

DESIGN AIR UNIVERSITY

R-410A Refrigerant Certification Exam

Technician's Name: _____

Company's Name: _____

Address: _____

I certify that I have completed this exam personally: _____ (signed) Date: _____

1. R-410A is also known as:
 - a. AZ-20.
 - b. Puron
 - c. PrOzone
 - d. All of the above.
2. R-410A equipment is used with what type of lubricant?
 - a. Mineral oil
 - b. POE oil
 - c. Vegetable oil
 - d. SAE oil
3. Manifold sets for R-410A must have gauges that read:
 - a. 1000 PSIG
 - b. 800 PSIG High Side
 - c. 250 PSIG Low Side
 - d. both b & c.
4. Manifold hoses must have a service pressure rating of:
 - a. 1000 PSIG
 - b. 900 PSIG
 - c. 800 PSIG
 - d. 700 PSIG
5. Recovery cylinders used for R-410A must have a pressure rating of:
 - a. 400 PSIG
 - b. 500 PSIG
 - c. 600 PSIG
 - d. 700 PSIG
6. R-410A can only be used as a drop-in replacement for R-22 when:
 - a. the Environmental Protection Agency grants a waiver.
 - b. the line set and evaporator coil are changed.
 - c. all R-22 is first removed and recycled.
 - d. Never.
7. R-410A is an azeotropic mixture of:
 - a. 50% HFC-32 and 50% HFC-125.
 - b. 60% R-134A and 40% R-502.
 - c. 50% R-500 and 50% R-502.
 - d. 70% HFC-134A and 30% HFC-404.
8. The pressure of R-410A is approximately _____ times greater than R-22.
 - a. 3.01
 - b. 2.4
 - c. 2.0
 - d. 1.6
9. The color of cylinders of R-410A are:
 - a. green.
 - b. white.
 - c. pink.
 - d. blue.

10. At pressures above one atmosphere, a mixture of R-410A and air can become:
- caustic.
 - combustible.
 - poisonous.
 - carcinogenic.
11. Evacuating systems to 500 microns will not:
- remove all of the air.
 - make the system more efficient.
 - remove the moisture from the oil.
 - make the unit run more quietly.
12. Charging systems with R-410A must be done in the _____ state.
- liquid
 - gaseous
 - superheated
 - subcooled
13. All R-410A systems must have a _____ installed.
- low pressure control
 - liquid line drier
 - suction line drier
 - low ambient control
14. R-22 refrigerant can no longer be installed in new equipment starting in:
- 2008
 - 2010
 - 2015
 - 2020
15. The saturation temperatures of R-410A are _____ those of R-22.
- higher than
 - lower than
 - similar to
 - totally unlike
16. Suction pressures below 100 PSIG can lead to _____ on R-410A systems.
- evaporator coil icing
 - high superheat
 - high noise levels
 - tripping circuit breakers
17. Refrigerant cylinders must be _____ when adding R-410A to systems.
- heated
 - cooled
 - over 50% full
 - inverted
18. The oil used in R-410A systems:
- attracts moisture
 - repels moisture
 - needs frequent additives.
 - should be changed annually.
19. R-410A refrigerant was invented by:
- Dupont.
 - Honeywell.
 - Carrier.
 - Rheem.
20. Because R-410A does not deplete the ozone layer, it
- Can be vented to the atmosphere.
 - It can be safely inhaled.
 - Must still be recovered per the Clean Air Act.
 - Costs less than R-22.

Fax completed exam to: 414-276-5569 c/o Mike Mills. Minimum passing score is 80%.
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