REV-01
BOP/15/20

2025/06

SET A

BACHELOR OF OPTOMETRY
SECOND SEMESTER
INSTRUMENTATION & INVESTIGATION-I
BOP-205

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. What is the primary purpose of the Snellen chart?
   a. To test color vision
   b. To measure near vision
   c. To assess visual acuity
   d. To diagnose eye infections

2. What is the purpose of trial frames in refraction testing?
   a. To hold the trial lenses in place
   b. To measure corneal thickness
   c. To magnify the retina during examination
   d. To perform a visual field test

3. What does the cobalt blue filter on a slit lamp help to observe?
   a. Retinal detachment
   b. Fluorescein staining of the cornea
   c. Conjunctival vessels
   d. Retina vessels

4. Which illumination technique is best for assessing the anterior chamber depth?
   a. Van Herick technique
   b. Retroillumination
   c. Indirect illumination
   d. Sclerotic scatter

5. Which part of the eye is primarily examined during ophthalmoscopy?
   a. Cornea
   b. Retina
   c. Anterior chamber
   d. Lens

6. What is the typical range of spherical lens powers in a trial lens set?
   a. ±0.25 D to ±4.00 D
   b. ±0.25 D to ±10.00 D
   c. ±0.25 D to ±20.00 D
   d. ±0.25 D to ±50.00 D

7. Which eye is typically tested first when using a Snellen chart?
   a. Right eye
   b. Left eye
   c. Both eye together
   d. It depends on patient preference

8. What is the function of the green filter (red-free filter) in a slit lamp?
   a. Enhancing visualization of corneal epithelial defects
   b. Increasing contrast for blood vessels and hemorrhages
   c. Observing posterior vitreous detachment
   d. Measuring tear film quality

9. Goldmann applanation tonometry measures intraocular pressure based on which principle?
   a. Indentation
   b. Rebound
   c. Imbert-Fick law
   d. Pascal's law

10. What is the normal range of intraocular pressure in a healthy eye?
    a. 5-10 mmHg
    b. 10 – 21 mmHg
    c. 20 – 30 mmHg
    d. 25 – 35 mmHg

11. The primary function of a tonometer is to:
    a. Measure tear production
    b. Measure corneal curvature
    c. Measure refractive error
    d. Measure intraocular pressure (IOP)

12. The gold standard method for measuring intraocular pressure is:
    a. Pneumotonometry
    b. Applanation tonometry
    c. Schiötz tonometry
    d. Non-contact tonometry

13. If the movement seen during retinoscopy is against, what does it indicate?
    a. The eye is near neutrality
    b. The patient has hyperopia
    c. The patient has myopia
    d. The eye is already corrected

14. The reflex seen during "with motion" in retinoscopy is neutralised by using:
    a. Minus lens
    b. Plus lens
    c. Plano lens
    d. Convex mirror

15. The primary purpose of cycloplegic retinoscopy is to:
    a. Measure accommodation
    b. Relax accommodation
    c. Measure intraocular pressure
    d. Evaluate retinal health

16. The type of retinoscope commonly used in clinical practice is:
    a. Spot Retinoscope
    b. Indirect Retinoscope
    c. Streak Retinoscope
    d. Concave Retinoscope

17. Placido disc-based corneal topographers work by analyzing:
    a. Ultrasonicwaves
    b. Reflected concentric rings
    c. Fluorescein dye patterns
    d. Optical coherence tomography

18. Corneal topography is most commonly used for diagnosing:
    a. Keratoconus
    b. Cataracts
    c. Retinal detachment
    d. Optic neuritis

19. A lensometer is primarily used to measure:
    a. Corneal thickness
    b. Intraocular pressure
    c. Spectacle lens power
    d. Retinal nerve fiber layer thickness

20. A steep cornea in keratometry readings is typically associated with:
    a. Myopia
    b. Hyperopia
    c. Presbyopia
    d. Amblyopia

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Descriptive

Time : 2 hr. 30 mins. Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Describe the various illumination techniques used in slit lamp biomicroscopy. 10
2. Discuss in detail the Components of the trial box with a diagram. 10
3. Explain the principle of Goldmann Applanation Tonometry, include a labelled diagram and describe the procedure. 5+2+3=10
4. Describe the principle, procedure and motion in retinoscopy. 2+5+3=10
5. What is gonioscopy used for? Describe the different types of gonioscopy lenses and their applications. 2+5+3=10
6. How does a lensometer measure spherical and cylindrical power with an example? 5+5=10
7. Define visual acuity. Discuss the procedure for taking vision. 2+8=10
8. Describe the differences between direct and indirect ophthalmoscopes. Also mention the types of filters used in ophthalmoscopes and their purposes. 5+5=10

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