

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)**

**B.OPTOMETRY DEGREE EXAMINATION – August 2019
Third Year**

CONTACT LENS

Time: Three hours

Maximum: 80 marks

I Choose the best answer

(10 x 1 = 10)

1. Which of this is not option to select BOZR of SCL?
 - a) 0.5mm to Avgk
 - b) 0.3- 0.9mm to flat K
 - c) 4 D to Avgk
 - d) 1mm to Avgk
2. Oxygen permeability is a property of
 - a) Cornea
 - b) Contact lens material
 - c) Contact lens solution
 - d) Both A & B
3. Which of the following is not an action of lens care system?
 - a) Cleaning
 - b) Rewetting
 - c) Lubricating
 - d) Rmoving microorganisms
4. 7.80 BC RGP shows an optimal fitting. The power of trial lens is -9.00 and the total diameter of the lens is 9.50. The over refraction value is +2.00. What will be the final lens specification?
 - a) 7.80/ -8.00/ 9.50
 - b) 7.80/ -6.50/ 9.50
 - c) 7.80/ -7.00/ 9.50
 - d) 7.80/ -9.50/ 9.50
5. On average, the PH of normal human tears is:
 - a) 6.7
 - b) 7.2
 - c) 7.9
 - d) 8.5
6. Compared to a conventional hydrogel contact lens, a silicone hydrogel lens has:
 - a) Lower gas transmissibility and lower rigidity
 - b) Higher gas transmissibility and greater rigidity
 - c) Higher gas transmissibility and lower rigidity
 - d) Lower gas transmissibility and greater rigidity
7. In altering the fit of a soft contact lens on the eye, which statement is NOT true?
 - a) Increasing the total lens diameter will decrease the sagittal height.
 - b) Reducing the back optic zone radius (BOZR) will tighten the lens fit.
 - c) Reducing the total lens diameter will loosen the lens fit.
 - d) Increasing the BOZR of the lens will decrease the sagittal height
8. Thimerosal is a _____ used in contact lens solutions
 - a) Viscosity enhancing agent
 - b) Buffer
 - c) Disinfecting
 - d) Surfactant

9. Wearing contact lens only while the eyes are open is defined as
- Daily wear
 - Extended wear
 - Flexible wear
 - Continuous wear
10. Which one is not a disadvantage of scleral contact lens:
- Longer fitting time
 - Specialist fitter
 - Expensive
 - Easily available

II State whether the following statements are **TRUE** or **FALSE** (10 x 1 = 10)

- Corneal stroma contains 2- 3 % keratocytes.
- O Wichterle pioneered the concept of continuous wear soft contact lens.
- Oxygen permeability is a lens property and not a material property.
- High water content lenses are more prone to evaporation.
- Push up test is the least predictive test for assessing the fit of SCL.
- Silicone hydrogels are generally preferred for BCL.
- Vertical bearing is seen against the rule astigmatism.
- Solution sensitivity is due to accumulation of preservative from lens care products.
- Pseudomonas aeruginosa* is most frequently associated with microbial keratitis.
- Group I SCL is more prone to deposits than Group IV SCL.

III Fill in the blanks: (10 x 1 = 10)

- _____ devised the first contact lens for keratoconus.
- According to Holden and Mertz the oxygen transmissibility for daily wear lens should be more than _____.
- Decreasing the total diameter will _____ the contact lens fit.
- _____ can be used to assess corneal staining if SCL is on eye.
- _____ Layer is responsible for keeping the tear film attached to the cornea.
- Conjunctival blanching is a complication of _____ contact lens.
- Soft contact lens fitting philosophy says soft lens should be larger than cornea, BOZR should be _____ than cornea.
- Total diameter of RGP is selected by reducing _____ from HVID.
- Microbial keratitis is most commonly associated with _____ wear SCL.
- RGP attract _____ deposits than SCL.

IV Write any **FIVE** answers of the following: (5 x 6 = 30)

- A 30 year old patient comes to your clinic with refractive error of LE: -3.75/-2.00DCx 90 and keratometer reading of K1:7.85 @ 90 K2: 7.50 @ 180. What are the steps involved in fitting this patient with an RGP lens. What will be the final lens prescription.
- What are the characteristics of a disinfectant? Mention the various methods of disinfection.
- What is water melon seed principle? Explain with help of diagram.
- Write in detail about the test used to find the efficacy of a SCL solution.

5. What are the major complications due to SCL wear? Elaborate on any 3 of them.
6. What are types of prosthetic lens? Write the design and two indications for each.
7. Enumerate the advantages of SCL over RGP. Name few conditions in which RGP is indicated.

V Write an essay on any **TWO** of the following: (2 x 10 = 20)

1. Write about (Assume the power and give final Rx wherever appropriate)
 - a. Trouble shooting in multifocal
 - i) Vision problem for Distance
 - ii) Vision problem for Near
 - b. Trouble shooting in Toric
 - i) Rotation of 10 to right
 - ii) 20 degree rotation to left
 - iii) Unstable rotation
2. What is toric SCL stabilization technique? Write in detail about each of the technique.
3. Explain with the help of diagram, the relationship between base curve and diameter to sag of a contact lens and radial, axial edge clearance. Write the rule of thumb for SCL and RGP.

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