Sikkim Public Service Commission

Main Written Examination for the Post of Ophthalmic Technician under Sikkim State Subordinate Allied and Healthcare Service

PAPER -II

Time allowed: 3.00 Hrs

Maximum Marks: 100

INSTRUCTION TO CANDIDATES

Read the instructions carefully before answering the questions: -

1. **IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.**
2. **Use only Black Ball Point Pen to fill the OMR Sheet.**
3. Do not write anything else on the OMR Answer Sheet except the required information.
4. **This Test Booklet contains 50 questions in MCQ Mode in Part I to be marked in OMR Sheet. Part II and Part III are Subjective Questions which have to be written on separate answer sheet provided to you.**
5. Before you proceed to mark in the Answer Sheet (OMR), you have to fill in some particulars in the Answer Sheet (OMR) as per given instructions.
6. After you have completed filling in all your responses on the Answer Sheet (OMR) and the examination has concluded, you should hand over the Answer Sheet (OMR) and separate answer sheet to the Invigilator only. You are permitted to take with you the Test Booklet.
7. **Marking Scheme**

   THERE WIL BE NEGATIVE MARKING FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBECTVE TYPE QUESTION PAPERS

   i. There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to the question will be deducted as penalty.
   ii. If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to the question.
   iii. If a question is left blank. i.e., no answer is given by the candidate, there will be no penalty for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

PART -I

Choose the correct answer for the following questions: **(1x50=50)**

1. **100-day glaucoma is seen in**
   A. BRVO
   B. CRVO
   C. CRAO
   D. Cilioretinal artery occlusion

2. **Cherry red spot in retina is seen in**
   A. CRVO
   B. BRVO
   C. BRAO
   D. CRAO

3. **Kayser-Fleischer's ring in Wilson disease is formed due to the deposition of**
   A. Iron
   B. Melanin
   C. Copper
   D. Collagen

4. **The muscle in the same eye that acts in the direction opposite to that of the primary muscle.**
   A. Synergist
   B. Agonist
   C. Antagonist
   D. Yoke muscle

5. **Conjugate eye movements are termed as**
   A. Versions
   B. Vergence
   C. Ductions
   D. Torsion

6. **Yoke muscles involved in right up gaze are**
   A. RSR and LIO
   B. RSR and LSR
   C. RIO and LSR
   D. RIO and LIO

7. **EDTA is a**
   A. Wetting agent
   B. Chelating agent
   C. Disinfectant
   D. Buffer

8. **Which of the following lens material dries out faster and attracts more deposits?**
   A. Fluro silicone acrylate
   B. CAB
   C. PMMA
   D. Silicone acrylates

9. **The visible spectrum in electromagnetic radiation is considered to be ranges between**
   A. 280 nm to 380 nm
   B. 380 nm to 760 nm
   C. 760 nm to 850nm
   D. 1300 nm and above

10. **Transpose: -2.50 DS /+3.00 DC X 90**
   A. +0.50 DS/ -3.00 DC X 180
   B. -0.50 DS/ -3.00 DC X90
   C. -0.50 DS/ -3.00 DC X 180
   D. +3.00 DS/ -3.00 DC X 180

11. **The letter D in DK stands for the:**
   A. Inherent ability of the material to allow gas through
   B. Degree to which oxygen is solubilized within the material
   C. Degree to which oxygen pass through a given thickness
   D. Degree to which lens dehydration occurs

12. **For a lens, if the distance PD is 64 mm and near PD is 60 mm, the segment inset is**
   A. 4 mm
   B. 2 mm
   C. 6 mm
   D. 10 mm

13. **The distance prescription is -2.50 DS /-1.00 Dc x 100 ; Near prescription is -0.50/-1.00 x 100 the reading add is**
   A. 3.00 DS
   B. 3.50 DS
   C. 2.00 DS
   D. 1.50 DS

14. **The power of IOL should be increased**
   A. As the power of cornea increases and axial length increases
   B. As the power of cornea decreases and axial length increases
   C. As the power of cornea increases and axial length decreases
   D. As the power of cornea decreases and axial length decreases

15. **An aphakic is refracted at a distance of 15 mm and is found to require +13.00 D lens. What will be the power of contact lens required?**
    A. +16.00
    B. +13.00
    C. +12.00
    D. +11.00

16. **Keratometry: 44 @ 180/ 43@90 and refraction: -2.00 DC x 90. What is the amount of uncorrected astigmatism if a spherical hard contact lens is fitted with its back-surface radius parallel to the flattest corneal meridian?**
    A. -1.00 DC x 90
    B. -1.00 DC x 180
    C. Plano
    D. -2.00 DC x 90

17. **An afocal Galilean telescope has following specifications: F 1 = +10.00 D; F 2 = -20.00 D length of telescope is 5cm. Find the magnification of the telescope.**
    A. 2x
    B. 1x
    C. 4x
    D. 2.5x

18. **If Q value of conicoid is zero. Determine the shape**
    A. Hyperboloid
    B. Paraboloid
    C. Ellipsoid
    D. Sphere

19. **Snellen's letter chart is**
    A. Recognition acuity test
    B. Detection acuity test
    C. Resolution acuity test
    D. Stereo acuity test

20. **Measurement of visual acuity in infants can be done by**
    A. **OKN drum**
    B. Snellen chart
    C. Tumbling E test
    D. Sheridan-Gardiner test

21. **Cover uncover test establish the presence of**
    A. Phoria
    B. Tropia
    C. Eccentric fixation
    D. Microtropia

22. **Test for suppression is done by**
    A. Worth 4-dot test
    B. Cover uncover test
    C. Madox rod test
    D. Bielschowsky's three step test

23. Crypts of Henle are located in

A. Iris
B. Conjunctiva
C. Cornea
D. Lens

24. Inner most corneal layer is

A. Descemet membrane
B. Endothelium
C. Bowman layer
D. Stroma

25. Velocity of sound in silicon oil is:

A. 980 m/s
B. 1280 m/s
C. 1580 m/s
D. 1630 m/s

26. On retinoscopy at 1-meter distance there is no movement of the reflex. The patient is

A. Emmetropic
B. 1 D myopic
C. 1 D hypermetropic
D. 2 D myopic

27. Optic chiasma lesion will cause:

A. Homonymous hemianopia
B. Pie in the sky
C. Bitemporal heminopia
D. Binasal heminopia

28. Hypermetropia which can be overcome by accommodation is:

A. Manifest
B. Latent
C. Facultative
D. Absolute

29. Satellite nodule on corneal ulcer is seen due to:

A. Bacterial
B. Viral
C. Fungal
D. Mycoplasma

30. Which one of the following is the gas mixer used in modern excimer lasers?

A. ArF
B. CO_2
C. XeF
D. N_2O

31. The following prescription has against the rule astigmatism

A. +0.50/+0.25 X 90
B. +0.50/+0.25 X 180
C. +0.25/-0.50 X 180
D. +0.25/+ 0.50 X 90

32. Kappa angle is the angle between:

A. Visual axis and optical axis
B. Papillary axis and optical axis
C. Optical axis and fixation point at the centre of rotation of the eye ball
D. Visual axis and pupillary axis

33. What is the reading of a lens measure calibrated for 1.530 when 'clocking' a surface whose refracting power is +5.00 D if the index of refraction of the glass is 1.498?

A. +4.50 D
B. +4.75 D
C. +5.25 D
D. +5.50 D

34. The image produced by Galilean telescope:

A. Upright, virtual and at infinity
B. Upright, real and at infinity
C. Inverted, real and at infinity
D. Inverted, virtual and at infinity

35. Recommended luminance level for visual acuity testing:

A. 40 cd/m^2
B. 55 cd/m^2
C. 75 cd/m^2
D. 85 cd/m^2

36. If the power of cornea in air is 48 D, power in water will be:

A. 6 D
B. 30 D
C. 48 D
D. 60 D

37. What is the power of a prism that displaces an image 10 cm at a distance of 50 cm?

A. 10 Δ
B. 20 Δ
C. 25 Δ
D. 40 Δ

38. A patient undergone penetrating keratoplasty upon examination on keratometer shows vertically oval (elongated) mires. Which meridian sutures should be removed to reduce astigmatism?

A. 90
B. 180
C. 45
D. No suture removal

39. You fit a toric soft contact lens on a patient with a refractive error of - 3.50 D/ -1.50 x 180. The trial lens centers well, but the lens mark at the 6 o'clock position appears to rest at the 7 o'clock position when the lens is placed on the patient's eye. What power contact lens should you order?

A. -3.50 D - 1.50 X 180
B. -3.50 D - 1.50x 150
C. - 3.50 D - 1.50 X 30
D. -3.50 D - 1.50 x 90

40. +7.00 D lens before RE is decentered 3 mm nasally what amount of prism is induced and what is the base orientation?

A. 2.1 prism dioptre Base in
B. 2.1 prism dioptre base out
C. 0.21 prim dioptre base in
D. 0.21 prim dioptre base out

41. In wave front analysis Z^0_4 stands for:

A. coma
B. spherical aberrations
C. trefoil
D. tetra foil

42. Protanomaly is referred as:

A. Green weakness
B. Red weakness
C. Yellow weakness
D. Blue weakness

43. Spherical equivalent of +3.00 DS/-1.00 DC x180

A. +3.50 DS
B. +2.50 DS
C. +3.00 DS
D. +3.25 DS

44. Refractive index of cornea

A. 1.376
B. 1.386
C. 1.406
D. 1.333

45. Visual acuity of 6/6 mts corresponds to LogMAR value of

A. 1.0
B. 0
C. 1.5
D. 2

46. Example of mixed astigmatism

A. +1.00 DS /-0.5 DC x 90
B. +1.50 DS /-1.50 DC x 180
C. +1.00 DS / -2.00 DC x 90
D. +1.00 DS/ -1.00 DC x180

47. Average amplitude of accommodation at the age 40 is

A. 12 D
B. 9 D
C. 6 D
D. 3 D

48. Contact lens with highest water content

A. Bio true one day
B. Soflens comfort
C. Purevision 2
D. Acuvueoasys

49. According to FDA contact lens classification group 1 is

A. Low water content, non-ionic
B. Low water content, ionic
C. High water content, non-ionic
D. High water content, ionic

50. The process of reshaping the cornea and thus reducing myopia by wearing hard contact lens designed to flatten the central cornea for a period of time after the lens removal called as

A. Orthokeratology
B. Radial keratotomy
C. PRK
D. Epi lasik

PART - II

Write short notes on ANY FOUR of the following: **(5x4= 20)**

1. Duane's retraction syndrome
2. Maddox rod
3. Snell's law
4. Retinoscopy
5. AC/A ratio
6. Keratoconus

PART - III

Attempt ANY TWO of the following questions: **(15x2= 30)**

1. Image formation by concave and convex lenses with diagrams
2. Optical low vision devices
3. Treatment options for keratononous
4. Write about modern refractive surgery options
