

***** EXAMINATION *****

VENTILATION INVESTIGATION

1. **Ventilation may be deficient in**
 - a) confined spaces
 - b) windowless areas
 - c) areas with high occupant densities
 - d) Any of the above

2. **Heating, ventilating, and air-conditioning systems were built to**
 - a) control temperature
 - b) control humidity
 - c) control odors
 - d) All of the above

3. **The primary purpose for HVAC is**
 - a) removal of contaminants
 - b) comfort
 - c) lowest cost
 - d) None of the above

4. **Indoor air contaminants may include:**
 - a) pollen
 - b) microbial agents
 - c) organic toxins
 - d) Any of the above

5. **Occupational asthma may be caused by**
 - a) indoor air quality contaminants
 - b) high air content of carbon dioxide
 - c) high air content of carbon monoxide
 - d) high air content of carbon peroxide

6. **Indoor air contamination is**
 - a) always caused by indoor air
 - b) always caused by outdoor air
 - c) sometimes caused by outdoor air
 - d) None of the above

7. **Reduced air flow rate occurs**
 - a) in clogged air cleaners
 - b) in open access doors
 - c) when fan belts slip
 - d) Any of the above
8. **The characterization of each emission source may be**
 - a) the rate of emission
 - b) the temperature
 - c) the chemical composition
 - d) Any of the above
9. **Basic testing equipment for air ventilation may include**
 - a) swinging vane thermometers
 - b) swinging vane anemometer
 - c) swinging vane fathometer
 - d) swinging vane decimeter
10. **To calculate duct areas,**
 - a) duct weights are measured
 - b) duct speeds are measured
 - c) duct diameters are measured
 - d) All of the above
11. **To calculate the duct diameter, the duct circumference**
 - a) is divided by pi
 - b) is multiplied by pi
 - c) is added to pi
 - d) is subtracted from pi
12. **Hood-face velocities are measured with a**
 - a) fathometer
 - b) hydrometer
 - c) velometer
 - d) Any of the above
13. **Hot-wire anemometers should not be used in airstreams containing**
 - a) nitrogen
 - b) aerosols
 - c) oxygen
 - d) hydrogen
14. **The U-tube manometer is a type of**
 - a) temperature gauge
 - b) depth gauge
 - c) pressure gauge
 - d) volume gauge

15. **Maximum distance of the hood from the emission source should not**
- a) exceed 0.5 duct diameters
 - b) exceed 1.5 duct diameters
 - c) exceed 2.5 duct diameters
 - d) exceed 3.5 duct diameters
16. **A typical view of ventilation system drawings is**
- a) plan or top
 - b) elevation
 - c) isometric
 - d) Any of the above
17. **Air cleaner components should be inspected**
- a) daily
 - b) weekly
 - c) monthly
 - d) yearly
18. **A typical local exhaust ventilation system is composed of**
- a) fans and hoods
 - b) duct and air cleaners
 - c) stacks
 - d) All of the above
19. **The hood's ability to convert static pressure to velocity pressure**
- a) is given by the coefficient of entry
 - b) is given by the reciprocal of entry
 - c) is given by the square of entry
 - d) is given by the square root of entry
20. **Considerations in designing an air-handling systems include**
- a) volume flow rate
 - b) temperature
 - c) humidity
 - d) All of the above

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