

CERTIFICATE IN DISPENSING OPTICS (CDO)

Term-End Examination

December, 2014

00154

OAH-006 : COATING

Time : 90 Minutes

Maximum Marks : 30

Note :

- (i) *There will be multiple choice type of questions in this examination which are to be answered in **OMR Answer Sheets**.*
- (ii) *All questions are **compulsory**.*
- (iii) *Each question will have four options and only one of them is correct. Answers have to be marked in figures in the appropriate rectangular boxes corresponding to what is the correct answer and then blacken the circle for the same number in that column by using **HB** or lead pencil and not by ball pen in **OMR Answer Sheets**.*
- (iv) *If any candidate marks more than one option it will be taken as the wrong answer and no marks will be awarded for this.*
- (v) *There will be 30 questions in this paper and each question carries one mark.*
- (vi) *There will be no negative marking for wrong answers.*
- (vii) *No candidate shall leave the examination hall at least for one hour after the commencement of the examination.*

1. Much of the Sun's radiation is absorbed by
 - (1) Water particles
 - (2) Ozone
 - (3) Oxygen
 - (4) All of the above

2. UV radiation extends approximately from
 - (1) 100 to 200 nm
 - (2) 200 to 380 nm
 - (3) 300 to 400 nm
 - (4) 400 to 500 nm

3. Effects of radiation are
 - (1) Thermal effect
 - (2) Photochemical effect
 - (3) Photoluminescence
 - (4) All of the above

4. The hydrophobic coating on spectacle lenses does not interfere with the optics of the AR coating as it is very
 - (1) Thin
 - (2) Thick
 - (3) Dark
 - (4) Light

5. People employed in occupations such as nuclear physics, radiology, uranium mining and engineering are at risk from
 - (1) Ionizing radiation
 - (2) Non-ionizing radiation
 - (3) Both (1) and (2)
 - (4) None of the above

- 6. The electromagnetic transmission of the cornea**
- (1) Remains equal with age
 - (2) Decreases with age
 - (3) Increases with age
 - (4) Remains same with age
- 7. Which of the following is also known as eclipse blindness ?**
- (1) Solar retinopathy
 - (2) Moon retinopathy
 - (3) Star retinopathy
 - (4) None of the above
- 8. Glare can be classified as**
- (1) Veiling glare
 - (2) Discomfort glare
 - (3) Specular reflection glare
 - (4) All of the above
- 9. Opacity may be expressed as**
- (1) $O = 1/T$
 - (2) $O = 1/V$
 - (3) $O = 1/X$
 - (4) $O = 1/Z$
- 10. Different absorptive substances may produce lenses of similar**
- (1) Color
 - (2) Design
 - (3) Base
 - (4) Shape

11. Plastic lenses cannot be surface coated by evaporation because they would be deformed by the
- (1) High temperature
 - (2) Low temperature
 - (3) Medium temperature
 - (4) Very low temperature
12. Types of absorptive lenses
- (1) Tinted plastic lenses
 - (2) Photochromic lenses
 - (3) Polarizing lenses
 - (4) All of the above
13. Which of the following are designed in such a way that transmission gradually increases from the top to the bottom of the lens ?
- (1) Gradient-density lenses
 - (2) Uniform-density lenses
 - (3) Photochromic lenses
 - (4) Polarizing lenses
14. If all the wavelengths of light are equally absorbed, then
- (1) Grey tint is produced
 - (2) Red tint is produced
 - (3) Green tint is produced
 - (4) Black tint is produced
15. Which lenses become dark when exposed to long wavelength UV radiation ?
- (1) Polarizing lenses
 - (2) Photochromic lenses
 - (3) Spherical lenses
 - (4) Cylindrical lenses

16. CR-39 stands for Columbia Resin, version number

- (1) 39
- (2) 38
- (3) 93
- (4) 83

17. Factors affecting transmittance of photochromic glass is/are

- (1) Intensity of incident radiation
- (2) Wavelength of incident radiation
- (3) Temperature of glass
- (4) All of the above

18. Visible spectrum occupies only

- (1) 1 octave
- (2) 2 octave
- (3) 3 octave
- (4) 4 octave

19. UV radiation occupies almost

- (1) 1 octave
- (2) 2 octave
- (3) 3 octave
- (4) 4 octave

20. IR radiation occupies slightly more than

- (1) 3 octave
- (2) 7 octave
- (3) 10 octave
- (4) 5 octave

- 21.** In the iris, the uveal pigment absorbs radiation and converts it into
- (1) Electricity
 - (2) Heat
 - (3) Sound
 - (4) None of the above
- 22.** The radiation received by the retina is the radiation transmitted by the
- (1) Vitreous
 - (2) Choroid
 - (3) Sclera
 - (4) None of the above
- 23.** Which of the following are growths of vascular and connective tissue into the epithelium of the bulbar conjunctiva and the cornea ?
- (1) Pterygia
 - (2) Pingueculae
 - (3) Both (1) and (2)
 - (4) None of the above
- 24.** Which of the following are small, yellowish elevated concretions of bulbar conjunctiva. They have long been associated with continued exposure to solar radiation ?
- (1) Pterygia
 - (2) Pingueculae
 - (3) Both (1) and (2)
 - (4) None of the above
- 25.** The terms spheroid degeneration and climatic droplet keratopathy are used for the following condition :
- (1) Pingueculae
 - (2) Pterygia
 - (3) Band-shaped keratopathy
 - (4) None of the above

- 26.** Discomfort glare occurs when the ratio between the highest level of illumination in the visual field and the background illumination exceeds a ratio of
- (1) 3 to 1
 - (2) 2 to 1
 - (3) 1 to 1
 - (4) None of the above
- 27.** What occurs when patches of bright light are reflected from smooth, shiny surfaces into the eye ?
- (1) Specular reflection glare
 - (2) Discomfort glare
 - (3) Veiling or disability glare
 - (4) Glare
- 28.** Once the transmission of a material is known, the density may be found by use of the relationship
- (1) $\text{Density} = \log_{10} \text{Opacity}$
 - (2) $\text{Density} = \log_{20} \text{Opacity}$
 - (3) $\text{Opacity} = \log_{10} \text{Density}$
 - (4) $\text{Opacity} = \log_{20} \text{Density}$
- 29.** Which type of lenses cannot be surface coated by evaporation because they would be deformed by the high temperature required ?
- (1) Tinted plastic lenses
 - (2) Tinted glass lenses
 - (3) Both (1) and (2)
 - (4) None of the above
- 30.** A spectral transmittance curve shows the percentage of transmission for all
- (1) Invisible spectrum
 - (2) Visible spectrum
 - (3) Both (1) and (2)
 - (4) None of the above