

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI

SCHOOL OF HEALTH TECHNOLOGY

DEPARTMENT OF OPTOMETRY

2011/2012 HARMATTAN SEMESTER EXAMINATION

OPT 301: OPHTHALMIC OPTICS & MATERIALS 1

2 UNITS

TIME: 2 HOURS

Answer any Four (4) questions

1. (a). Define and write detailed notes on the followings:-(i) Coated Lenses.(ii) Uniformed Density Lenses. (iii) Variable Density Lenses.  
  
b. State precisely what the following tints are used for:-(i) Gray (ii) Brown (iii) Yellow (iv) Pink (v) Blue (vi) Green.
2. Electromagnetic radiations are harmful to the human eye! Discuss. How can these harmful effects on the human eye be controlled?
3. a. Enumerate the qualities of a good frame.  
  
b. Elaborate on the guiding principles in frame selection.
4. a. What is Low Vision? [Give Visual Acuity Limit]  
  
b. List atleast nine (9) types of Low Vision Aids you can prescribe to a patient in our clinical environment.  
  
c. Briefly discuss the physical characteristics and ophthalmic application of two and how they can be used for the correction of Low Vision.
5. A Low Vision patient has reduced central visual acuity or visual field, even with best optical correction provided by the regular lenses.  
  
a. What 3(three) assumptions do you make in concluding that visual impairment is classified as Low Vision?  
  
b. What is the prevalence of Low Vision in our society and why should Low Vision receive prompt attention in our society? (Give at least 6 reasons).  
  
c. What is an Optical reference point? With the aid of diagrams, show at least 5 reference points and state their relevance in Optometry.
6. a.  
  
i. Briefly explain what is meant by Bifocal, Trifocal and Varilux Lenses.  
  
ii. What are the advantages and disadvantages associated with the use of each of these lenses?  
  
b. With the aid of diagrams, explain the movements observed in a prism.