **Which technology is used for real-time monitoring of oil well parameters, allowing operators to optimize production and prevent accidents?**
   1. Internet of Things (IoT)
   2. Quantum Computing
   3. 3D Printing
   4. Edge Computing
10. **Which computer-based system is used to manage and analyze geological data for exploration and production planning?**
    1. Virtual Reality (VR)
    2. Geographic Information System (GIS)
    3. Enterprise Resource Planning (ERP)
    4. 3D Printing