

Advanced True or False Questions on Tissues

1. The main difference between the four tissue types is primarily the type of extracellular matrix rather than the type of cells.
2. Nervous tissue has the most abundant extracellular matrix among all tissue types.
3. Epithelial tissues regenerate rapidly because of their exposure to external environments.
4. All epithelial cells directly receive nutrients from nearby blood vessels.
5. The basal lamina alone forms the entire basement membrane.
6. The reticular lamina belongs to the connective tissue beneath the epithelium.
7. Epithelial cells are considered non-polar because they lack regional specialization.
8. Lining epithelia can also perform secretory functions.
9. Goblet cells are multicellular glands located in the intestine.
10. Stratified epithelia are designed mainly for protection rather than absorption.
11. Simple squamous epithelium is the best suited for diffusion and filtration.
12. Non-keratinized stratified squamous epithelium forms the skin surface.
13. Transitional epithelium cells remain dome-shaped even when the bladder is full.
14. The pseudostratified ciliated columnar epithelium is actually a single-layered epithelium.
15. The cilia on respiratory epithelium move in random directions to mix air.
16. Endocrine glands secrete their products directly into ducts.
17. The salivary glands are examples of exocrine glands.
18. The secretory portion of exocrine glands is always tubular in shape.
19. Merocrine glands release their product through the complete destruction of the cell.
20. Sebaceous glands are examples of holocrine secretion.
21. Apocrine glands secrete their product along with a portion of the cell membrane.
22. In epithelial cells, the apical region faces the connective tissue.

23. Tight junctions prevent leakage between adjacent epithelial cells.
24. Gap junctions allow for direct communication between neighboring cells.
25. Hemidesmosomes anchor the basal surface of epithelial cells to the basal lamina.
26. Microvilli increase the surface area for secretion rather than absorption.
27. Stereocilia are shorter and more motile than microvilli.
28. Only sperm cells in humans possess a flagellum.
29. The extracellular matrix (ECM) is mainly composed of cells and organelles.
30. Connective tissue is the most abundant tissue in the body.
31. Fibroblasts are inactive cells responsible for storing fat.
32. Fibroblasts are characterized by a large nucleus and active protein synthesis.
33. Macrophages are fixed cells that never move within connective tissue.
34. Mast cells play a major role in allergic responses through the release of histamine.
35. Plasma cells are responsible for producing antibodies.
36. Collagen fibers provide elasticity and resilience to tissues.
37. Reticular fibers form a supportive network in organs like the spleen and lymph nodes.
38. Loose connective tissue is highly vascular and forms a packing material between organs.
39. Dense regular connective tissue resists forces from multiple directions.
40. White adipose tissue is abundant in infants and mainly produces heat.
41. Brown adipose tissue contains multiple lipid droplets and many mitochondria.
42. White adipocytes have centrally located nuclei.
43. Leptin secreted by white adipose tissue decreases appetite.
44. Elastic connective tissue allows organs like the aorta to stretch and recoil.
45. ~~Cartilage is vascular and contains blood vessels for nutrient transport.~~
46. ~~The perichondrium supplies nutrients to cartilage by diffusion.~~
47. ~~Hyaline cartilage contains abundant collagen fibers visible under light microscopy.~~

48. ~~Elastic cartilage and fibro cartilage both contain a perichondrium.~~

49. ~~Fibrocartilage is designed to resist compression and shear forces.~~

50. ~~Each lacuna in cartilage always contains only one chondrocyte.~~

Answers

1. True

2. False

3. True

4. False

5. False

6. True

7. False

8. True

9. False

10. True

11. True

12. False

13. False

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- 24. True
- 25. True
- 26. False
- 27. False
- 28. True
- 29. False
- 30. True
- 31. False
- 32. True
- 33. False
- 34. True
- 35. True
- 36. False
- 37. True
- 38. True
- 39. False
- 40. False
- 41. True
- 42. False
- 43. True
- 44. True
- ~~45. False~~
- ~~46. True~~
- ~~47. False~~
- ~~48. False~~
- ~~49. True~~
- ~~50. False~~