

**FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI**  
**SCHOOL OF HEALTH TECHNOLOGY**  
**DEPARTMENT OF OPTOMETRY**  
**2015/2016 RAIN SEMESTER EXAMINATION**  
**OPT 502 - ENVIRONMENTAL VISION - 3 UNITS**  
**TIME ALLOWED: 3 HRS**

**INSTRUCTION: Answer 5 questions, 2 from each section and any other**

**SECTION A**

1. (a) What is Radiation? (3 marks)  
(b) State 2 similarities and 3 dissimilarities between ionizing and non-ionizing radiation. (5 marks)  
(c) List 3 photons and 7 particles you know (5 marks)  
(d) Write short notes on any photon and 3 particles (7 marks)
2. (a) State 7 possible steps you will use to protect your patient from the effects of radiation (5 marks)  
(b) What are the hazards of the following radiations and how do you protect your patient against them: (i) Ultraviolet light (ii) Infrared light (iii) Glare (5 marks each)

**SECTION B**

3. (a) State the precautionary measures required in Vision screening (10 marks)  
(b) Describe the Modified Clinical Technique for Vision Screening. (10 marks)
4. Explain how contusion injuries can result to:  
(a) Ptosis (3 marks)  
(b) Ectropion (3 marks)  
(c) Hyphaema (7 marks)  
(d) Retinal detachment (7 marks)
5. Write notes on the following:  
(a) The Surfactants and their chemical effect on the eye (8 marks)  
(b) The measures to be adopted in protecting the eye against injuries (12 marks)

**SECTION C**

6. Discuss the implications of driving with an impairment of the following visual functions:  
(a) Dynamic visual acuity  
(b) Stereopsis  
(c) Glare recovery  
(d) Colour vision (5 marks each)
7. (a) Write on the effects of ultraviolet rays and infrared emissions from visual display units (10 marks)  
(b) (i) An emmetropic eye becomes hyperopic under water. Explain. (5 marks)  
(ii) How would you solve the problem of a 45 year old snorkeler whose clinical subjective finding is OD/OS: +0.25DS Add +1.50DS? (5 marks)