

**Second Year B.Sc Optometry Degree Supplementary Examinations
October 2018**

Optometric Optics

(2010 scheme)

Time: 3 hrs

Max marks: 80

- Answer all questions
- Draw diagram wherever necessary

Essays**(2x15=30)**

1. With the help of neat diagram and equations discuss the principle involved in anti-reflection film/coating. List down the uses of anti-reflection coatings.
2. Discuss the various
 - Faults in the lens material
 - Faults on the lens surface
 - Encountered/observed in a finished pair of spectacle lenses.

Short notes**(5x5=25)**

3. Define the terms with respect to prism
 - Thickness difference
 - Centrad
 - Prism diopter
 - Decentration
 - Pull of a prism
4. Derive the sag relationship $s = r - \sqrt{r^2 - y^2}$.
5. Explain struts conoid with the help of a neat diagram.
6. Differentiate between individual batch method and continuous flow process during glass manufacturing.
7. Brief on the steps involved in surfacing a glass lens.

Answer briefly**(10x2=20)**

8. The positive aspect of wearing progressive addition lenses
9. Calculate the jump exerted for the following lens
+2.50DS; Add +2.50DS; 27 segment
10. List down four effects of infra-red radiations to the eyes.
11. What is recumbent prism. What is the ideal basal angle for recumbent prism.
12. What is rotatory prism. List down four uses of it.
13. Mention the permanent markings in a progressive addition lenses. What does each mark signify.
14. What is glare. Mention the different types of glare.
15. Define segment height and segment drop
16. Define retroscopic tilt. Mentions its uses.
17. Define surface power. Mention the formula of surface power.

One word answer**(5x1=5)**

18. Transpose the prescription into one of its alternate form.
+/-5.50DC*135
19. Convert $8^{\circ}53'$ into prism diopters.
20. What is kryptok bifocal.
21. What is the refractive index and density of poly methly metha acrylate.
22. Divide six prism diopters base in for left eye before both the eyes.
