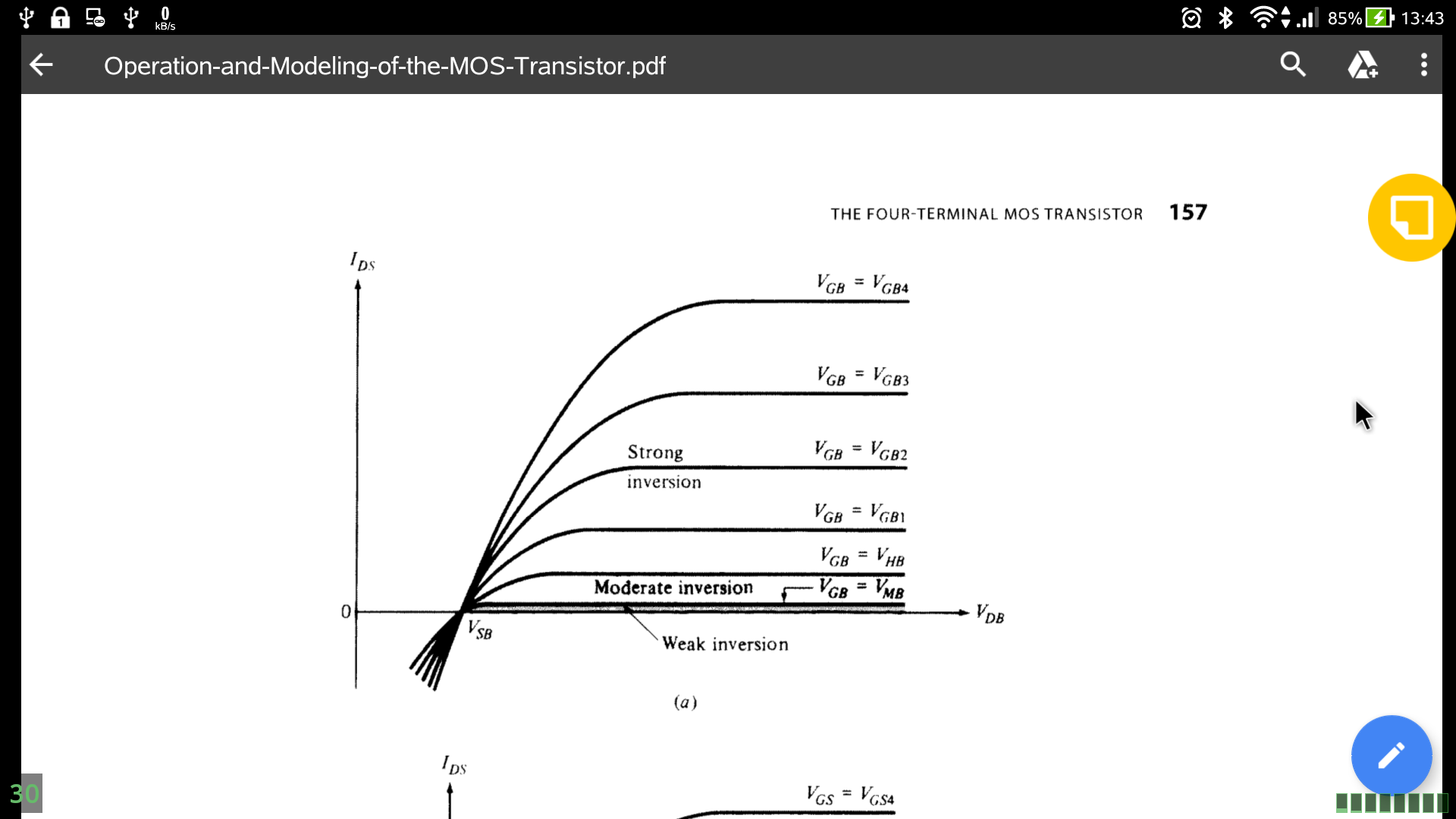
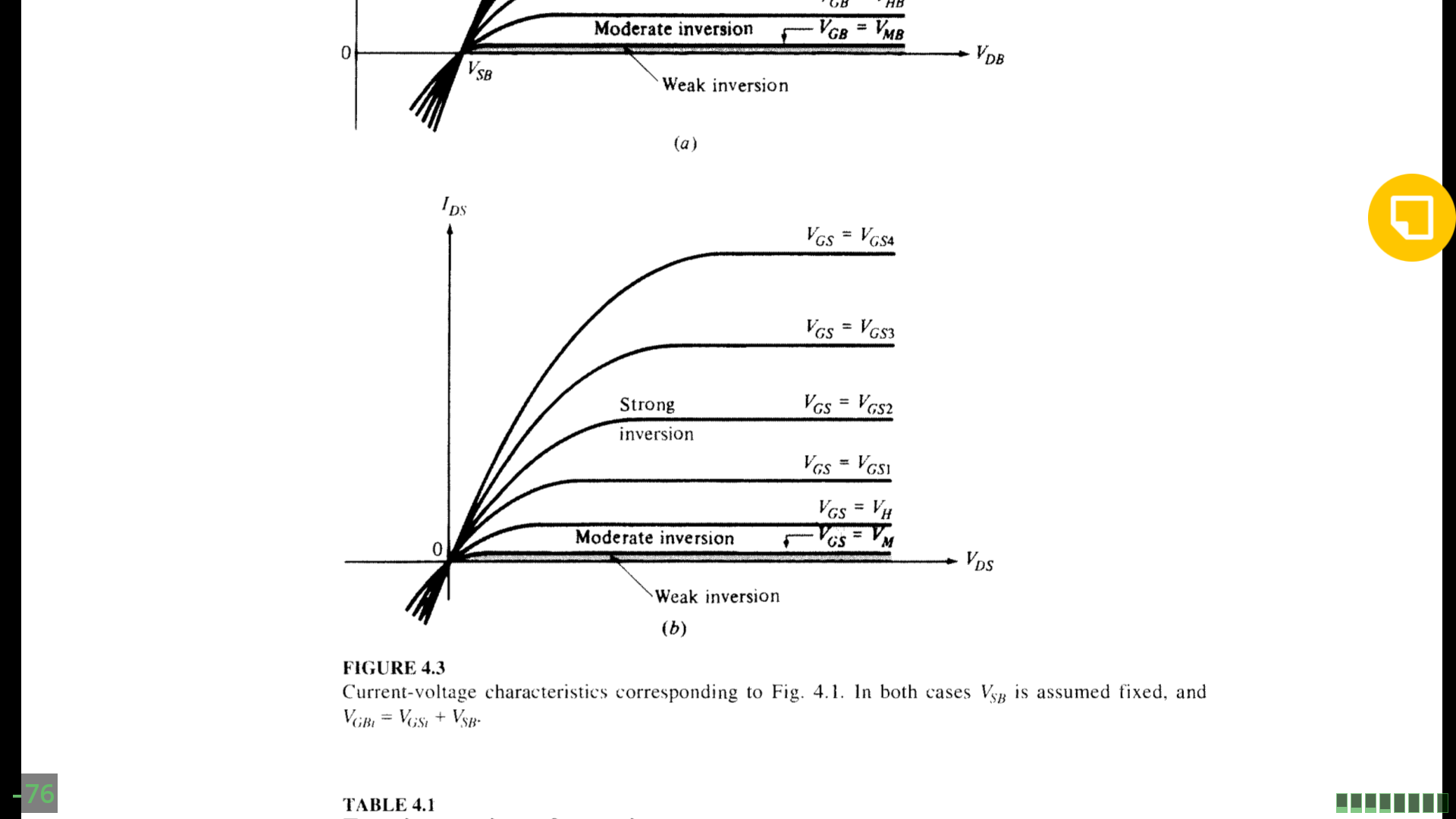
**ECEN 4303 Digital Integrated Circuit**

**Chapter 4: The Four-Terminal MOS Transistor**

* Transistor Regions of Operation
  + Body-reference  
    
  + Source-reference  
    
* Complete All-Region Model
  + Current Equation
  + Body-Referenced Simplified All-Region Models
  + Source-Referenced Simplified All-Region Models
* Strong Inversion
  + Complete Strong-Inversion Model
    - Non-saturation
    - Derivation Directly in Strong Inversion
    - Forward Saturation
      * Pinchoff voltage is equal to drain to body voltage
    - Reverse Saturation
  + Body-Referenced Simplified Strong-Inversion Model
  + Source-Referenced Simplified Strong-Inversion Model  
    - Derivation directly in strong inversion