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**\*\*\* EXAMINATION \*\*\***

**COMPARATIVE ANALYSIS OF ALTERNATIVE MEANS FOR REMOVING  
NON-CONDENSABLE GAS FROM FLASHED-STEAM GEOTHERMAL POWER PLANTS**

1. **The specific gas-removal methods reported here include:**
  - a) three vacuum system configurations
  - b) four vacuum system configurations
  - c) five vacuum system configurations
  - d) six vacuum system configurations
  
2. **Steam-driven power plants are operated:**
  - a) with the power turbines exhausting into condensers
  - b) with the motors exhausting into condensers
  - c) with the sun generating electricity
  - d) with the wind generating electricity
  
3. **In a geothermal steam power system, the gases contribute a**
  - a) partial pressure that adds to forward pressure on the turbine
  - b) partial pressure that adds to back pressure on the turbine
  - c) partial pressure that adds to side pressure on the turbine
  - d) partial pressure that adds to inside pressure on the turbine
  
4. **A gas that contribute to corrosion in piping and equipment**
  - a) is carbon dioxide
  - b) is hydrogen sulfide
  - c) is propane
  - d) both a and b
  
5. **In geothermal systems, the predominant noncondensable**
  - a) gas causing corrosion is nitrous oxide
  - b) gas causing corrosion is nitrogen
  - c) gas causing corrosion is carbon dioxide
  - d) gas causing corrosion is hydrogen
  
6. **Gas removal vacuums are commonly drawn**
  - a) using multiple stages of steam jet ejectors
  - b) using electric pulses
  - c) using motor magnetics
  - d) Any of the above

7. **A base-case model called the reboiler process**
  - a) separates liquids from the bulk steam phase
  - b) separates gases from the bulk steam phase
  - c) separates gases from the exhaust
  - d) All of the above
8. **A vacuum gas-removal system relies on converting steam energy**
  - a) to mechanical power to transport the noncondensable gases
  - b) to electrical power to transport the noncondensable gases
  - c) to nuclear power to transport the noncondensable gases
  - d) none of above
9. **The reboiler discards the**
  - a) concentrated noncondensable gases
  - b) concentrated liquids
  - c) concentrated particles
  - d) All of the above
10. **A two-stage steam-jet ejector vacuum system for gas-removal is**
  - a) the gas case vacuum system
  - b) the liquid case vacuum system
  - c) the phase case vacuum system
  - d) the base case vacuum system
11. **The flash temperature is set at the midpoint between temperatures**
  - a) of produced fluids and the exhaust of the power turbine
  - b) of produced fluids and the intake of the power turbine
  - c) of produced fluids and the intake of the generator
  - d) none of above
12. **A electrical generator is assumed to operate at:**
  - a) 55% overall efficiency
  - b) 75% overall efficiency
  - c) 95% overall efficiency
  - d) None of the above
13. **A new technology that uses a innovative machine that is steam**
  - a) driven is the three-stage turbo compressor vacuum system
  - b) driven is the four-stage turbo compressor vacuum system
  - c) driven is the five-stage turbo compressor vacuum system
  - d) driven is the six-stage turbo compressor vacuum system
14. **An example of a straight-vaned centrifugal pump**
  - a) is the liquid vacuum pump
  - b) is the liquid ring vacuum pump
  - c) is the liquid curl vacuum pump
  - d) is the liquid tie vacuum pump

15. **The final brine from a biphase eductor vacuum system**
- a) is delivered to injection wells
  - b) is delivered to pump wells
  - c) is delivered to surface wells
  - d) none of above
16. **In the reboiler gas-removal process, noncondensable**
- a) gases remain in the single vent gas stream
  - b) gases remain in the soft vent gas stream
  - c) gases remain in the hard vent gas stream
  - d) gases remain in the shell-side vent gas stream
17. **The advantage of ejectors include they**
- a) are simple to operate and maintain
  - b) have no moving parts
  - c) have moving parts
  - d) both a and b
18. **The hybrid vacuum system configuration is**
- a) more cost effective than straight jet ejector systems
  - b) less cost effective than straight jet ejector systems
  - c) more cost effective than phase ejector systems
  - d) less cost effective than phase ejector systems
19. **A hybrid component mix might evolve to full conversion**
- a) enhancing steam-jet ejectors
  - b) complimenting steam-jet ejectors
  - c) eliminating steam-jet ejectors altogether
  - d) All of the above
20. **The advantage of turbo compressor technology is**
- a) gains in efficiency compared to steam-jet ejector systems
  - b) gains in power compared to steam-jet ejector systems
  - c) compact size compared to steam-jet ejector systems
  - d) All of above

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<b>*** ANSWER SHEET *** U436</b>  <b>COMPARATIVE ANALYSIS OF ALTERNATIVE          MEANS FOR REMOVING NON-CONDENSABLE          GASES FROM FLASHED-STEAM GEOTHERMAL          POWER PLANTS</b>	<u>STATE BOARD</u>	<u>COURSE NO.</u>	<u>VALUE</u>
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