**STUDY GUIDE EPITHELIUM AND JUNCTIONS**

**VOCABULARY**

Structures/structural components:

Tight junction Desmosome Squamous epithelium

Columnar epithelium Cuboidal epithelium Simple epithelium

Stratified epithelium Endothelium Pseudostratified epithelium

Basal lamina Basement membrane Transitional epithelium

Terminal bar Merocrine Holocrine

Apocrine Hemidesmosome Cytocrine

**OBJECTIVES AND QUESTIONS**

1. What are the basic functions of epithelial tissue? (Hint: cover organs, line viscera/blood vessels, secretion, immune defense, absorption).
2. Understand the classification of basic epithelia (e.g., simple vs. stratified, squamous, cuboidal, etc.) and be able to describe where each is typically found (e.g., transitional – urinary tract).
3. Be able to describe apical surface specialization of epithelia (e.g., microvilli – intestinal absorptive cell).
4. What is the significance of the prickle cell layer (stratum spinosum) of the skin? (Hint: desmosomes). What is the functional significance of the tight junctions? (Hint: diffusion barriers). Where are they found? What intracellular structure are they associated with? (Hint: terminal web-actin filaments). What is the functional significance of adherens junctions? (Hint: mechanical support). What is a hemidesmosome and what is its significance? (Hint: cell/basal lamina interaction).
5. Be able to discuss the classification of glands. What is the difference between exocrine and endocrine? What are the four types of secretion by exocrine glands and what is the nature of the secretion of each? Be able to describe exocrine glands based on the structural arrangement of the duct (e.g., simple vs. compound) and the secretory portion (e.g., tubular, alveolar, acinar, etc.).
6. What is the basal lamina? (Hint: specialized extracellular matrix that underlies all epithelial tissue). What is the difference between the basal lamina and the basement membrane? (Hint: BM includes the basal lamina and collagen fibrils which connect the basal lamina to the underlying connective tissue). Which can be seen at the light microscopic level? (Hint: BM). At the EM level only? (Hint: basal lamina).