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Intro to Photolithography Quiz

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Quiz ideas

1) A Photo cluster is comprised of which TWO of the following tools? Select the best answer.
   A. Scanner and CD SEM
   B. CD SEM and Track
   C. Dose and Focus
   D. Track and Scanner

2) How is dose typically measured in Photolithography?
   A. J/nm^2 (Joules per nanometer square)
   B. mJ/cm^2 (mili Joules per centimeter square)
   C. Lm/mm^2 (lumens per millimeter square)
   D. kW/m^2 (kilo Watts per meter square)

3) In what tool does the develop process take place?
   A. CD SEM
   B. Registration tool
   C. Track
   D. Scanner

4) What are the primary functions of the scanner?
   A. Resist dispense and develop
   B. Inspect and measurement
   C. Align and expose
   D. Strip and clean

5) Contamination on the backside of a wafer or on the surface of the chuck can cause which defect?
   A. Focus spot
   B. Foreign material
   C. Resist bubble
   D. Resist toppling

6) Resist features that have a high aspect ratio can cause which of the following defects?
   A. Focus spots
   B. Foreign material
   C. Resist bubble
   D. Resist toppling

Quiz ideas

7) What does a CD SEM tool typically measure?
   A. Resist adhesion
   B. Resist thickness
   C. Number, location and size of particles
   D. Line width, space width, diameters

8) In photolithography, what term refers to the precise vertical position of the wafer where the projected image from the scanner lens is sharply formed?
   A. Numerical aperture
   B. Resolution
   C. Focal plane
   D. Dose

9) What is defined as the smallest pattern that photo can print in the resist on the wafer?
   A. Numerical aperture
   B. Resolution
   C. Focus
   D. Dose

10) What is the relationship between Wavelength and Resolution?
   A. Wavelength is directly proportional to Resolution
   B. Wavelength is inversely proportional to Resolution
   C. There is no relationship between Wavelength and Resolution

11) Which of the following measures the offset between the new resist pattern and a prior critical structure of interest?
   A. Registration
   B. Resist thickness
   C. Number, location and size of particles
   D. Line width, space width, diameters

12) Which of the following processes is most similar to the Photolithography process?
   A. Remote control communication - uses radio waves transmitted through air to encode and send information
   B. Plastic molding - uses high temperature and highly compressive forces to mold and reshape a material
   C. Traditional photography - uses light through a lens, which is absorbed by a material that is photosensitive
   D. Convection Oven - heating substrates through the circulation of air at a high temperature

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