



ASSIGNMENT 1

Material Covered:
Units 1.1 and 1.2 of Module 1
of the IACLE Contact Lens Course



ASSIGNMENT 1

Read the questions carefully and record your answers on the answer sheet provided.

- 1. What is considered a normal blink rate?**
 - a. 5 blinks per minute
 - b. 10 blinks per minute
 - c. 15 blinks per minute
 - d. 25 blinks per minute

- 2. What is the average centre thickness of the human cornea?**
 - a. 0.52 mm
 - b. 0.67 mm
 - c. 0.82 mm
 - d. 1.00 mm

- 3. Which of the following regional divisions of the conjunctiva is known as the "bulbar conjunctiva"?**
 - a. Fold of conjunctiva at the inner canthus
 - b. Conjunctival tissue overlying the sclera and limbus
 - c. Conjunctiva lining the inner eyelids, extending to the lid margins
 - d. Conjunctival tissue nasal to the plica semilunaris, defining the medial canthus

- 4. What is the average eccentricity value of the human cornea?**
 - a. 0.25
 - b. 0.32
 - c. 0.47
 - d. 0.58

- 5. Which of the accessory lacrimal glands contribute to the aqueous phase of the basal tears?**
 - a. Gland of Zeiss
 - b. Crypts of Henle
 - c. Conjunctival goblet cells
 - d. Glands of Krause and Wolfring

- 6. Ignoring the tear film, what is the actual refractive index of the cornea?**
 - a. 1.3375
 - b. 1.354
 - c. 1.376
 - d. 1.470

- 7. Which of the following are mainly responsible for secreting the mucin layer of tears?**
 - a. Conjunctival goblet cells
 - b. Meibomian glands
 - c. Glands of Krause
 - d. Glands of Wolfring



- 8. How much oxygen does the cornea need to maintain regular function?**
- a. 7.5%
 - b. 13.1%
 - c. 20.9%
 - d. 33%
- 9. Which of the following is the main source of glucose for the corneal epithelium?**
- a. Limbal vasculature
 - b. Tears
 - c. Palpebral conjunctiva
 - d. Aqueous humour
- 10. What is the typical pH of human tears under normal open eye conditions?**
- a. 6.5
 - b. 7.4
 - c. 8.5
 - d. 8.8
- 11. What is the average front apical radius of the human cornea?**
- a. 2.60 mm
 - b. 6.50 mm
 - c. 7.80 mm
 - d. 11.70 mm
- 12. Which cranial nerve is responsible for corneal innervation?**
- a. Optic (N2)
 - b. Oculomotor (N3)
 - c. Trigeminal (N5)
 - d. Facial (N7)
- 13. The hydrophilicity of which of the following induces the natural tendency for water imbibition into the stroma?**
- a. Corneal fibroblasts
 - b. Glycosaminoglycans
 - c. Descemet's membrane
 - d. Collagenous lamellae
- 14. What is the average amount of overnight corneal oedema in normal eyes without contact lenses?**
- a. <2%
 - b. 3–4%
 - c. 6–8%
 - d. >10%
- 15. What is the main oxygen supply of the corneal endothelium during closed eye conditions?**
- a. Limbal blood vessels
 - b. Palpebral conjunctiva
 - c. Aqueous humour
 - d. Tear layer



- 16. Which statement regarding the endothelium pump is NOT true?**
- a. Fuelled by glucose
 - b. Mainly responsible for recovering from corneal oedema
 - c. Each cell pumps its own volume every five minutes
 - d. An active transport mechanism
- 17. What is the oxygen requirement of the cornea in order to prevent corneal sensitivity loss?**
- a. 3%
 - b. 5%
 - c. 8%
 - d. 13%
- 18. In cases of complete stripping of the corneal epithelium, how long does it take for complete wound healing and cell regeneration?**
- a. 6 hours
 - b. 24 hours
 - c. 1 week
 - d. 6 weeks
- 19. What is the average thickness of the pre-corneal tear layer?**
- a. 0.5 μm
 - b. 2.0 μm
 - c. 7.0 μm
 - d. 11.0 μm
- 20. What are the average horizontal and vertical visible iris diameters respectively?**
- a. 11.7 mm and 10.6 mm
 - b. 11.7 mm and 10.6 mm
 - c. 12.5 mm and 10.6 mm
 - d. 12.5 mm and 11.7 mm