Busta 1:

1. In quali settori applicativi è utilizzata la tomografia a raggi X
2. Quali sono gli organi di governo dell'Università

This chapter provides an overview of the concepts of scanning electron microscopy ( ) from a theoretical as well as practical operational perspective. The theory section begins with the basics of image formation followed by an explanation of the interaction of the electron beam with the sample. A description of the different types of electron guns is also included.

Busta 2:

1. Per quali materiali è indicato l'impiego della tomografia a raggi X
2. Quali sono le competenze del Rettore

The concepts involved with image formation from a rastered (or scanned) electron beam on a surface is explained along with the mechanisms of contrast generation from sample surface topography and sample composition. The different SEM detectors are also explained including a description of the practical application of detectors under various sample conditions.

Busta 3:

1. Quali sono i principi fisici alla base della tomografia a raggi X?
2. Quali sono le competenze del Direttore Generale

Numerous diagrams and figures in this chapter illustrate imaging geometries and possible SEM system configurations. Included in the chapter is an explanation of the various instrument operation parameters for different samples as well as a discussion of the effects of electron-beam accelerating voltages on sample imaging, contrast, and resolution.

Busta 4:

1. Quali sono i principi fisici alla base della microscopia a scansione elettronica?
2. Il ruolo del Senato Accademico

More advanced topics are also included such as the use of beam deceleration and in-lens imaging and detectors. Analytical SEM techniques are also explained with the explanation of the use of energy-dispersive x-ray detectors (EDS) used to measure sample composition as well as provide compositional maps of a sample. Application of SEM to a variety of materials systems under varying conditions are discussed with multiple examples and illustrations given.