



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

MAIN EXAMS
FOR FIRST YEAR SECOND TRIMESTER EXAMINATION FOR
MASTER OF SCIENCE IN OPTOMETRY AND VISION SCIENCE

COURSE CODE: MOV 824

COURSE TITLE: ADVANCED OCULAR MOTILITY AND
BINOCULAR VISION

DATE: 25/04/2022

TIME: 2-5PM

INSTRUCTIONS TO CANDIDATES: ANSWER ALL QUESTION

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

ESSAY QUESTIONS: ANSWER ALL QUESTIONS (70 MARKS)

QUESTION ONE: (25 MARKS)

1. Make a diagnosis of the cases presented below and support your answer:

- a. A 15 year-old boy is referred because of abnormal eye movement which has been present since birth. The vision is normal in both eye at 6/6. Ocular movement reveals failure of the right eye to abduct. However, right adduction is normal with palpebral narrowing and enophthalmos. The movement of the left eye is normal.
- b. A 34 year-old man complains of right esotropia. His vision is 6/36 in the right eye and 6/6 in the left eye. He developed a right exotropia from the age of 15 following a right traumatic corneal laceration. 10 months ago he underwent a right squint surgery.
- c. A 6 year old boy presents with a right esotropia. The vision is 6/12 in the right and 6/18 in the left. Cycloplegic refraction reveals hypermetropia with the RE +3.75/-1.00X75 and LE +5.25 /-1.25 X45. The esotropia measures 40 prism dioptres for near and 35 for distant fixation. A pair of glasses are prescribed and his vision with glasses improves 6/7.5 in the right and 6/9 in the left. Repeated orthoptic assessment reveals 10 prism dioptre with glasses for near and 8 prism dioptre with glasses for distant fixation.
- d. A 25 year-old man complains of diplopia and the cover test reveals bilateral esotropia. Fundoscopy shows bilateral optic disc swelling without vessel pulsation.
- e. A 6 year-old girl developed a right esotropia one year after sustaining a right traumatic globe perforation. The vision is 6/60 in the right eye and 6/6 in the left eye.

QUESTION TWO: (15 MARKS)

A 25-year-old female schoolteacher consulted you with severe asthenopic complaints. She had worn glasses since early childhood to correct for an esotropia, which was well controlled with spectacles correction. She gave no history of having suffered visual discomfort in the past except

when taking her glasses off, which caused her to see double and forced her to close one eye. She went to a ‘‘strabismus center’’ 6 months ago where she was offered surgery as an alternative to her glasses. After muscle surgery her eyes were aligned and she no longer saw double without glasses.

- (a) What do you think about the management given above? (3 marks)
- (b) What could you have done different (4 marks)
- (c) What do you think was the cause of the asthenopia? (4 marks)
- (d) Give in point form how you are going to manage the patient? (4 marks)

QUESTION THREE: (20 MARKS)

Binocular dissociation is the technique used for quantitative evaluation of binocular function. (Noorden, 1985) Several methods are now clinically available, such as stereoscope (major amblyoscope), vectograph (Titmus and Randot stereotests), anaglyph (TNO and Awaya aniseikonia test), and prism bars (Lang's stereogram). In details outline how this methods help to achieve the mechanism of time separation

QUESTION FOUR: (10 MARKS)

With the Synoptophore we measured the range of fusion of 50 persons aged 22-30 years. All had full monocular and binocular vision which had been investigated with the Cover test, the Titmus test and the Worth test. On the Synoptophore the range of fusion was measured with the object C 5 which has a diameter of 10° . With every patient describe five investigations that you are likely to perform.

THE END