



(University of Choice)

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

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

**MAIN EXAM**

**FOR THE DEGREE  
OF  
BACHELOR OF OPTOMETRY AND VISION SCIENCE**

**COURSE CODE: BOV 220**

**COURSE TITLE: CLINICAL OPTOMETRIC PROCEDURE II**

**DATE: 14/4/2023      TIME: 3.00-5.00PM**

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**INSTRUCTIONS TO CANDIDATES**

Answer all questions

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

## **SECTION A: MULTIPLE CHOICE QUESTIONS – 20 MARKS**

1. Which one of the following is a class of irregular Astigmatism based on the mutual alignment of the principle meridians?
  - a. Against-the-rule Astigmatism
  - b. Oblique Astigmatism
  - c. With-the-rule Astigmatism
  - d. Lenticular astigmatism
2. The use of the slit lamp biomicroscope is compatible with which **ONE** of the following instruments?
  - a. Pentorch
  - b. Tonometer
  - c. Retinoscope
  - d. Lensometer
3. Which of the following parameters are set in place when performing the Van Herrick technique for anterior chamber assessment using the slit lamp biomicroscope?
  - a. Low to medium magnification; 60° angle between arms of the slit lamp biomicroscope with the observation system perpendicular to the eye.
  - b. High to low magnification; 60° angle between arms of the slit lamp biomicroscope with the observation system parallel to the eye.
  - c. Low to high magnification; 60° angle between arms of the slit lamp biomicroscope with the observation system perpendicular to the eye.
  - d. Low to medium magnification; 30° angle between arms of the slit lamp biomicroscope with the observation system parallel to the eye.
4. Central Cornea thickness is a known risk factor for which condition?
  - a. Cataract
  - b. Blindness
  - c. Glaucoma
  - d. Refractive error
5. Which **ONE** of the listed instruments, measures the thickness of the cornea?
  - a. Tonometer
  - b. Pachymeter
  - c. Ophthalmoscope
  - d. Retinoscope
6. Which one of the following comprises of the illumination system of an ophthalmoscope.
  - a. Eyepiece lens
  - b. Ophthalmoscope handle
  - c. Power button
  - d. Tungsten bulb

7. Which of the following statements **BEST** describes the normal depth of the Cup of the Optic Nerve head?
  - a. Flat, moderate or deep margins
  - b. Round, Moderate or deep Margins
  - c. Flat, Higher Margins
  - d. Irregular, Moderate or deep Margins
  
8. Which one of the following is **an** advantage of Direct Ophthalmoscopy.
  - a. Provides a small field of view
  - b. Can be performed on large or small pupils
  - c. Close working distance
  - d. Limited views of media opacities when present
  
9. Which of the following accessory is used in conjunction with fluorescein to assess corneal scar and abrasion as well as pupil size in the dark during direct ophthalmoscopy?
  - a. Fixation Cross
  - b. Red Free Filter
  - c. Cobalt Blue filter
  - d. Slit Beam
  
10. Which one of the following describes the shape of a normal optic disc?
  - a. Bow-tie
  - b. Circumferential
  - c. Oval
  - d. Raised
  
11. In Phorometry, one of the following IS NOT a common error
  - a. Allowing the patient to direct the examination
  - b. Flipping the Jackson cross-cylinder lenses too fast for the patient to compare them
  - c. Adding plus lens first when checking the best sphere
  - d. Using the prism balancing technique on a patient with unequal monocular acuities
  
12. Which type of accommodation is initiated by objects within 3 meters of the individual?
  - a. Convergence Accommodation
  - b. Proximal Accommodation
  - c. Reflex Accommodation
  - d. Tonic Accommodation
  
13. Which one of the following principle applies to intraocular Pressure measurement?
  - a. Manometry
  - b. Indentation
  - c. Identification
  - d. Mercury pressure
  
14. What does Positive Relative Accommodation mean?
  - a. Patient's ability to stimulate accommodation
  - b. Patient's ability to relax accommodation
  - c. Patient's ability to converge positively with eye open
  - d. Patient's ability to accommodate positively with eyes open

15. When using the Goldman Applanation Tonometer to determine the Intraocular Pressure of a patient with less than 3 diopters of astigmatism, ONE of the statements applies
  - a. You align the 20° mark on the tip of the probe with the horizontal line on the probe holder
  - b. You align the 180° mark on the tip of the probe with the horizontal line on the probe holder
  - c. You align the 160 ° mark on the tip of the probe with the horizontal line on the probe holder
  - d. You align the 180° mark on the tip of the probe with the vertical line on the probe holder
16. Which **ONE** word is represented as the gradual, naturally occurring, age-related, irreversible reduction in maximal accommodative amplitude?
  - a. Anisometropia
  - b. Myopia
  - c. Hypermetropia
  - d. Presbyopia
17. Which type of Accommodation is associated with the absence of Visual Stimuli?
  - a. Vergence Accommodation
  - b. Reflex Accommodation
  - c. Dark focus Accommodation
  - d. Proximal accommodation
18. The progression of Presbyopia is affected by which **ONE** of the following main factor
  - a. Age
  - b. Pregnancy
  - c. Gender
  - d. Geographic factors
19. The Normal Bulbar conjunctiva is presented in which colour/formation?
  - a. Pink/healthy
  - b. White/ healthy
  - c. Injected
  - d. Cystic Formations
20. Which one of the following makes up the Phoropter head?
  - a. Near Reading Rod Clamp Screw, PD rule, single lens
  - b. Cylinder Power Knob, Auxiliary lens knob, Rotary prism knob
  - c. Power Case Holder Knob, spectacle frame, spectacle handle
  - d. Tilt Clamp knob, spectacle case RAF rule

**SECTION B:**

1. List four CAUSES of premature presbyopia. **4 Marks**
2. By measuring the unaided Visual Acuity of a patient, it is easy to estimate their refractive error. Fill up the table below with the estimated refractive error from the given measured unaided Visual Acuity.-----

Refractive Error (+ or -)	Expected Unaided Visual Acuity
	6/6
	6/7.5
	6/9
	6/12
	6/15
	6/18
	6/24
	6/36
	6/48
	6/60
	<6/60

**5 Marks**

3. List 5 PROBABLE Etiology of Paralysis of Accommodation; list them. **5 Marks**
4. List 5 factors influencing Intra Ocular Pressure. **5Marks**
5. Name 4 types of accommodation. **4 Marks**
6. Which known tonometer is used during INDENTATION tonometry? **1 mark**
7. List THREE advantages of INDENTATION TONOMETRY and APPLANATION TONOMETRY. **6 Marks**

**SECTION C:**

1. (i) Describe the two types of Subjective Refraction. **(6 Marks)**  
(ii) Explain the steps undertaken while performing subjective refraction. **(9 Marks)**
  
2. Describe 5 risk factors for Early Presbyopia.

**5 Marks**