

What are the components of the electron gun? Briefly describe their function.

How many types of electron guns are there? Briefly describe them.

How do electromagnetic lenses work?

How many electromagnetic lenses are in an SEM? Briefly describe their function.

What is working distance?

What is depth of field?

How does working distance affect depth of field?

What is the difference between resolution and magnification?

What are SE?

How does the accelerating voltage influence the SE signal?

What are BSE?

What is the objective lens aperture used for?

What are the operating conditions required for high resolution imaging?

-Voltage Why?	Low	High
-Working Distance Why?	Short	Long

Explain the Topographic Contrast mechanism.

Explain briefly the mechanism of atomic number contrast.

List the most used imaging modes on the SEM and indicate which beam parameter influences each mode.

Why higher resolution can be achieved in a field emission SEM compared with a thermionic emission SEM?