

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI  
SCHOOL OF HEALTH TECHNOLOGY  
DEPARTMENT OF OPTOMETRY  
2014/2015 HARMATTAN SEMESTER EXAMINATION  
OPT 301: OPHTHALMIC OPTICS1: 2 UNITS (TIME:2hrs)  
INSTRUCTION: ANSWER 4 QUESTIONS; AT LEAST ONE  
QUESTION FROM EACH SECTION

**SECTION A**

- 1a) What are the characteristics of a good frame? 8mks  
b) What factors influence frame selection? Write on any one 17mks
- 2) Write short notes on (a) Image jump. 10mks.  
(b) Cosmetic consideration in frame selection  
(15mks)

**SECTION B**

- 3a) What is an absorptive lens? State the classification of absorptive lenses.  
b) Write short notes on the following.  
i) The effect of ultra violet radiation on the eye  
ii) Effect of infrared radiation on the eye  
iii) Hazards of excessive tint 25mks
- 4a) What is anti-reflection coating and how is it related to scratch resistance coating?  
b) State five troublesome lens reflections and their sources 25mks

**SECTION C**

- 5) Write short notes on the following  
a) Forms of lenses 6mks  
b) Reference points on a lens 7mks  
c) Lens aberrations 12mks
- 6a) Discuss the major optical characteristics of ophthalmic lens materials. 15mks  
b) If a lens surface has a radius of curvature of 60mm and a refractive index of 1.50; calculate the refractive power of the surface. (Take refractive index of air to be 1.00) 10mks