

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI
SCHOOL OF HEALTH TECHNOLOGY
DEPARTMENT OF OPTOMETRY

2012/2013 RAIN SEMESTER EXAMINATION

Date: 21/01/2014

Course Title: DISPENSING OPTICS 11

Course Code: OPT. 506 (2 units) Time: 2hrs

INSTRUCTION: Answer in all four questions with at least two questions from each section on a separate answer booklet

Section A

1. (i) Explain these terms and how these problems can be eliminated.
 - (a) Vertical imbalance
 - (c) Optical jump
 - (ii) Calculate the vertical imbalance for a patient with the prescription-
OD + 4.00/ -1.00 x 180
OS - 3.00/- 1.00 x 090 Add + 2.00
if he reads 1cm below the optical centre of his lenses.
 - (iii) What is the optical jump of a +3.00D Kryptok Addition lens which is 44mm in diameter?
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2. (i) Describe how a Patient will be able to carry out his daily activities using a Varifocal.
(ii) What are the advantages and disadvantages of Progressive Addition lenses?
(iii) Mention two ways Decentration can be EFFECTED
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3. (i) A first-time Hyperopic presbyope selected a frame after being tested for a refractive error. Later you introduced series of bifocal shapes or segments for him to choose but he got confused on which one to use. Offer yours professional advice to him.
(ii) State a three point Rule necessary for consideration while marking the optical center of a Lens.

SECTION B

1. (a) Frames are made up of different Ophthalmic materials. Discuss the various frame materials giving their characteristic chemical and physical properties.
(b) Explain the procedure in inserting lenses in frames with metal cord for rims.
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2. Write short notes on the following:
 - (a) Benchwork process
 - (b) Insertion of lenses in carbon fiber frames
 - (c) Frame Markings.
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3. (a) Discuss the relationship between Decentration, IPD, Centration distance and dimension. (Add diagram where necessary).
(b) A person wears a prescription of OD +1.00/ - 0.75 X 120; OS - 3.00/ - 0.50 X 075 and reads at a level 8mm below the distance optical centre. Calculate the prismatic effect of the lenses and state prism directions.