

SCHEME AND SYLLABUS OF EXAMINATION FOR THE PURPOSE OF FILLING UP THE POST OF OPHTHALMIC TECHNICIANS UNDER THE SIKKIM STATE SUBORDINATE ALLIED AND HEALTHCARE SERVICE.

I. The mode of examination and setting-up of question-papers shall be both, i.e., conventional type and objectives type MCQs in paper I and II. The candidates are required to answer the objective type MCQs in the OMR Sheets and are required to follow the guidelines provided in the OMR Sheet while answering the questions.

II. The subject wise allotment of maximum marks shall be as under:

Syllabus:-		
General English	PAPER I	50 marks
General Knowledge		30 marks
Main Paper Ophthalmic Technician course	PAPER II	100 marks
TOTAL		180 marks
Viva voce/ interview		20 marks
Grand Total		200 marks

III. Syllabus for written examination for Ophthalmic Technicians :-


Sl. No.	Preliminary Course	
01	02	03
01	Biology and Human Welfare	i). Infectious diseases : General : Causes, control, immunity and chemotherapy ii). Diseases of man : Definition of diseases, different types of pathogens (bacteria, viruses and virus like organisms, fungi, helminthes, protozoa, etc.) sources of infection, infection and contagion, economic importance of diseases, methods of prevention and biological control.
02	Anatomy and Physiology of the Human body	i). Cell structure and function ii). Tissues : Epithelial, Muscular, Connective (cartilage and bone) and nervous iii). Skeletal system iv). Muscular system v). Blood vi). Circulatory system vii). Digestive system viii). Respiratory system ix). Nervous system x). Endocrine system xi). Urinary system xii). Ear xiii). Skin xiv). Nose and Tongue
03	Anatomy of the Eye and Orbit	i). Orbit – its relations and vascular communications ii). Eyelid and its glands iii). Conjunctiva iv). Lacrimal apparatus v). Extraocular muscles vi). Cornea and Sclera vii). Iris, Ciliary body and choroids viii). Retina ix). Lens and vitreous x). Optic Nerve and Visual pathway xi). Cranial nerves III, IV

		xii). Cranial nerves V, VI, VII xiii). Para Sympathetic and sympathetic nerve in relation to the eye xiv). Pituitary gland and Cavernous sinus xv). Embryology of the eye
04	Physiology of the Eye	i). Vascular circulation of eye ii). Aqueous humour iii). Intra-ocular pressure iv). Vitreous v). Cornea and sclera vi). Lens vii). Retina viii). Protective mechanism of eye (2 lectures) ix). Physiology of vision (2 lectures) x). Light reflex, accommodation and convergence (2 lectures) xi). Physiology of extraocular muscles xii). Ocular movements and binocular vision xiii). Electroretinogram and adaptation xiv). Visual acuity and testing
05	Ocular Microbiology	i). Ocular microbiology ii). Bacteria iii). Viruses iv). Fungi v). Protozoa (Parasites) vi). Sterilization
06	Ocular Pharmacology	i). General aspects of Pharmacology (3 lectures) ii). Anti-microbials (3 lectures) iii). Anti-inflammatory drugs (2lectures) iv). Autonomic drugs and anti-glaucoma agents (2 lectures) v). Drugs for dry eye and diagnostic agents vi). Ocular anaesthetics vii). Ophthalmic prescriptions
07	Optics	Physical Optics : <input type="checkbox"/> Properties of light <input type="checkbox"/> Principles of reflection of light <input type="checkbox"/> Principles of refraction of light <input type="checkbox"/> Lenses and their combinations
08		Physiological Optics : <input type="checkbox"/> General concepts of eye as a refracting apparatus <input type="checkbox"/> The corneal and lenticular systems <input type="checkbox"/> Optical resolution of the eye <input type="checkbox"/> Visual angles, visual acuity and visual axes <input type="checkbox"/> Optical aberrations of the eye
09		Principles of Ophthalmic Procedures <input type="checkbox"/> Darkroom procedures <input type="checkbox"/> Ophthalmoscopy <input type="checkbox"/> Retinoscopy <input type="checkbox"/> Subjective examination <input type="checkbox"/> Errors of Refraction <input type="checkbox"/> Hypermetropia <input type="checkbox"/> Myopia <input type="checkbox"/> Astigmatism <input type="checkbox"/> Refractive surgery <input type="checkbox"/> Anisometropia and aniseikonia <input type="checkbox"/> Accommodation <input type="checkbox"/> Convergence

Sl. No.	Final Course	
10	Practice as an Eye Care Professional	i). Initial patient contact and reception and ethics ii). Office manner, secretarial assistance, records and their retrieval iii). Ophthalmic equipment iv). Maintenance of ophthalmic equipment v). Examination of the eye vi). Special investigations vii). Routine ophthalmic investigation viii). Conjunctival smear, fluorescein staining and PH testing ix). Colour vision x). Visual fields xi). Syringing and lacrimal function tests xii). Refractometer and focimeter usage xiii). Tension taking xiv). Keratometry xv). Pachometry xvi). Anaesthesiometry and dark adaptometry xvii). Exophthalmometry xviii). A Scan and B Scan
11	Orthoptics, Pleoptics and Muscular Imbalance	i). Normal Binocular function, Grades of Binocular vision, Simultaneous perception, Fusion and Stereopsis ii). Aetiology of strabismus-motor, central and sensory iii). Methods of examination of strabismus, History, visual acuity and cover test a) Ocular movements and their testing b) Measurements of angle of squint c) Testing of Binocular function d) Heterophoria : classification, clinical picture and investigations iv). Esophoria : Classification, investigation and therapy v). Exophoria: Classification, investigation and therapy vi). Hyperphoria and cyclophoria vii). Abnormalities of binocular vision – diplipic, confusion and suppression viii). Abnormal retinal correspondenc, definition, aetiology and classification, investigation and relative importance ix). A.C/A ratio : Its importance in congenital squint, methods of testing x). Congenital squint (Accommodative): Aetiopathogenesis, classification and special investigations xi). Treatment of accommodative squint; Optical, orthoptic, miotic surgery xii). Non-accommodative squint : Classification, investigation and treatment xiii). Divergent squint (1) Classification and clinical picture xiv). Divergent squint (2) Investigation and treatment xv). Vertical squint : Aetiology, classification, investigation, differential diagnosis of primary and secondary vertical squints xvi). Alternating circumduction : Aetiology,

		classification, clinical picture, investigation and management xvii). Suppression : Detection and treatment xviii). Amblyopia : Definition, aetiology, development, classification, detection and management with occlusion therapy xix). After image : Definition, description usage of after images in xx). Haidinger brushes : Therapy, their usage in diagnosis and therapy XXI). Pleoptic therapy : Cupper's method, Bangerter's method xxii). Fixation anomalies xxiii). Indications of orthoptic and surgical treatment of strabismus xxiv). Postoperative orthoptic management xxv). Accommodative anomalies xxvi). Convergence anomalies xxvii). Nystagmus
12	Nutrition and eye diseases	i). Nutritional deficiencies : Vitamins ii). Nutritional deficiencies : Proteins, fat, carbohydrates and minerals
13	Industrial Hazards and their Prevention	i). Industrial injuries/accidents and foreign bodies ii). U.V. infrared and other radiation injuries, thermal injuries
14	Community Ophthalmology : (Eye Campus)	i). Eye screening programmes, school clinics and surveys ii). Blind person and his problems, rehabilitation of the blind iii). Health education in the field of Eye Care Organization of eye camps iv). Eye donation motivation
15	Lectures on General First-aid, resuscitation and Bandages	
16	Common Eye Diseases of	Eyelids, Orbit, Adnexad, Conjunctiva, Cornea, Sclera, Uvea, Lens, Retina, Glaucoma, Injuries of eye
17	Class on Typing	
18	Computer	i). Introduction to Computer ii). MS-DOS operating system iii). Computer hardware, input output devices, peripherals iv). Computer software v). MS-Word vi). MS-Excel vii). MS-Power Point
19	Sterilization and theatre	i). General Aspects ii). Sterilization and disinfections iii). Theatre set up iv). Principles of sterilization – asepsis and antisepsis v). Eye instruments and operating room equipment vi). Surgical scrub and donning sterile linen and gloves
20	Pre and Post-operative procedures	i). Preoperative preparation ii). Post operative care, general considerations iii). Surgical preparation and draping
21	Outlines of operative	i). Lids ii). Lacrimal apparatus

	procedures	iii). Extraocular muscles iv). Cornea v). Lens vi). Glaucoma vii). Eye banking and anucleation viii). Trauma ix). Retina and vitreous x). Application of lasers
22	Community Ophthalmology	i). Functioning of Mobile Eye Health Care Units including Eye Camps and practical participation in the same guidelines for conducting eye camps. ii). Causes of visual impairment and blindness. National Programme for prevention and control of blindness.


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