

**FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI**  
**SCHOOL OF HEALTH TECHNOLOGY**  
**DEPARTMENT OF OPTOMETRY**  
**HARMATTAN SEMESTER 2014/2015 EXAMINATION**  
**OPT 509 – ADVANCED CONTACT LENS PRACTICE - 2 UNITS**  
**ANSWER 4 QUESTIONS, 1 FROM EACH SECTION AND ANY OTHER**  
**TIME ALLOWED – 2 HOURS**

**Section A**

1. Explain the probable causes of the following contact lens problems and how to correct them:  
(a) Itching (b) Ring flare (c) No lens movement (d) Lens falls out (e) Photophobia (5 marks each)
  
2. Below are the keratometric readings of two corneas:  
(a) 46.00D @ H and 43.00D @ V  
(b) 43.00D @ H and 45.00D @ V
  - (i) Supply the type of corneal astigmatism in (a) and (b) (5 marks)
  - (ii) Determine the corneal astigmatism in (a) and (b) (8 marks)
  - (iii) Calculate the total astigmatism in (a) and (b) (12 marks)

**Section B**

3. Write short notes on the following:
  - (a) The factors that influence fitting of rigid contact lenses on an infant's aphakic eye (15 marks)
  - (b) Silicone Elastomer contact lenses (10 marks)
  
4. (a) Explain how the corneal curvature, corneal diameter and refractive status of an infant's eye will influence your contact lens prescription and fitting. (11 marks)  
(b) A normal phakic eye with a total refractive power of 60D, 43.00D coming from the cornea, has its lens removed. If a +12.00D spectacle worn 15 mm from the eye was prescribed, calculate:
  - (i) magnification induced by spectacles (4 marks)
  - (ii) magnification induced by contact lenses (5 marks)
  - (iv) Image size difference between spectacle and contact lenses (3 marks)
  - (v) Snellen acuity with contact lenses if VA with spectacle was 6/18 (2 marks)

**Section C**

5. Discuss the treatment options available to contact lens practitioners in the management of
  - (a) Keratoconus (10 marks)
  - (b) Astigmatism (10 marks)
  
6. (a) Discuss different contact lens designs for the management of presbyopia in the Optometry clinic (use diagrams where necessary) (15 marks)  
(b) Why would you choose contact lenses ahead of spectacles in the management of a 50 year old patient whose right eye is dominant? (5 marks)