

Recorded Lectures - Multiple Choice Answers

Driving & Spectacle Lenses

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Six of the following questions were presented online following a recorded lecture video to entrants to comply with the General Optical Council's best practice specification for this type of CET.

Q1. The estimated number of deaths worldwide on the roads in 2016 was:

- a) 1 million
- b) 2 million
- c) 1.5 million
- d) 1.35 million

d is the correct answer. A WHO report in 2018 stated that there were 1.35 million road traffic deaths globally. For more information see https://www.who.int/gho/road_safety/mortality/en/

Q2. Good visual acuity is essential for driving. For a standard UK driving licence, the DVLA state the minimum standard to be:

- a) Decimal 0.5 or 6/12
- b) Decimal 0.5 or 6/9
- c) Decimal 1.0 or 6/12
- d) Decimal 1.0 or 6/9

a is the correct answer. The DVLA states that you must meet the minimum eyesight standard for driving by having a visual acuity of at least decimal 0.5 (6/12) measured on the [Snellen scale](#) (with glasses or contact lenses, if necessary) using both eyes together or, if you have sight in one eye only, in that eye. For more information see <https://www.gov.uk/driving-eyesight-rules>

Q3. In addition to good Visual Acuity, a reasonable Visual Field is required to drive. In the UK the suggested minimum Visual Field should be:

- a) 20°
- b) 90°
- c) 120°
- d) 180°

c is the correct answer. It is suggested that a minimum horizontal visual field of 120° with no significant loss in the central 20° is required to hold a UK driving licence. For further information see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2999549/>

Q4. Fitness to drive is extremely important. Which three further attributes in addition to good visual acuity and visual fields are deemed essential for good visual function in driving?

- a) Age, contrast sensitivity and colour vision
- b) Colour vision, contrast sensitivity and depth perception
- c) Sex, colour vision and contrast sensitivity
- d) Only Visual acuity and fields are important

b is the correct answer. Colour vision, contrast sensitivity and depth perception are also important. For more information see https://www.researchgate.net/publication/23185960_Visual_Function_and_Fitness_to_Drive and <https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12659>

Q5. 'Night myopia' can best be described as:

- a) Having to wear spectacles only for driving at night
- b) A correctable cause of decreased visual acuity under conditions of decreased illumination.
- c) Myopia that cannot be corrected
- d) An un-correctable cause of decreased visual acuity under conditions of decreased illumination

b is the correct answer. Night myopia relates to decreased visual acuity in poor illumination. For more information see <https://pubmed.ncbi.nlm.nih.gov/4013958/>

Q6. Night Myopia may affect the dioptric power requirement of a person's refraction. Typically, the dioptric change in refraction can be:

- a) Around - 2.00D
- b) Between - 0.75D & -1.00D
- c) Between - 0.75D & - 3.50D
- d) Over -4.00D

c is the correct answer. The mean change in dioptric power in a study was 1.20D and the range was - 0.75D to - 3.50D. For further information see <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1600-0420.2006.00875.x>

Q7. Spectacle lenses designed specifically for driving are:

- a) Available only in enhanced single vision designs
- b) Available only in enhanced progressive lens designs
- c) Available in both progressive and single vision designs
- d) Available in a variety of designs including single vision, progressive and occupational designs.

d is the correct answer. Most manufacturers of spectacle lenses have an offering in a variety of designs, forms and materials. For further information see <https://www.abdo.org.uk/dashboard/ophthalmic-lens-availability-ola-online>

Q8. Many spectacle lenses for driving at night incorporate a special coating which blocks high energy blue-violet light. High energy blue-violet light has a wavelength of:

- a) 400 – 450 nm
- b) >500nm
- c) <400 nm
- d) 400 – 700 nm

a is the correct answer. High-energy violet/blue light was defined as 400 to 450 nm. For further information see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6615932/>

Q9. Glare when driving in very bright day time conditions can be troublesome. Lenses specifically tinted to reduce the effects of glare can help. The most effective to overall aid driving are:

- a) Light adaptive tint with UV block (variable LTF) and a multi anti-reflection coat
- b) Solid tint (LTF 35%) with UV block
- c) Polarising lens with light adaptive tint (variable LTF), UV block and multi anti-reflection coat
- d) Clear lenses with multi anti-reflection coat

c is the correct answer. Polarising lenses with a multi-antireflection coat have been shown to improve contrast sensitivity and reaction time when driving in daytime conditions. Protection from UV light is an essential aspect of a sunglass and a lens that adapts to differing light conditions is beneficial. For more information see <https://iovs.arvojournals.org/article.aspx?articleid=2367698>