



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Optomtry-2021/B.Optomtry-2022

Course Name – Occupational Optometry

Course Code - BOPTOC604

(Semester VI)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify the aim of occupational optometry regarding eye protection.
 - a) Improving night vision
 - b) Minimizing glare sensitivity
 - c) Preventing eye injuries at work
 - d) Enhancing color perception
- (ii) Which of the following methods is typically used to estimate illumination units?
 - a) mm/Hg
 - b) cm2
 - c) LUX or foot candles
 - d) Jule
- (iii) Which of the following best expresses the purpose of Nagel's anomaloscope?
 - a) To assess color vision
 - b) To evaluate depth perception
 - c) To analyze contrast sensitivity
 - d) To measure visual acuity
- (iv) Identify the factors that define the determinants of OHS, excluding:
 - a) Ergonomic
 - b) Magnitude
 - c) Chemical
 - d) Physical
- (v) Identify the primary component of sunlight responsible for causing damage to the eyes.
 - a) Ultraviolet (UV) radiation
 - b) Infrared radiation
 - c) Visible light
 - d) Microwave radiation
- (vi) Which of the following best describes the main function of the cornea concerning electromagnetic radiation.
 - a) Absorbing UV radiation
 - b) Focusing visible light onto the retina
 - c) Filtering out harmful blue light
 - d) Converting infrared radiation into heat
- (vii) Identify the type of electromagnetic radiation that leads to thermal damage to the eye.
 - a) Ultraviolet (UV) radiation
 - b) Infrared radiation
 - c) X-rays
 - d) Gamma rays
- (viii) Which of the following best relates the potential disadvantage of prolonged exposure to artificial blue light?
 - a) Improved sleep quality
 - b) Reduced eye strain
 - c) Increased risk of digital eye strain
 - d) Enhanced mood

- (ix) Which of the following best describes a common type of color vision deficiency where individuals struggle to differentiate between red and green?
 - a) Protanopia
 - b) Tritanopia
 - c) Deuteranopia
 - d) Achromatopsia
- (x) What does color coding typically represent in safety signage?
 - a) Differentiation between indoor and outdoor areas
 - b) Identification of hazardous materials
 - c) Warning of high noise levels
 - d) Indication of temperature variations
- (xi) Which of the following represents the potential risk associated with prolonged contact lens wear in dirty environments?
 - a) Increased comfort
 - b) Reduced risk of infection
 - c) Corneal abrasions
 - d) Improved tear film stability
- (xii) Which of the following best identifies the potential risk associated with prolonged standing in optometric practice?
 - a) Reduced risk of musculoskeletal disorders
 - b) Increased risk of eye infections
 - c) Musculoskeletal disorders
 - d) Improved posture
- (xiii) In transportation-related vision tests, identify how depth perception is typically assessed?
 - a) By assessing visual acuity
 - b) By measuring color vision
 - c) By testing peripheral vision
 - d) By using stereoscopic tests
- (xiv) Which type of vision test is typically used to predict the ability to distinguish shades of gray in industrial settings?
 - a) Farnsworth-Munsell 100 hue test
 - b) Ishihara color plates
 - c) Hardy-Rand-Rittler test
 - d) Farnsworth D-15 test
- (xv) Identify the level of depth perception typically required for airline pilots according to recommendations.
 - a) 20/20 in each eye
 - b) 20/40 in each eye
 - c) Stereopsis of 40 arc seconds or better
 - d) Stereopsis of 80 arc seconds or better

Group-B

(Short Answer Type Questions)

 $3 \times 5 = 15$

2. Define how an optometrist may assist to pre-placement evaluations and regular medical examinations of employees. (3)
3. Draw and explain the phrase 'Iceberg of Occupational Disease'. (3)
4. List the barriers to occupational optometry practice. (3)
5. Could you describe common types of color defects and discuss their impact on color perception? (3)
6. How might one identify and evaluate the potential health risks associated with prolonged VDU (Visual Display Unit) use? (3)

OR

How might one select appropriate types of contact lenses recommended for individuals working in outdoor environments? (3)

Group-C

(Long Answer Type Questions)

$$5 \times 6 = 30$$

7. Can you explain how optometrists mitigate the risk of needlestick injuries? (5)
8. Explain some common vision problems detected through industrial vision screening. (5)
9. Explain the usage of safety goggles with respect to different occupation. (5)
10. Could you explain the advantages that employees receive under the Employees' State Insurance (ESI) Act? (5)

11. Discuss the disadvantages or potential risks associated with exposure to certain types of electromagnetic radiation. (5)
12. Explain the recommended visual acuity for airline pilots, and how is it measured? (5)

OR

Discuss how ergonomics play an important role in occupational performance and health considering a 26y/o software developer? (5)

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