

9. The nitrogen-hydrogen mixture for the production of ammonia is prepared from nitrogen in the air obtained by the following method:

- A) physical separation of air;
- B) selective extraction of nitrogen from the exhaust gases;
- C) physical absorption of nitrogen-containing gas;
- D) chemical separation of air;
- E) cryogenic separation of exhaust gases.

10. Sources of hydrogen for the production of ammonia are:

- A) natural gas, associated gas, off-gas;
- B) methanol, air, unsaturated hydrocarbons;
- C) methyl alcohol, aromatic hydrocarbons;
- D) methane, water, saturated hydrocarbons, coke oven gas;
- E) aliphatic hydrocarbons, flue gases.

11. In industry, the hydrogen required for the synthesis of ammonia is obtained by:

- A) chemical separation of air;
- B) catalytic conversion of methanol;
- C) the conversion of ethane from exhaust gases;
- D) methane conversion from natural gas;
- E) thermal gas neutralization.

12. In industry, the hydrogen required for the synthesis of ammonia is obtained by:

- A) conversion of carbon monoxide from aqueous or semi-aqueous gas;
- B) selective extraction of nitrogen from the exhaust gases;
- C) physical absorption of a hydrogen-containing gas;
- D) chemical separation of air into components;
- E) thermal neutralization of a hydrogen-containing gas.

13. In industry, the hydrogen required for the synthesis of ammonia is obtained by:

- A) physical absorption of a hydrogen-containing gas;
- B) selective extraction of nitrogen from the exhaust gases;
- C) electrolysis of water or a solution of sodium chloride;
- D) chemical separation of air;
- E) thermal neutralization of a hydrogen-containing gas.

14. In the production of ammonia, the most common systems operating under pressure are:

- A) partial;
- B) low;
- C) high;
- D) atmospheric;
- E) medium.

15. The main steps for the preparation of the nitrogen-hydrogen mixture for ammonia synthesis are as follows:

- A) methanation, CO₂ purification, CH₄ conversion, CO conversion;
- B) CO₂ purification, CH₄ conversion, CO conversion, methanation;
- C) CH₄ conversion, CO conversion, CO₂ purification, methanation;
- D) purification from sulfur compounds, CO conversion, CH₄ conversion;
- E) CH₄ conversion, purification from sulfur compounds, CO conversion.