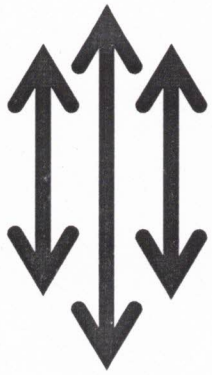
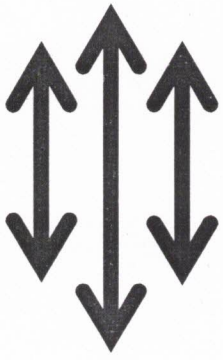
नेपाली सेना

श्री भर्ना छनौट निर्देशनालय,कार्यरथी विभाग,

जंगी अड्डा



प्रा.उ.से.Optometrist (खुला) पदको लिखित परीक्षाको पाठ्यक्रम



२०७८

नेपाली सेना

प्रा.उ.से. Optometrist (खुला) पदको लिखित परीक्षाको पाठ्यक्रम

समय: ४ घण्टा १५ मिनेट

पूर्णाङ्क १५०
उत्तीर्णाङ्क ६०

यो पाठ्यक्रम नेपाली सेनाको प्रा.उ.से. Optometrist (खुला) पदको उम्मेदवार छनौट परीक्षाको लागि निर्धारण गरिएको हो । लिखित परीक्षामा सरिक हुने उम्मेदवारहरुको पेशा सम्बन्धी विषयलाई आधारमानी प्रश्नहरु सोधिने छ ।

(क) लिखित परीक्षाको माध्यम नेपाली/अंग्रेजी वा दुवै भाषा हुनेछ ।
(ख) लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र अर्को चरणको परीक्षामा सम्मिलित गराईनेछ ।
(ग) प्रश्नपत्र निर्माण गर्दा पाठ्क्रममा समावेश भएका सबै विषयहरुलाई यथासंभव समिटनेछ ।
(घ) बस्तुगत र विषयगत संयुक्त रुपमा पूर्णाङ्क र उत्तीर्णाङ्क कायम गरिनेछ ।
(ङ) बस्तुगत र विषयगत परीक्षाको पाठ्यक्रम एउटै हुनेछ ।
(च) बस्तुगत र विषयगत विषयको लिखित परीक्षा एकैपटक वा छुट्टाछुट्टै गरी लिन सकिनेछ ।
(छ) यो पाठ्यक्रम मिति २०७८/०५/१९ गतेबाट लागु हुनेछ ।

लिखित परीक्षाको योजना र पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली		प्रश्न संख्या अङ्क	समय
पेशा सम्वन्धि	७५	६०	बस्तुगत (Objective)	बहुवैकल्पिक प्रश्न (MCQs)	७५ प्रश्न x १ अङ्क=७५	१ घण्टा १५ मिनेट
	७५		विषयगत (Subjective)	छोटो उत्तर	९ प्रश्न x ५ अंङ्क=४५	३ घण्टा
				लामो उत्तर	३ प्रश्न x १० अङ्क =३०	

लिखित परीक्षाको पाठ्यक्रम

1 .Anatomy and Physiology of eye:

1.1 Eyelids parts and layers
1.2 Corneal layers and its transparency
1.3 Sclera and its function
1.4 Lens and its embryological development
1.5 Aqueous humor dynamics
1.6 Components in vitreous humor
1.7 Retinal layers and its function
1.8 Visual pathway
1.9 Pupillary reflexes

2. Diseases of eye:

2.1 Disease of eyelids
2.2 Disease of cornea
2.3 Disease of sclera
2.4 Uveitis
2.5 Glaucoma
2.6 Cataract
2.7 Disease of Vitreous humour
2.8 Disease of retina
2.9 Abnormalities in visual pathway and pupillary reflexes

3. Physiology of vision:

3.1 Photochemical and electrical reaction in retina
3.2 Function of Rods and Cone in visual sensation
3.3 Visual pathway
3.4 Visual cortex
3.5 Magnocellular and parvocellular pathway

4. Physical and geometrical optics:

4.1 Light and electromagnetic radiation
4.2 Reflection of light
4.3 Refraction of light
4.4 Diffraction of light
4.5 Interference and polarization of light
4.6 Types of mirror
4.7 Types of lenses
4.8 Prism and its application in optometry

5. Color vision:

5.1 Trichromatic theory of color vision
5.2 Types of color vision defect
5.3 Tests for color vision
5.4 Professional application of color vision

6. Refraction Procedure in optometry:

6.1 Types of Retinoscopy
6.2 Keratometry
6.3 Stenopic slit
6.4 Pinhole test
6.5 Subjective refraction
6.6 Jackson cross cylinder
6.7 Accommodation
6.8 Far point and near point in eye

7. Ophthalmoscope and its types:

7.1 Distant direct ophthalmoscopy
7.2 Direct ophthalmoscopy
7.3 Indirect ophthalmoscopy

8. Slit lamp biomicroscope:

8.1 Types of Observation system
8.2 Parts of Slit lamp biomicroscope
8.3 Uses of specular reflection
8.4 Slit lamp for applanation
8.5 Slit lamp for Fundus examination
8.6 Slit lamp for gonioscopy

9. General investigation and procedures:

9.1 Types of Tonometry
9.2 Perimetry
9.3 Incision and drainage/incision and curettage
9.4 Syringing
9.5 Pre-op evaluation of cataract

10. Special investigations:

10.1 Optical coherence tomography
10.2 Contrast sensitivity test
10.3 Fundus fluorescein angiography
10.4 Biometry

11. Electrophysiological tests:

11.1 Electroretinogram
11.2 Electro-oculogram
11.3 Visual evoked potential

12. Paediatric optometry:

12.1 Visual developmental milestone
12.2 Emmetropization
12.3 Visual acuity techniques and instruments used in children
12.4 Accommodative and convergence insufficiency in children
12.5 Amblyopia management in children
12.6 Congenital cataract and its optometric management
12.7 Congenital esotropia/exotropia and its management
12.8 Spectacle dispensing in children
12.9 Guideline for prescribing spectacles

13. Geriatric optometry:

13.1 Senile miosis
13.2 Senile cataract and management
13.3 Depth of focus in old age
13.4 Visual acuity in old age
13.5 Age related macular degeneration
13.6 Spectacle dispensing in geriatric group

14. Community optometry:

14.1 Avoidable blindness
14.2 Preventable blindness
14.3 Curable blindness
14.4 Data of low vision and blindness in Nepal and global level
14.5 Different types of projects and tasks working on blindness
14.6 Trachoma and its management on community level
14.7 Refractive error and visual impairment

15. Systemic diseases and eye:

15.1 Hypertensive retinopathy
15.2 Diabetic retinopathy
15.3 Thyroid eye disease

16. Stereopsis:

16.1 Definition
16.2 Stages of stereopsis
16.3 Tests of stereopsis
16.4 Application of stereopsis

17. Strabismus:

17.1 Definition
17.2 Types of strabismus
17.3 Qualitative and quantitative measurement of strabismus
17.4 Cover/Uncover test
17.5 Synoptophore
17.6 Ocular torticolli
17.7 Paralytic strabismus

18. Orthoptic evaluation:

18.1 Lens flipper/Prism flipper
18.2 Synoptophore test
18.3 Prism bar
18.4 RAF ruler
18.5 Diplopia charting

19.Vitamins and its deficiency in eye:

19.1 Vitamin A and its deficiency in eye
19.2 Vitamin D
19.3 Vitamin C

20. Contact lens practice in optometry:

20.1 Soft and hard contact lens materials
20.2 Soft contact lens fitting
20.3 RGP contact lens fitting
20.4 Indication and contraindication of soft contact lens
20.5 Indication and contraindications of RGP lens
20.6 Preliminary examination for Contact lens
20.7 Complications of soft contact lens
20.8 Complications of RGP lens
20.9 Verification of Soft and hard contact lens

21.Low vision and visual rehabilitation:

21.1 Definition of low vision
21.2 Causes of low vision
21.3 Refraction technique in Low vision
21.4 Optical devices used in Low vision
21.5 Non-optical devices used in low vision
21.6 Types of magnification used for low vision patient
21.7 Telescope in Low vision

22.Optics and refractive error:

22.1 Definition of refractive error
22.2 Types of refractive error
22.3 Anisometropia and Aniseikonia
22.4 Pathological myopia
22.5 LASIK/SMILE and refractive surgery

23.Dispensing Optics:

23.1 Ophthalmic lens materials
23.2 Lens curvature and power specifications
23.3 Interpupillary distance measurement
23.4 Lensometer
23.5 Prism prescription
23.6 Types of coating on lens
23.7 Bifocal glasses and its materials
23.8 Progressive addition lenses
23.9 Frame materials, parts, types of frame

24. Amblyopia:

24.1 Definition
24.2 Types
24.3 Diagnosis
24.4 Management

25.Blood and nerve supply of eye:

25.1 Arterial supply to different parts of eye
25.2 Venous drainage from eye
25.3 Nerve supply to different parts of eye
25.4 Parasympathetic and sympathetic control system in eye

26.Extra-ocular muscles:

26.1 Types of muscle in eye
26.2 Actions of extra-ocular muscles
26.3 Axis and plane for movement of eyeball
26.4 Different types of gazes

27.Functional vision:

27.1 Types of functional vision
27.2 Implications of functional vision
27.3 Measurement of functional vision

28. Visual acuity:

28.1 Definition
28.2 Types of Visual acuity
28.3 Measurement of visual acuity
28.4 Different types of charts for Visual acuity
28.5 Pinhole test

माथि उल्लेखित पाठ्यक्रमका एकाइहरुबाट सोधिने प्रश्नहरुको संख्या निम्नानुसार हुनेछ

Section number	MCQs marks	Long questions marks	Short questions marks
1.	3		
2.	4		1x5=5
3.	2		
4.	3		
5.	2		
6.	3		2x5=10
7.	2		
8.	2		
9.	4		
10.	3		
11.	2		
12.	4	1x10=10	
13.	2		
14.	2		
15.	2		
16.	3		
17.	4		2x5=10
18.	2		
19.	2		1x5=5
20.	4	1x10=10	2x5=10
21.	3	1x10=10	
22.	4		
23.	4		1x5=5
24.	2		
25.	3		
26.	2		
27.			
28.	2		
Total	75x1=75	3x10=30	9x5=45

प्रयोगात्मक परिक्षाको पाठ्यक्रम

समय :६० मिनेट

पूर्णाङ्कः ५०
उत्तीर्णाङ्कः २५

SN	Topic	Full marks	Time(minutes)
1	Visual acuity	5	5
2	Retinoscopy	5	10
3	Refraction	5	5
4	Biometry	5	5
5	History taking	5	5
6	Investigations	5	10
7	Orthoptic check up	10	10
8	Slit lamp biomicrocsope examination	5	5
9.	Ophthalmocsope	5	5
Total		50	60

The End