

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE & ENGINEERING

DEPARTMENT OF OPTOMETRY

BACHELOR OF SCIENCE HONOURS DEGREE IN OPTOMETRY

OPTC303: CLINICAL OPTOMETRY III

DURATION: 3 HOURS

TOTAL MARKS: 100

NOV 2024

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CANDIDATE NUMBER:

INSTRUCTIONS:

- This paper contains 2 (two) sections.
- Answer all 20 Multiple choice questions in section (1) on this paper (more than one answer is possible)
- And any three questions in Section two (2) (each on a separate page) in the Examination Booklet.

SECTION (1) ANSWER ALL QUESTIONS (2 MARKS)

1. Which of the following statement is true about Visual Field measurements?
 - (a) The Amsler grids kit is used to detect small abnormalities in the central VF that could remain undetected by the usual methods of VF testing.
 - (b) Monocular visual field limits are superior: 55-60 degrees, inferior 70 degrees, temporal 100 degrees, & nasal 80 degrees.
 - (c) Hemianopsias are defects that correspond to half of the visual field.
 - (d) All the above.
2. Which of the following is an example of common errors when using the phoropter?
 - (a) Flipping the JCC lenses too slow for the patient to compare them.
 - (b) Using the prism balancing technique on a patient with equal monocular acuities.
 - (c) Adding plus first rather than minus first when checking the best sphere.
 - (d) Adjusting the sphere for every -0.50-cylinder power that is added.

3. Which of the following statements is not true about Inter Pupillary Distance (IPD)?
- It should be taken first when refracting the patient with the trial frame or phoropter.
 - Smaller distance PDs demand greater convergence for near targets.
 - In alternating strabismus, patient's non-fixating eye is occluded during the alignment process.
 - The distance PD is usually 3-4mm greater than the near PD.
4. Which of the following statements is true about case history?
- Includes information taken only at the beginning of the consultation.
 - Confidentiality and privacy are important only during history taking.
 - The chief complaint is usually the secondary reason for patient visit.
 - The date of the patient's current prescription will give an indication of how stable their refractive status is.
5. Which of the following statements is not true about color vision?
- Persons with normal color vision are termed trichromats.
 - Erythrolabe refers to the photopigment that absorbs blue wavelengths.
 - Anomalous Trichromats have a partial defect or alteration of one portion of the cone photopigment system.
 - The patient's VA must be better than 6/60 (0.1) in order to conduct the Ishihara test.
6. Indicate the predictability of angle closure after Van Herrick or the shadow test:

Angle Type	Nasal Iris Illumination	Angle between iris and Cornea	Angle Grading	Probability of closure	
a) Wide open	100%	45deg	4	Unlikely to Impossible	(True) (False)
b) Open	75%	35deg	3	Highly possible	(True) (False)
c) Moderately open	50%	20deg	2	Possible	(True) (False)
d) Extremely Narrow	25%	10deg	1	Very likely	(True) (False)
e) Closed	0%	0deg	0	100%	(True) (False)
f) Oblique	<0%	<0deg	-1	Impossible	(True) (False)

7. The following statements is not true about Visual Acuity measurement?
- (a) A Snellen fraction of 6/12 is equivalent to 20/40.
 - (b) In designing visual acuity charts letters used are 8.7 mm high.
 - (c) A Snellen fraction of 20/200 is equivalent to 0.1 in decimal acuity.
 - (d) In order to prevent memorization, the patient should read the line of letters once.
8. Which of the following statements is not true about Objective Refraction (Retinoscopy)?
- a) Static retinoscopy is a technique which allows the determination of the refractive error for distance while maintaining accommodation in a fixed state.
 - b) If there are variable movements in different meridians this indicates the condition of astigmatism.
 - c) The aim of retinoscopy is to find the lens that would produce a neutral reflex.
 - d) In checking for neutrality, when you move forward, the ret reflex will become "against" When you move backward, the ret reflex will become "with".
9. Which of the following statements is true about ocular motility measurements?
- (a) Slight End point nystagmus may be a normal finding when testing the horizontal meridian.
 - (b) It is best assessed by the "Broad H test".
 - (c) The target is positioned in the primary position at 40cm from the patient's eyes.
 - (d) All the above.
10. Which of the following statements is true about general the ocular health examination?
- (a) Caucasians typically have a dark tessellated fundus appearance.
 - (b) The macula lies approximately 2-disc diameters (DD) nasal to the optic disc.
 - (c) Physiological cupping usually indicates a large C/D ratio (> 0.5) with little functional damage.
 - (d) One must determine what the ratio is between the horizontal and vertical diameter of the cup to the horizontal and vertical diameter of the disc.
11. Which statement is true of indirect ophthalmoscopy?
- (a) The features of the image are irrespective of the size of the condensing lens.
 - (b) There is 3D stereoscopic view of the magnified inverted image.
 - (c) It's held the same way as in direct ophthalmoscopy.
 - (d) It is done using a -20 D condensing lens held at arm's length.

12. Which is correct about the image in direct ophthalmoscopy?
- (a) It is magnified and virtual.
 - (b) The image is virtual and minified.
 - (c) The image is real, magnified and erect.
 - (d) The image is virtual, magnified and erect.
13. Which is correct about the field of view in indirect ophthalmoscopy?
- (a) The field of view is larger than in direct ophthalmoscopy.
 - (b) The higher the power of the condensing lens the greater the field of view.
 - (c) The lower the power of the condensing lens the smaller the field of view.
 - (d) The extent of the field of view is only 1-disc diameter with any lens.
14. Which is correct for the "best sphere" in a negative cylinder prescription?
- (a) The spherical power after object refraction.
 - (b) The sum of the powers of the sphere and half of the negative cylinder.
 - (c) The sum of the spherical power and one half of the positive cylinder.
 - (d) One half of the sphere and the negative cylinder.
15. Which is correct for the "best sphere" in a positive cylinder prescription?
- (a) The spherical power after object refraction.
 - (b) The sum of the spherical power and one half of the negative cylinder.
 - (c) The sum of the powers of the sphere and half of the positive cylinder.
 - (d) One half of the sphere and the negative cylinder.
16. Which is the best definition of visual acuity?
- (a) The ability of the eye to resolve detail and only possible in the fovea centralis.
 - (b) The retinal image size of a normal eye.
 - (c) The size of the retinal image seen in myopic patients.
 - (d) It is value of the working distance in retinoscopy.
17. When measuring Visual Acuity which is true about the testing distance?
- (a) It must only be 20 feet away from the patient.
 - (b) It's a convertible distance as a fraction of 20 feet from the chart to the patient.
 - (c) The 6 metres is not the same as a doubling mirror system of 3 metres.
 - (d) Only one eye is tested at 6 metres and converted to the other eye.

18. When conducting an eye examination which of the following is true of visual acuity?
- (a) It is tested each eye at a time and then both eyes at 6 meters.
 - (b) It is ideal at the beginning of the eye examination done at a specific distance.
 - (c) Low vision patients should be tested using the Cardiff Acuity chart.
 - (d) Children who cannot read should be tested using the Snellen chart.
19. In direct ophthalmoscopy the best practice should be?
- (a) Using one's right hand, right eye to see the patient's right eye.
 - (b) Using one's right hand, left eye to see the patient's right eye.
 - (c) Using one's left hand, right eye to see the patient's right eye.
 - (d) Using one's left hand, right eye to see the patient's left eye.
20. When doing refraction, the Fan and Block is best used for what purpose?
- (a) It is useful in estimation of the total spherical refractive error.
 - (b) It is subjective refraction to determine the degree and direction of astigmatism.
 - (c) It is essential as part of objective refraction to find spherical power.
 - (d) The numbers on the dial indicate the direction of the steepest meridian.

SECTION (2) ANSWER ANY THREE QUESTIONS

1. Describe and give appropriate interpretations of the swinging flashlight test. [20 Marks]
2. a. Describe the mechanism of accommodation and how it contributes to presbyopia. [10 Marks]
b. Describe one method of measuring amplitude of accommodation [8 Marks]
c. Mention one disadvantage of this method. [2 Marks]
3. Describe Visual acuity measurement to the point of NPL (No Light Perception). [20 Marks]
4. a. Describe and interpret the Broad H method of ocular Motility assessment. [10 Marks]
b. Describe the procedures and purposes of the following Slit-lamp biomicroscope illumination and observation techniques in the clinic. [10 Marks]
 - i. Diffuse Illumination
 - ii. Optic Section
 - iii. Parallelepiped
 - iv. Conical Beam
 - v. Retro-illumination

END OF PAPER