

Level 6 Certificate in Contact Lens Practice



Unit 2 – Visual Optics

Principal Examiner:

J Underwood MSc BSc (Hons) FBDO (Hons) CL (Hons) SLD
SMC(Tech) FEAOO CertEd

Winter 2023
Duration: 2 hours

Candidate Number:

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Seating Location:

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Answer **four** questions only.

Please tick below the numbers of the questions attempted:

1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>
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Number of Supplementary Sheets used (if any), including graph paper.

For office use only

Question number	1	2	3	4	5	Total		
						Overall	%	
Marks								
Moderated								
Borderline (57%-62%)	Please tick the box to acknowledge that this is a borderline result and confirm that the marks have been checked in terms of allocation and addition.						<input type="checkbox"/>	

Examiner's Signature	<input type="text"/>
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Moderator's Signature	<input type="text"/>
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Question 1

- a) A soft toric contact lens is ordered empirically as R: +6.25DS/-2.25DC x 160. When the lens returns from the laboratory and is inserted into the eye it is seen to stabilize in a position 15° nasally (anti-clockwise).

State the axis of this stabilized lens in the eye. **(10 marks)**

- b) Due to an error in ordering the vision through the lens is extremely poor. A look back at the record card shows a spectacle refraction of +6.25DS/-2.25DC x 60 worn at a vertex distance of 15mm.

Find, by calculation or construction methods, the over-refraction that will be needed if the trial frame sits at 12mm.

Express your answer in positive sphere-cyl form. **(90 marks)**

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Express your answer in positive sphere-cyl form. **(90 marks)**

b) A patient has the following prescription for distance vision, each lens being assumed thin:

R: +5.25DS VA 6/6

L: +1.50DS VA 6/6

Vertex distance 12mm

Compare the **difference** in retinal image size for each eye by completing the following table and assuming the constants of the standard reduced eye.

(75 marks)

	RE	LE	Percentage difference in image sizes (R/L)
A. Spectacles			
Refractive ametropia			
Axial ametropia			
B. Contact lenses			
Refractive ametropia			
Axial ametropia			

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DO NOT TURN THIS PAPER OVER UNTIL ADVISED TO DO SO BY THE INVIGILATOR

Important Instructions to Candidates

Please read carefully and follow these instructions when told to do so by the Examiner/Invigilator.

1. You will be given 5 minutes at the beginning of the examination to read through the questions.
2. **Please enter your candidate number and date in the boxes on the front cover of this booklet.**
3. Please **DO NOT write your name** on the booklet. Candidates must remain anonymous for marking purposes.
4. Candidates must answer questions legibly, using blue/black ink or ball-point pen. *Pencil may be used for graphs and diagrams only.*
5. Candidates please note, the examination paper has been designed for you to answer the stated number of questions within the allotted time.
6. Candidates must read each question carefully and make sure that you know what you have to do before starting your answer.
7. Candidates must write the answer to each question in the space provided. Additional paper may be used if necessary but you must show your Candidate Number and question number(s) clearly at the top of each page.
8. Please do not write in the margins.
9. Any extra pages used should be securely fastened together using a treasury tag. This includes any diagrams, additional graph paper or any continuation paper.
10. Candidates are advised to carefully cross out any work not intended to be marked by the Examiner.
11. Please do not tear out any part of this booklet. All work must be handed in.

Important Information for Candidates

1. Answer **four** questions only.
2. Answer all parts for each question.
3. Candidates **MUST** work to at least 4 decimal places in ALL calculation questions and they will be penalised if this is not done.
4. Where relevant, the marks awarded for each part of a question are given in brackets, e.g. **(10 marks)**.
5.   These symbols indicate that a diagram/calculation is required or a diagram needs annotating.
6. This entire document consists of 20 pages. Any blank pages are indicated.

When told to do so by the Invigilator, you may turn the paper over and begin.