1. Powder coatings:
   a) have especially low VOC content and especially high transfer efficiency.
   b) may not reach internal corners due to the Faraday Cage Effect.
   c) are not normally used in automotive refinishing operations
   d) are easily reformulated to match existing colors.
   e) a, b, and c

2. Transfer Efficiency is calculated using the equation:
   a) \((\text{mass of solid coating applied} \div \text{mass of solid coating deposited}) \times 100\)
   b) \((\text{mass of solid coating deposited} \div \text{mass of solid coating applied}) \times 100\)
   c) \((\text{mass of solid coating applied} \div \text{weight of coated part}) \times 100\)
   d) none of the above

3. Automotive and Metal Parts coating operations are regulated by Air Quality Management agencies based upon:
   a) emissions of VOC, a precursor to ozone formation
   b) emissions of HAPS (hazardous air pollutants)
   c) the potential to create a nuisance
   d) both a and b

4. Most VOC emissions from spray painting operations typically occur during:
   a) storage and mixing operations
   b) the spraying (application) operation
   c) flash-off and drying operations
   d) cleanup and preparation operations
5. A “baked” coating (not a powder coating)
   a) cures at temperature lower than 194 degrees F
   b) cures at temperature higher than 194 degrees F
   c) requires an external stimulus to cure, including UV light or an electron beam
   d) generally has higher VOC content than a non-baked coating

6. Curing is achieved when the part is dry to the touch.
   a) True
   b) False

7. Powder coatings contain VOCs and are baked to cure.
   a) True
   b) False

8. A primer might be selected for its ability to provide:
   a) topcoat adhesion
   b) corrosion protection to the substrate
   c) filling and smoothing of surface irregularities
   d) all of the above
   e) none of the above

9. If the power to an electrostatic coating operation were not energized, the application process would likely achieve the same results as a conventional spray application process.
   a) True
   b) False

10. Airless application of coatings is best for use on:
    a) small parts
    b) large parts
    c) is well suited for both small and large parts
    d) none of the above

11. The HVLP method of application uses:
    a) low air cap pressures
    b) large volumes of air
    c) generally has high transfer efficiency
    d) all of the above
    e) none of the above
12. Effective VOC coating regulations generally contain:
   a) transfer efficiency provisions
   b) VOC content limits
   c) open container provisions for solvents and coatings
   d) application equipment cleaning provisions
   e) all of the above

13. All of the following could be used as **indicators of performance** for spray booths **except**:
   a) face velocity
   b) differential pressure across the filtration system
   c) a combination of face velocity and daily inspection
   d) continuous measurement and recording of air flow rate to the booth

14. **Air emissions of VOCs** from coating operations are regulated by Air Pollution Control agencies because
   a) they could potentially leach into the ground and contaminate underground aquifers
   b) they generally have low odor thresholds and smell bad
   c) they are precursors to the formation of ozone
   d) they are generally flammable and represent a fire hazard

15. The new 6H (Paint Stripping and Miscellaneous Surface Coating Operations) NESHAP includes all of the following major components **except**:
   a) is primarily designed to target particulate emissions the following HAPS – chromium, lead, manganese and nickel and organic compound emissions of methylene chloride
   b) requires the training and certification of all painters on the selection, use and maintenance of spray gun equipment
   c) mandates installation and operation of filter technology on all spray booths
   d) requires all affected operations to obtain a Title V Permit

16. All of the additives in a coating evaporate with solvent.
   a) True
   b) False
17. **Application methods** used in spray painting operations generally include
   a) conventional air spray
   b) airless
   c) air-assisted airless
   d) HVLP
   e) all of the above

18. A typical Automotive and Metal Parts coating consists primarily of binders (resins), pigments, solids and additives.
   a) True
   b) False

19. Coating solvents are **functionally** designed to perform all of the following **except**:  
   a) keep coating system components in suspension  
   b) provide for the desired color  
   c) adjust the viscosity for optimal spraying  
   d) allow the coating reaching the part to properly adhere to and disperse over the substrate surface

20. Emission limits for coating regulated under Subpart MMMM of the Surface Coating of Miscellaneous Metal Parts and Products NESHAP are specified in terms of
   a) grams per liter of coating as applied  
   b) kg HAP per liter of coating solids  
   c) kg HAP per liter of coating as applied  
   d) grams per weight of coatings as applied

21. Thermoplastic resins “cure” into an irreversible state and their chemical structure is permanently altered.
   a) True
   b) False

22. **Control Devices** used in limiting VOC emissions from coating operations generally include all of the following **except**
   a) Venturi Scrubbers
   b) Regenerative Thermal Oxidizers
   c) Catalytic Oxidizers
   d) Carbon Adsorption Systems
23. The weight percent composition of individual components of coating systems is typically available on MSDS and CPDS. Given this, generally only the density of specific VOCs or HAPs is required to convert between the two major HAP or VOC content limits (per gallon of coating, less water vs. per gallon of coating solids) using calculation tools available.
   a) True
   b) False

24. **Transfer efficiency** is not an important consideration in usage reduction and VOC emission reduction strategies.
   a) True
   b) False

25. Prior to the inspection of automotive or metal parts coating operations, inspectors should:
   a) review applicable rule requirements and conditions specified in the operating permit
   b) have necessary vision and hearing protection; safety shoes; hard hat and gloves
   c) sit down with the facility representative to discuss process or equipment changes since the last inspection
   d) all of the above should be performed