NAME:_____

Principles of Ambient Air Monitoring

Pre-test

1. In the electromagnetic spectrum, visible light ranges from:
   - ◯ 400 - 700 nm
   - ◯ 800 - 1000 nm
   - ◯ No light energy is visible in the electromagnetic spectrum
   - ◯ All light energy is visible in the electromagnetic spectrum

2. Light interactions in ambient air analyzers can include:
   - ◯ Absorption
   - ◯ Fluorescence
   - ◯ Chemiluminescence
   - ◯ All of the above

3. The bandpass filter in a NDIR analyzer:
   - ◯ Passes only those wavelengths of light that are useful in the analysis
   - ◯ Absorbs light in the pollutant's wavelength(s)
   - ◯ Allows stereo quality FM band radio waves to pass through
   - ◯ Is used to calibrate the analyzer

4. A Gas Filter Correlation (GFC) CO analyzer increases its monitoring pathlength through the use of:
   - ◯ Smoke
   - ◯ Mirrors
   - ◯ Magic
   - ◯ All of the above

5. Particulate samplers include:
   - ◯ Size Selective Inlet (SSI) samplers
   - ◯ Beta Attenuation Monitor (BAM) samplers
   - ◯ Tapered Element Oscillating Microbalance (TEOM) samplers
   - ◯ All of the above

6. SLAMS stands for:
   - ◯ State/Local Ambient Monitoring Study
   - ◯ Small and Large Air Monitoring Shelters
   - ◯ State and Local Air Monitoring Station
   - ◯ Sample Line Assembly Mounting Standards
   - ◯ Simplified Luminescence Ambient Monitoring Study

7. PAMS stands for:
   - Project Area Meteorological Survey
   - Photochemical Assessment Monitoring Station
   - Preliminary Atmospheric Monitoring Study
   - Polluted Area Modeling Study
   - Periodic Air Mixing Syndrome

8. SPM stands for:
   - State Particulate Monitor
   - Single Pathlength Monitor
   - Standard Procedural Method
   - Special Purpose Monitoring
   - System Protection Manual

9. Worldwide greenhouse warming effects predictions are based on measurements taken at_____scale monitoring stations.
   - Global
   - Neighborhood
   - Urban
   - Regional

10. Important considerations when initiating a new ambient air monitoring station include:
    - Emission sources in the area
    - Population centers and topography
    - Station operating cost
    - All of the above

11. Trees near a monitoring station:
    - Can be obstacles
    - Are always beneficial
    - Add to the ozone concentrations
    - Are acceptable if they are deciduous

12. When inspecting a monitoring station, the following tasks should be performed:
    - Review the siting of the station
    - Examine the zero/span and calibration of the analyzers and the results of the last audit
    - Examine the span gas certifications and review the station log books
    - All of the above

End of Exam