

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE & ENGINEERING

DEPARTMENT OF OPTOMETRY

BACHELOR OF SCIENCE HONOURS DEGREE IN OPTOMETRY

(OPT 211): CLINICAL OPTOMETRY II (4)

DURATION: 3 HOURS

(100 MARKS)

CANDIDATE NUMBER:

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INSTRUCTIONS

This exam contains TWO sections: Section A: 60 Marks; Section B: 40 Marks

Answer ALL questions in the answer booklet

JUN 2023

SECTION A: TRUE/FALSE

1. The following are true or false about the Optometric Examination (OE);

- | | |
|---|----------------|
| a) It is done to admonish the patient on aspects of visual efficiency. | (True) (False) |
| b) It is done to determine ocular abnormalities and provide remedies. | (True) (False) |
| c) It is done mainly to enable the patient familiarize with the practitioner. | (True) (False) |
| d) It is tailored to the specific needs of each patient | (True) (False) |
| e) Recording of information about the (OE) is a legal obligation | (True) (False) |
| f) Its 5 main components usually follow a sequential pattern | (True) (False) |

2. The following are true or false examples of the key areas of the (OE);

- | | |
|--|----------------|
| a) Ocular Health Assessment: eg: Accommodation testing | (True) (False) |
| b) Visual Function Assessment: eg: Subjective refraction | (True) (False) |
| c) Preliminary Examination: eg: Fixation disparity | (True) (False) |
| d) Objective refraction: eg: retinoscopy | (True) (False) |
| e) Visual Function Assessment: Colour Vision Testing | (True) (False) |
| f) Subjective Refraction: eg: Keratomerty | (True) (False) |

3. Indicate true or false for the following statements about infection control in the Optometric clinic.
- a) Hand washing is the most essential personal procedure in the clinic. (True) (False)
 - b) A suitable hand washing agent includes alcohol preparations, chlorhexidine, iodophors and plain soap. (True) (False)
 - c) To avoid contamination, bottle tips should not come in contact with eyes or dermal areas. (True) (False)
 - d) Eye drop bottles opened for more than 1 month must be used up (True) (False)
 - e) Disinfection involves the treatment of surfaces or medical devices by an agent to destroy infectious organisms. (True) (False)
 - f) Vials must also not be washed with soap and water. (True) (False)
4. The following statements are true or false about case history.
- a) Includes information taken only at the beginning of the consultation. (True) (False)
 - b) Confidentiality and privacy are important only during history taking. (True) (False)
 - c) The chief complaint is usually the secondary reason for patient visit. (True) (False)
 - d) Open-ended questions (open probing) are more likely to elicit useful information than close-ended questions. (True) (False)
 - e) The date of the patient's current prescription will give an indication of how stable their refractive status is. (True) (False)
 - f) A classical sign of an allergic conjunctivitis is ocular irritation. (True) (False)
5. Which of the following are true or false about chief complaint in patient history?
- a) It is not taken to elicit reasons for visit. (True) (False)
 - b) It is taken to ascertain patient's expectations. (True) (False)
 - c) It is taken to prescribe ocular medication for the patient. (True) (False)
 - d) It is taken to acquire relevant background information from client (True) (False)
 - e) It is taken to determine the specific tests or procedures that should be performed during the examination. (True) (False)
 - f) It is taken to form a tentative diagnosis. (True) (False)

6. Indicate true or false for the predictability of anterior closure the following anterior chamber angle measurements from 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 are true or false about Visual Acuity measurement in the optometric clinic;
- A Snellen fraction of 6/12 is equivalent to 20/40. (True) (False)
 - In designing visual acuity charts letters used are 8.7 mm high. (True) (False)
 - A Snellen fraction of 20/200 is equivalent to 0.1 in decimal acuity. (True) (False)
 - Should be conducted under adequate illumination conditions. (True) (False)
 - One method to prevent memorization is to have the patient read the line of letters once. (True) (False)
 - If the patient correctly reads more than half the number of letters on a line, then you score him as that line minus the number of letters that could not be read or were miscalled. (True) (False)
8. The following are true or false about Near Point of Convergence (NPC);
- The voluntary centre is situated in the occipital lobe. (True) (False)
 - Can be measured with the Royal Air Force Rule (True) (False)
 - If a patient with an interpupillary distance (PD) of 8 cm converges to the midline to fixate a point at a distance of 2 m, each eye will turn inward by 1 prism dioptre and there will be a total convergence for both eyes of 2 prism dioptres. (True) (False)
 - Tonic convergence is the type of convergence induced as a result of awareness of a near object. (True) (False)
 - The eye's ability to move into a position to fuse 2 single images into a single concept to avoid diplopia is controlled by fusional convergence. (True) (False)
 - If a patient does not report diplopia at maximum NPC, he/she might be suppressing one eye to avoid diplopia. (True) (False)

9. The following are true or false about Ocular motility measurement.
- a) Slight End point nystagmus may be a normal finding when testing the horizontal meridian. (True) (False)
 - b) It is assessed by the "Broad H test" (True) (False)
 - c) The target is positioned in the primary position at a distance of 40cm away from the patient's eyes. (True) (False)
 - d) If the patient follows the light smoothly, accurately, and with full extent of movement, the pursuits are recorded as being SAFE. (True) (False)
 - e) Pain or discomfort on eye movement may be indicative of a condition like retrobulbar neuritis. (True) (False)
 - f) Midline jump may be observed in young adults. (True) (False)
10. In pupillary testing, the following are true or false;
- a) The iris is made up of circular muscle fibres at the pupil margin forming the sphincter pupillae and the radial fibres that extend from the iris root to the border of the iris forming the dilator pupillae. (True) (False)
 - b) Efferent pathways of the visual system is controlled by parasympathetic nervous system. (True) (False)
 - c) Fibres from the pretectal nucleus semi decussate to the Edinger Westphal nuclei at which point they exit the hind brain as the 3rd nerve and synapse in the ciliary ganglion, and finally reach the sphincter pupillae of the iris via the short ciliary nerves. (True) (False)
 - d) Room illumination is dimmed to produce large pupils & maximize observable reaction. (True) (False)
 - e) The direct response is produced by the neuro-anatomical decussations of the pupillary neuro-pathways at the chiasm and at the posterior commissure. (True) (False)
 - f) The swinging flashlight test is conducted to compare the strength of the direct light reflex of one eye with that of the consensual light reflex from another eye. (True) (False)

Section B

1. Describe and give appropriate interpretations of the swinging flash light test. [10 Marks]
2. a. Describe the mechanism of accommodation and how it contributes to presbyopia. [5marks]
b. Describe one method of measuring amplitude of accommodation [4 Marks]
c. Mention one disadvantage of this method. [1Mark].
3. Describe Visual acuity measurement to the point of NPL (No Light Perception). [10 Marks]
4. a. How will you use the JCC to refine an astigmatic spectacle correction? [5 Marks]
b. Describe the procedures and purposes of the following Slitlamp biomicroscope illumination and observation techniques in the clinic. [5Marks]
 - i. Diffuse Illumination
 - ii. Optic Section
 - iii. Parallelepiped
 - iv. Conical Beam
 - v. Retro-illumination

END OF PAPER