



قائمة الاسئلة

امتحان نهاية الفصل الدراسي الثاني - للعام الجامعي 1446 هـ - كلية البترول والموارد الطبيعية :: هندسة انتاج الغاز الطبيعي - (452 PNGE) م / علي عباس

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- 1) Natural gas provided about 23% of the total world energy supply, and that share would certainly increase.
 - 1) + TRUE.
 - 2) - FALSE.
- 2) Unconventional natural gas is either associated or non-associated gas.
 - 1) - TRUE.
 - 2) + FALSE.
- 3) In case of sand accumulation situation the horizontal separators are better to clean than the vertical separators
 - 1) - TRUE.
 - 2) + FALSE.
- 4) Spherical Separators have Very limited surge capacity and liquid settling section
 - 1) + TRUE.
 - 2) - FALSE.
- 5) The efficiency of piston Compressors is usually lower than that of Centrifugal compressors
 - 1) - TRUE.
 - 2) + FALSE.
- 6) In gas - liquid flow measurement (two-phase stream), the pressure and temperature should be maintained as high as possible at the meter.
 - 1) + TRUE.
 - 2) - FALSE.
- 7) The Pipeline efficiency increases when a water, condensates, and sometimes crude oil accumulate in low spots in the line
 - 1) - TRUE.
 - 2) + FALSE.
- 8) Age and presence of corrosive materials such as carbon dioxide(CO₂) and hydrogen sulfide(H₂S) exacerbate the corrosion problem
 - 1) + TRUE.
 - 2) - FALSE.
- 9) The uniform corrosion is much worse than localized corrosion as it causes about 70% of failures.
 - 1) - TRUE.
 - 2) + FALSE.
- 10) The corrosion rate of metal increases when the velocity of liquids inside flow lines increases
 - 1) + TRUE.
 - 2) - FALSE.
- 11) Natural Gas Liquefaction process take place in temperature conditions close to Celsius
 - 1) - -40
 - 2) - -60
 - 3) + -160
 - 4) - -240
- 12) Field processing of natural gas consists of some basic processes such as:
 - 1) - separation of gas from free liquids such as crude oil, hydrocarbon condensates, water and solids
 - 2) - Processing the gas to remove condensable and recoverable hydrocarbon vapors
 - 3) - Processing the gas to remove other undesirable component such as hydrogen sulfide and carbon dioxide
 - 4) + All of the above





- 13) Most Separators used in Offshore surface production facilities are
- 1) - Horizontal Separators
 - 2) Vertical separators
 - 3) - Spherical Separators
 - 4) - All of the above
- 14) In order to design a separator by Liquid Capacity, the required data are:
- 1) - Separator pressure and inlet flow rate
 - 2) - Separator temperature and residence time
 - 3) Inlet flow rate and residence time
 - 4) - Non of the above
- 15) Gas-liquid separation is better when all below factors exist , except:
- 1) More turbulence movement in the separator
 - 2) - Great gas-liquid weight difference
 - 3) - More separator coalescing area
 - 4) - More residence time
- 16) Natural gas hydrates tend to form when there is:
- 1) - Sudden pressure Increase due to compression
 - 2) Free water present and temperature decreases
 - 3) - Sudden Temperature increase
 - 4) - Non of the above
- 17) To prevent hydrate formation, natural gas may be treated with:
- 1) - Ethylene glycol (EG)
 - 2) - diethylene glycol (DEG),
 - 3) - triethylene glycol (TEG)
 - 4) All of the above
- 18) The compressor stations are generally utilized in the natural gas production industry such as:
- 1) - Field gas-gathering stations to gather gas from wells in which pressure is insufficient
 - 2) - Re-pressuring or recycling stations to provide gas pressures as high as 6,000 psig
 - 3) - Storage field stations to compress trunk line gas for injection into storage wells
 - 4) All of the above
- 19) When low flow rate and too high discharge pressure is required for nature gas ,what are the right compressors to use?
- 1) Positive Displacement Compressors
 - 2) - Dynamic Compressors
 - 3) - Both a) & b)
 - 4) - Non of the above
- 20) The working principles of using Orifice gas flow meter for natural gas measurement is:
- 1) - Determine the temperature and pressure upstream the flowmeter
 - 2) - creating electromagnet pulses by magnetic pick up device
 - 3) Place a restriction and measure the resulting pressure drop using a differential pressure (PD) cell.
 - 4) - All of the above
- 21) Many factors must be considered in the design of long-distance gas pipelines. These include the following except:
- 1) - The nature and volume of the gas to be transmitted
 - 2) - The length of the line
 - 3) The gas water content
 - 4) - The maximum elevation of the route
- 22) In order to calculate the gas flow rate in a horizontal pipeline, consider steady-state flow, the following data





is required

- 1) - the pipe tentacle strength
 - 2) the pipe diameter and the average velocity
 - 3) - the pipe material
 - 4) - Non of the above
- 23) Factors that affect the rate of corrosion are the following, except:
- 1) - Temperature
 - 2) Hydrogen
 - 3) - Humidity
 - 4) - Chemical Salts
- 24) Cathodic protection (CP) is a technique to control the corrosion of a metal surface by:
- 1) - Installing corrosion Coupons
 - 2) - Removing the humidity around the metal
 - 3) - Reducing metal temperature
 - 4) making the metal work as a cathode of an electrochemical cell
- 25) Combustion emissions include carbon dioxide, nitrous oxide, sulfuric oxide, fly ash particulates are the Environmental Impact of:
- 1) - Natural gas
 - 2) Coal
 - 3) - Nuclear Power Plants
 - 4) - Wind Turbines

