

COURSE FOR TUTORS 2025



Application Assignment

Please note this assignment must be submitted as a single document in either MS Word or PDF file format.

Thin Lenses

1. A thin meniscus lens of power +5.00D is made in glass of refractive index 1.54 and has a concave surface of radius 120mm. What is the radius of curvature of the other surface? [15]

Toric Transposition

2. Transpose the prescription, $-1.00\text{DS} / -4.75\text{DC} \times 35$ to the toric form:
 - a) with a convex toroidal surface which has a +2.00D base curve
 - b) with a capstan-form surface which has a +2.00D base curve[10]

Edge thickness calculation

3. A -5.00D lens is made in glass of refractive index 1.53 with a +4.50D base curve and edged to a 48×44 oval shape. The thin-edge substance of the lens is 4.5mm. What is the thick-edge substance? **(Note: a diagram is needed for this question.)** [55]

Thick lens ray trace

4. A +5.00D spectacle lens is made with a +9.75D front curve in glass of refractive index 1.525 and an axial thickness of 6.1mm. What is the power of the concave surface of the lens? **(Note: a diagram is needed for this question)** [50]

Applied low vision

5. A patient has the following acuities when wearing their spectacles:
RE 6/18 & N12 LE 6/36 & N24
What is the estimated degree of magnification needed to improve the acuity of each eye to 6/6 and N6? Show how you arrive at your answer. [40]
6. Discuss the advantages of using a convex aspherical surface for a +4.00D lens instead of a traditional surface which is usually employed. [30]