

1. Which type of sensory receptor is associated with Merkel cells and is responsible for light touch and texture sensing?

- a. Free nerve endings
- b. Root hair plexuses
- c. Merkel disc
- d. Pacinian corpuscles

2. Where are Pacinian corpuscles located in the skin?

- a. In the dermal papilla only
- b. Deep in reticular dermis and hypodermis
- c. In the epidermis
- d. Only in the papillary dermis

3. What is the primary function of Ruffini corpuscles?

- a. Temperature detection
- b. Light touch sensation
- c. Stretch and twisting detection
- d. Pain sensation

4. Which structure of the hair shaft contains melanin and heavily keratinized cells?

- a. Medulla
- b. Cortex
- c. Cuticle
- d. Matrix

5. What percentage of hair follicles are typically in the anagen phase?

- a. 15%
- b. 50%
- c. 75%
- d. 85%

6. Why is extracting DNA from cut peripheral hair scientifically inaccurate?

- a. The DNA is degraded in the hair shaft
- b. The hair shaft contains dead cells without nuclei
- c. The DNA is too fragmented to analyze
- d. The hair shaft is contaminated with external DNA

7. Which type of secretion involves the loss of part of the apical cytoplasm and plasma membrane?

- a. Merocrine
- b. Holocrine
- c. Apocrine
- d. Eccrine

8. Where are eccrine sweat glands most abundant?

- a. Armpits and groin
- b. Palms and soles
- c. Scalp and back
- d. Chest and neck

9. What is the primary secretion of apocrine sweat glands?

- a. True sweat
- b. Pheromones
- c. Sebum
- d. Keratin

10. Why does the nail body appear pink?

- a. Due to melanin content
- b. Because of blood vessels visible through thin epidermis
- c. Due to keratin composition
- d. Because of nail matrix activity

11. Which corpuscles decline in number with aging?

- a. Pacinian corpuscles
- b. Ruffini corpuscles
- c. Meissner corpuscles
- d. Root hair plexuses

12. What is the composition of eccrine sweat?

- a. Primarily proteins and lipids
- b. 99% water with NaCl and waste products
- c. Pure water only
- d. Primarily pheromones

13. Where do apocrine sweat glands empty their contents?

- a. Directly onto skin surface
- b. Into hair follicles
- c. Into sebaceous glands
- d. Into the dermis

14. What causes split ends in hair?

- a. Excess melanin production
- b. Medulla deterioration
- c. Cuticle cell desquamation
- d. Cortex fragmentation

15. What determines how long a person can grow their hair?

- a. The duration of the telogen phase
- b. The duration of the anagen phase
- c. The thickness of the hair shaft
- d. The amount of melanin present

16. Which layer of the nail bed allows blood vessels to be visible?

- a. Stratum corneum
- b. Thin epidermis with basale and spinosum only
- c. Thick dermis
- d. Hyponychium

17. What is the primary function of root hair plexuses?

- a. Detect hair movement
- b. Produce melanin
- c. Secrete sebum
- d. Control hair growth

18. In which phase of hair growth is the dermal papilla completely detached?

- a. Anagen
- b. Catagen
- c. Telogen
- d. Exogen

19. Which type of sweat gland secretion begins at puberty?

- a. Eccrine
- b. Merocrine
- c. Apocrine
- d. Holocrine

20. What is the function of the nail matrix?

- a. Protecting the nail bed
- b. Producing new nail cells through rapid division
- c. Providing nail color
- d. Storing nutrients for nail growth

ANSWER KEY

- 1. C
- 2. B
- 3. C
- 4. B
- 5. D
- 6. B
- 7. C
- 8. B
- 9. B
- 10. B
- 11. C
- 12. B
- 13. B
- 14. C
- 15. B
- 16. B
- 17. A
- 18. C
- 19. C
- 20. B