**Практическая работа**

**Вариант 1**

**Для специальности 08.02. 08 Монтаж и эксплуатация оборудования и систем газоснабжения**

**Задание 1.** Найдите соответствие между английским термином и его значением:

|  |  |
| --- | --- |
| 1. pressure welding —
 | 1. плавкий
 |
| 1. heat welding —
 | 1. лазерная сварка
 |
| 1. flame —
 | 1. наполнитель
 |
| 1. bolting —
 | 1. клепка
 |
| 1. riveting —
 | 1. флюс
 |
| 1. filler —
 | 1. пламя
 |
| 1. resistance welding —
 | 1. скрепление болтами
 |
| 1. laser welding —
 | 1. контактная сварка
 |
| 1. flux —
 | 1. сварка нагреванием
 |
| 1. fusible —
 | 1. сварка давлением
 |

**Задание 2.** Прочитайте и переведите (со словарем) текст профессиональной направленности:

In gas-metal welding, a bare electrode is shielded from the air by **surrounding** it with argon or **carbon dioxide** gas and sometimes by coating the electrode with flux. The electrode is **fed** into the electric arc, and melts off in **droplets** that enter the **liquid** metal of the weld seam. Most metals can be joined by this process.

**Submerged-arc** welding is similar to gas-metal arc welding, but in this process no gas is used to shield the weld. **Instead** of that, the arc and tip of the wire **are sub­merged beneath a layer** of granular, fusible material that covers the **weld seam.** This process is also called electroslag welding. It is very efficient but can be used only with steels.

In resistance welding, heat is obtained from the re­sistance of metal to the flow of an electric current. Elec­trodes are **clamped** on each side of the parts to be welded, the parts are subjected to great pressure, and a heavy current is applied for a short period of time. The point where the two metals touch creates resistance to the flow of current. This resistance causes heat, which melts the metals and creates the weld. Resistance welding is widely employed in many fields of **sheet** metal or wire manufac­turing and is often used for welds made by automatic **or semi-automatic** machines especially in automobile industry.

**Задание 3.** Ответьте на вопросы (по тексту):

1. How is electrode protected from the air in gas-metal arc welding?
2. What is submerged arc welding?

 3. Where is semi-automatic welding employed?

**Практическая работа**

**Вариант 2**

**Для специальности 08.02. 08 Монтаж и эксплуатация оборудования и систем газоснабжения**

**Задание 1.** Найдите соответствие между английским термином и его значением

|  |  |
| --- | --- |
| 1. flare gas circuit -
 | 1. подводный трубопровод (для транспортировки нефти и газа)
 |
| 1. gas detector kit-
 | 1. режим скважины; состояние скважины
 |
| 1. gas sample bottle -
 | 1. сварной шов
 |
| 1. lay barge- -
 | 1. сопротивление
 |
| 1. technical bugs -
 | 1. газопровод системы сжигания
 |
| 1. marine LNG system -
 | 1. комплект газоанализаторов
 |
| 1. underwater pipeline -
 | 1. емкость для отбора проб газа
 |
| 1. well condition -
 | 1. баржа-трубоукладчик
 |
| 1. weld seam —
 | 1. технические неполадки
 |
| 1. 10 resistance —
 | 1. J морское оборудование для сжиженного природного газа
 |

### Задание 2. Прочитайте и переведите (со словарем) текст профессиональной направленности:

Technology development

 Newer pipeline technology and growing energy consumption of nearby markets are the key drivers for transporting gas through pipeline. The development of high-pressure pipelines has brought down costs by the more efficient use of steel pipe. Traditionally, X-65 grade of carbon steel has been used for pipeline construction. Carbon steel grades of up to X-100 are currently available and will be field proved in the coming years. This will reduce the cost of pipeline installation by approximately 10%.28 Alternative new metallurgy, possibly including the use of composites, is expected to make pipelines a more competitive option by not only lowering the cost of the pipe itself, but also by resulting in lower logistics and installation costs, which are significant in difficult and inaccessible areas. Recent developments regarding deepwater pipelines are expected to open up new marine pipeline competition for LNG. Modern materials can face the new challenges of the deepwater pipelines crossing harsh environments.

**Задание 3.** Ответьте на вопросы (по тексту):

1. What are the key drivers for transporting gas through pipeline?
2. What steel has been used for pipeline construction?
3. What pipelines is new metallurgy expected to make?

**Практическая работа**

**Вариант 3**

**Для специальности 08.02. 08 Монтаж и эксплуатация оборудования и систем газоснабжения**

**Задание 1.** Найдите соответствие между английским термином и его значением

|  |  |
| --- | --- |
| 1. oil/gas extraction –
 | 1. шельфовое месторождение (месторождение нефти, газа)
 |
| 1. oil/gas deposit –
 | 1. сланцевый газ (газ, находящийся в микроскопических порах сланцев).
 |
| 1. shelf deposit –
 | 1. залежь нефти/газа, месторождение нефти/газа
 |
| 1. shale gas –
 | 1. добыча нефти/газа
 |
| 1. extract -
 | 1. поставлять
 |
| 1. supply -
 | 1. добывать
 |
| 1. fuel -
 | 1. насосная станция
 |
| 1. pipeline –
 | 1. буровая вышка
 |
| 1. drilling rig –
 | 1. трубопровод
 |
| 1. pumping plant -
 |  J топливо |

**Задание 2**.Прочитайте и переведите (со словарем) текст профессиональной направленности**:**

 When I need gas for my car, I pull into a gas station right around the corner from my house and use my gas card. Years ago, full-service gas stations were very common. The gas station attendant would put gas in your car, check the oil level in your engine and air pressure in your tires, and wash your windows. However, things have changed. Now, most gas stations are self-service centers where you do all your car maintanance. Personally, I usually fill the car up with gas every time I stop. I generally pay with cash, but more and more gas stations accept credit cards, and you can pay at the gas pump outside without going into the station to pay the cashier directly. Now, because gas prices are on the rise, I am thinking about buying a more fuel-efficient vehicle or just taking the bus to work.

 Transportation of oil and gas can be made by road and rail transport, tankers and pipelines. Among them pipelines have proved to be the most economical method for transportation of oil and distribution of natural gas.

Most oil and gas pipelines fall into one of three groups: gathering, trunk or distribution. Small diameter gathering pipelines within an oil or gas field are called flow lines. They connect individual oil or gas wells to central treating, storage or processing plants. Another gathering system made up of larger-diameter lines connects these field plants to the large-diameter, long-distance trunk line which moves oil from producing areas to large refineries for processing. Gas transmission lines carry natural gas from producing areas to city commercial, residential and industrial users.

**Задание 3.** Ответьте на вопросы (по тексту):

1. What do you think are the advantages and disadvantages of full- and self-service gas stations?

2. What is the most economical method for transportation of oil and distribution of natural gas?

3. What are the three groups of oil and gas pipelines?

**Список профессиональной лексики:**

Gas extraction - Добыча газ

gas turbines - газовые турбины

Natural gas processing - обработка природного газа

Natural Gas Stationary Compressor Systems - Стационарные компрессорные системы природного газа

Mobile Gas Pumping System Мобильные газовые насосные системы

gas sample bottle - емкость для отбора проб газа

underwater pipeline - подводный трубопровод (для транспортировки нефти и газа)

flare gas circuit - газопровод системы сжигания

Gas utilization options - Варианты использования газа

to join — соединять

pressure welding — сварка давлением

heat welding — сварка нагреванием

instead — вместо, взамен

bolting — скрепление болтами

riveting — клепка

basic — основной

to manufacture — изготовлять

to depend — зависеть от

purpose — цель

available — имеющийся в наличии

equipment — оборудование

source — источник

gas welding — газосварка

arc welding — электродуговая сварка

resistance welding — контактная сварка

laser welding — лазерная сварка

electron-beam welding — электронно-лучевая сварка

flame — пламя

edge — край

simultaneously — одновременно

filler — наполнитель

wire — проволока

rod — прут, стержень

to melt — плавить(ся)

joint — соединение, стык

advantage — преимущество

to require — требовать нуждаться

surface — поверхность

coated — покрытый

flux — флюс

fusible — плавкий

to shield — заслонять, защищать

touching — касание

tip — кончик