

1. Please describe the general hepatic structure and compare the three types of liver lobules (10%)
2. Draw a diagram for the various layers of the retina (8%)
3. Describe the location and functions of Sertoli cells (8%)
4. Describe the following terms briefly (4% for each)
 - a. M cells of intestine
 - b. Pacinian corpuscle
 - c. Osteoclast
 - d. Enteroendocrine cells
 - e. Corpus luteum
 - f. Fibrocartilage
5. Different types of junctions, including tight junctions, zonula adherens, gap junctions, desmosomes and hemidesmosomes, exhibit uneven distribution in the tissues. What are the structure, location and roles of these junctional complexes? (12%)
6. Synthesis of secretory proteins require complex processing in the cell. Please highlight the major steps occurring before and in the rough endoplasmic reticulum. (10%)
7. Portal systems are present in the anterior pituitary gland, liver and kidney. Please discuss their structure-function relationship. (8%)
8. Hemopoiesis occurs actively in everyday life. Please discuss how and where this occurs. (10%)
9. Membrane surrounds cells and most intracellular organelles. Please outline the common properties of all membranes and discuss key features distinguishing them from one another. (10%)