Level 4 Diploma for Optical Technicians

Unit 7 – The Properties of Spectacle Frames and Glazing

Winter 2021
Duration: 1.5 hours

Candidate Number: ☐☐☐☐☐☐ **Date:** ☐☐/☐☐/☐☐ **Seating Location:** ☐☐☐

Answer ALL Four Questions

☐ Number of Supplementary Sheets used (if any), including graph paper.

For office use only

Question number	1	2	3	4	Total	
					Overall	%
Marks						
Moderated						
Borderline (40%-55%)	☐					

Examiner's Signature		Moderator's Signature	

This booklet is the property of the ABDO and **must not be removed** by the candidate from the examination room.

This page has been left blank

Question 1

Q1a	✎ **Sketch** and describe **three** glazed lens edge finishes, indicating when each one would be used.	**(12 marks)**

Q1b	**Discuss** the implications of glazing a high positive powered lens into a plastic rimmed, fixed pad bridge frame.	**(4 marks)**

Q1c	**Discuss** the implications of glazing a high negative powered lens into a metal rimmed, pads on arms frame.	**(4 marks)**

Question 2

Q2	**Describe** the properties, including any limitations, and **discuss** the suitability of the following materials that are used in frame manufacture: **i)** Titanium **ii)** Aluminium **iii)** Cellulose propionate **iv)** Cellulose acetate	**(20 marks)**

Question 3

Q3a	✎ **Draw** and accurately **describe** the following frame measurements: **i)** Horizontal Centre Line **ii)** DBL **iii)** Bridge height **iv)** Bridge width **v)** Box lens size **vi)** Apical Radius	**(18 marks)**

Q3b	If a hand-made frame is manufactured, what effect will the following errors have on the final fitting? **i)** Crest Height manufactured at **15mm** rather than **5mm** **ii)** Angle of Side set at **20 degrees** rather than **8 degrees**	**(2 marks)**

Question 4

Q4a	✎ **Sketch** and **describe** the features of a rimless pair of snooker spectacles. Your answer should **include** an explanation of how the design features assist the player	**(10 marks)**

Q4b	✎ **Describe**, with the aid of **diagrams**, how to glaze a screwed rimless three-piece mount with stock polycarbonate lenses.	**(10 marks)**

End of questions for this paper

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. Before you start to answer any question, take a few minutes to read through the paper.
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. You must answer questions legibly, using blue/black ink or ball-point pen. ***Pencil may be used for graphs and diagrams only.***
5. Please note the examination paper has been designed for you to answer the stated number of questions within the allotted time.
6. You must read each question carefully and make sure that you know what you have to do before starting your answer.
7. You 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. You are advised to carefully cross out any work not intended to be marked by the Examiner.
11. When answering mathematical questions, write **ALL YOUR CALCULATIONS IN FULL**. Even if you get the final answer wrong, you may get credit for the parts of the calculation that are correct.
12. Please do not tear out any part of this booklet. All work must be handed in.

Important Information for Candidates

1. Answer **ALL Four** questions.
2. Answer all parts for each question.
3. Where relevant, the marks awarded for each part of a question are given in brackets, e.g. **(10 marks)**.
4. ✎ ▯ These symbols indicate that a diagram/calculation is required, or a diagram needs annotating.

5. This entire document consists of 12 pages. Any blank pages are indicated.