

## Skills Hungary Prequalification Theory

1. Flame and arc welding
  - A. is a continuous flammable activity
  - B. is an occasional flammable activity
  - C. is an explosive activity
2. What is the efficiency of a gas-fired continuous flow water heater with a heat load of 20 kW and a heat output of 18 kW?
  - A. 87 %
  - B. 90 %
  - C. 89 %
  - D. 91 %
3. What determines the offset of the start of the pipe 'shortening the pipe' during bending?
  - A. The material of the pipe
  - B. The diameter of the pipe
  - C. Bending radius
4. What does the safety valve do when the pressure rises?
  - A. It closes
  - B. It opens
  - C. Does nothing
5. Flame welding is called left-handed welding if....
  - A. the rod passes in front of the burner.
  - B. the user holds the burner in the left hand.
  - C. when the stick follows the burner.
6. Any naturally found water contains Legionella bacteria. What are the health risks?
  - A. If contaminated water is used for cooking and is consumed with food.
  - B. Wearing clothes washed in Legionella-contaminated water.
  - C. Inhaling contaminated water as a vapour.
7. Which joining technology is not recommended for joining HDPE pipes?
  - A. Flanged jointing
  - B. Bottom butt welding
  - C. Electrofusion welding
  - E. Push-on joining
8. When designing gas supply systems in buildings, which of the following connection technologies is permitted according to the regulations?
  - A. adhesive connections
  - B. threaded connections
  - C. soldered connections
  - D. pressed connections
9. What are the quality specifications of the materials used for welding plastic pipes?
  - A. Both pipes must be thermoplastic.
  - B. They must be made of the same material.
  - C. Both must be the same percentage free of oxygen diffusion

10. What causes the hammer (hydraulic impact) effect in piping systems?
- A. High pressure in the system
  - B. Incorrect sealing of pipes
  - C. Incorrect pipe diameter
  - D. Presence of air bubbles in the installation of the pipe.
11. Under what temperature conditions does condensation water become condensate in condensing boilers?
- A. when the temperature of the combustion product rises to the dew point temperature
  - B. when the oxygen content in the combustion air suddenly increases
  - C. when the temperature of the combustion products falls below the dew point temperature.
12. The most optimal location of the vent valve for heating systems
- A. lowest point in the system
  - B. highest point of the system
  - C. as close as possible to the radiators
  - D. as close as possible to the equalisation tank
13. What is the recommended method for checking the tightness of a gas installation?
- A. with a manometer
  - B. open flame
  - C. with soap with water
  - D. by smell
14. What happens to a copper pipe when it is heated and then suddenly immersed in cold water?
- A. It softens
  - B. Hardens
  - C. Breaks
15. What is a hydraulic gear?
- A. The most common is a boiler with its own built-in pump, and a combination of several pumps provides independent operation.
  - B. A short circuit of a specific size between two heating supply pipes.
  - C. Most commonly used on boilers without their own built-in pump to ensure that the built-in pump operates at maximum speed.
  - D. Used to set the temperature of the water on the secondary side
16. What is the correlation between the heat of melting and the heat of vaporisation of water?
- A. heat of melting = heat of vaporisation
  - B. heat of melting > heat of vaporisation
  - C. heat of melting < heat of vaporization
17. What does the 'flow direction rule' mean for water supply systems?
- A. copper can only be installed before steel depending on the direction of water flow
  - B. sanitary pipe must be inclined according to the direction of water flow
  - C. fittings and sanitary fittings should only be installed in order according to the direction of water flow
  - D. copper may only be installed after steel, depending on the direction of water flow

18. What is a stone?
- A. Cu and Mg ions that are released from water.
  - B. Ca and Fe ions that dissolve in water
  - C. Ca and Mg ions that dissolve in water
  - D. Fe and Mg ions that are dissolved in water
19. For variable speed pumps, what causes the controllers to change speed?
- A. time, water temperature, pressure differential, other system-dependent factors
  - B. due to changes in water flow rate and differential pressure or other system-dependent factors
20. What value is used to describe safety valves?
- A. heat transfer coefficient
  - B. flow cross-section
  - C. lift height
  - D. temperature
21. Under what temperature conditions does condensation take place?
- A. when the temperature of the combustion gases rises to the dew point temperature
  - B. if the oxygen content of the combustion air rises suddenly
  - C. if the temperature of the flue gases falls below the dew point temperature
  - D. if the temperature of the flue gases is equal to the temperature of the combustion air
22. What is the risk if the waste water pipes do not have adequate ventilation?
- A. The capacity of the sewage network is reduced.
  - B. Wastewater can back up in horizontal pipe sections.
  - C. Depressions in the sewer system can suck water out of traps.
  - D. Overpressure in the drain pipe can cause sewer air to back up through the odour barrier.
23. Which of the following statements is not true about a vacuum rainwater drainage system?
- A. Its gradient is greater than that of a gravity rainwater drainage system.
  - B. Smaller diameters can be used to drain rainwater from a given roof area.
  - C. Section-by-section axial flow is created
  - D. Higher flow velocities than gravity flow is created.
24. As the temperature increases, the corrosive effect of water ...
- A. decreases
  - B. remains unchanged
  - C. increases
25. A pressure regulator used in a drinking water system is not suitable for what purpose?
- A. To protect fittings from excessive pressure
  - B. To prevent pressure fluctuations in the network
  - C. To reduce excessive wear caused by excessive discharge pressure
  - D. To stabilise the flow rate in fittings
26. What temperature of water can be fed through KG-PVC pipework?
- A. Wastewater at a constant temperature of 40°C, but for short periods (1-2 minutes) up to 60°C.
  - B. 60°C
  - C. No such limitation

- D. Permanently 60°C in free flow; permanently 60°C in soil flow and up to 80°C for short periods (1-2 minutes).
27. For which installation of two pumps of the same type is the head doubled?
- A. in series
  - B. in parallel
28. What is the coefficient of performance of heat pumps?
- A. The fraction of energy used by a heat pump that corresponds to the mechanical work put into driving the compressor.
  - B. The percentage of the energy consumed by the heat pump that corresponds to the mechanical work driving the compressor
  - C. The fraction of the energy consumed by the heat pump that corresponds to the energy delivered
29. For solar collectors, where should the safety valve be installed?
- A. in the suction part of the collector, thus protecting the collector
  - B. in the discharge section of the collector, thus protecting the collector
30. What is soldering?
- A. A technique for thermally connecting materials in which the soldering material is converted to a liquid phase by melting, and the melting point of the material is not reached before the soldering temperature.
  - B. A technique for thermally connecting materials in which the solder material is melted to a liquid phase and the melting point of the base material is reached at the soldering temperature, so that it melts during the joining process.