

**REGULATIONS AND SYLLABUS**  
**FOR**  
**DIPLOMA IN VISION CARE TECHNICIAN (1 YEAR)**

*Offered by*

**BHARATHIAR UNIVERSITY, COIMBATORE**  
**FROM 2012 – 2013**

**Under The**  
**CENTER FOR COLLABORATION OF**  
**INDUSTRY AND INSTITUTIONS (CCII)**

## **DIPLOMA IN VISION CARE TECHNICIAN**

### **Course Title and Course Description**

The course shall be called as the “**Diploma in Vision Care Technician**”

The course intends to train students to do preliminary history recording, eye examination, to perform

basic investigations and assisting the ophthalmologist in the out patient, Inpatient departments and in the operation theatre and overall care of the patients and to participate in Community outreach Programs. The students will be taught the basics of ophthalmology including basic sciences, diseases of the eye, investigations, medical & surgical procedures.

The programme will be conducted at a Hospital recognized by the Bharathiar University under the CCII collaborative programme. Candidates shall abide by the stipulated timings, Discipline, rules and regulations of the hospital to which they will be assigned for the entire course.

### **REGULATIONS**

#### **1. Admission Criteria:**

- a) Pass in +2 preferably - Science group
- b) Female Candidates aged 17 -19 years of age

#### **2. Duration of the course: 1 year**

One year

- Academics & Training
- University Examination

#### **3. Medium of Instruction:**

English shall be the medium of instruction

#### **4. Scholarship**

- a. No Course Fee
- b. Stipend will be paid

#### **5. Teaching programme:**

The schedule includes lectures, practical's and outreach programs.

**a. Lectures:**

A total of 100 hours of lecture classes will be taken. The topics will include the basic science, diseases of the eye, optics and refraction, clinical skills, eye banking and general patient care. The lectures will include discussion at the end and will concentrate on improving the practical capabilities of the students. The lectures will be taken by experienced Ophthalmologists, and senior staff. The detailed breakup of topics is enclosed.

**b. Practical Training:**

Being practical oriented programme the focus will be more for practical training. The candidate shall undergo a practical training in various OPD's and wards. Students will learn the various clinical skills required in an eye hospital by performing them under the guidance of experienced Ophthalmologists and other senior staff. They will be posted in the various departments by rotation and will perform the relevant tasks as described in the enclosure.

**c. Outreach camps:**

Students will have to attend community outreach camps. The camps will be conducted in rural areas. The candidates will learn the practical aspects of organizing such camps, approach to patients at the camp, clinical evaluation including vision test, IOP recording, lacrimal patency testing & patient counseling.

**6. Courses and Scheme of Examination:**

Paper No	Subject	Maximum Marks	
		Internal	External
I	THEORY - OPHTHALMIC NURSING – I	40	60
II	THEORY - DISEASES OF THE EYE -1 INSTRUMENTS, PROCEDURES AND INVESTIGATIONS	40	60
III	THEORY - DISEASES OF THE EYE – II INSTRUMENTS, PROCEDURES AND INVESTIGATIONS	40	60
IV	PRACTICAL: OPHTHALMIC NURSING – I	40	60
V	PRACTICAL: OPHTHALMIC NURSING – II	40	60

**7. Requirement to appear for examination:**

A candidate should put in a minimum of 80% attendance to be eligible to appear for the examinations.

**8. Passing minimum:**

To pass

- a. A Candidate shall secure a minimum of 50% marks individually in the practical and Theory Examinations. A candidate failing in any one component will have to reappear for that particular component only in the supplementary examination.
- b. The Candidate shall secure 50% marks in internals.

**9. Classification of successful candidate**

A candidate who has secured 75% and above, aggregate in the theory and practical examinations, in the first attempt, shall be deemed to have passed the examinations First class with distinction.

A candidate who has secured 60% and above aggregate in the theory and practical examinations in the first attempt shall be deemed to have passed the examination with First Class.

Other successful candidates shall be declared to have passed the examination in Second Class.

**10. Conferment of degree:**

A candidate who has passed all the examinations as prescribed, shall be eligible to receive the “**DIPLOMA IN VISION CARE TECHNICIAN**” from the Bharathiar University.

**11. Revision of regulations and syllabus:**

The syllabus and regulations of the course are subject to modification by the concerned board every 03 years.

**12. Question paper pattern:**

Theory examination will be for 100 marks, which will be converted into 60 marks. The pattern of question paper for all the subject shall be as follows:

- Multiple choice / one word answers : 15 x 2 = 30 marks (no choice)
- Short notes (100 words/ one paragraph) : 6 x 5 = 30 marks (either/or type)
- Elaborate (300 words or 1½ paper) : 4x10 = 40 marks (either/or type)

**13. Award of Internal Assessment Marks**

Internal assessment marks for theory will be awarded based on the Marks obtained in the Three Internal Assessment Tests. Internal assessment marks for practical will be awarded based on the candidates regular performance in the practical area (OP, wards or Operation theatre) and one practical exam marks.

**Employment Opportunities:**

Subject to availability

**THEORY - PAPER 1**  
**OPHTHALMIC NURSING – I**

**OBJECTIVE**

To enable the students nurse to know about the anatomy & physiology of eye, and introduce them to the basis of ophthalmic nursing care management.

**Unit-1: Anatomy of the Eye, Physiology of the Eye:-**

Anatomy of the Eye: Introduction – The Eye ball – Coats of the Eyeball: The Outer fibrous coat (Cornea, Sclera), The Middle Vascular coat (Iris, Ciliary body, Choroid), The inner Nervous coat (Retina), Interior of the Eyeball – Aqueous humour, Crystalline lens, Vitreous Humour. Extra Ocular Muscles – Appendages of the Eye: Eyebrows, Eyelids, Conjunctiva, Lacrimal Apparatus. Visual Pathway.

Physiology of the Eye: Maintenance of clear Media of the Eye – Neurophysiology of Vision – Mechanism of Sight.

**Unit – 2: Optics & errors of refraction:**

Optics and Errors of Refraction: Optics of the Eye – Errors of Refraction: Emmetropia, Ametropia, Hypermetropia, Myopia, Astigmatism, Presbyopia. Determination of Refractive Errors: Retinoscopy, Autorefractometry, Subjective refraction, Contact Lenses.

**Unit – 3: Role of a Nurse in care of Ophthalmic Patients:**

Introduction – Nursing procedures and Techniques – Swabbing the Eyes – Instillation of Eye drops and Ointments, Application of hot and Cold Compresses, Irrigation of the Eyes. Clinical Ocular Examination: Testing of visual Acuity – External ocular Examination – Fundus Examination. Nursing Care of an Eye Patient: General Guide lines for nursing care of ophthalmic patients, Pre-operative Nursing care – Post operative nursing care – Role of a nurse in Ophthalmic Operation Theatre.

**Unit – 4: Basic Principles of Ocular Therapy:**

Basic Principles of Ocular Therapy: Ocular Pharmaco Therapy – Ophthalmic Medications: Antibiotics, Sulfonamides, Antiviral Drugs, Anti fungal Drugs, Mydriatic and Cycloplegics, Antiglaucoma Drugs, Anti Inflammatory Drugs, Non Steroidal anti inflammatory drugs, Local Anaesthetics, Diagnostic Stains. Guidelines for using Ophthalmic Medication.

Ophthalmic Surgery: Essential Equipment for Ophthalmic OT, Lasers in Ophthalmology, Cryotherapy in Ophthalmology.

**Unit – 5: Introduction to Basic Equipments used in OPD / Ward:**

Techniques of Ocular Examination and Diagnostic tests: Loupe and Lens examination – Slit Lamp Examination – Gonioscopy – Trial Frames – Tonometry – Retinoscope – Ophthalmoscope-Direct/Indirect – Perimetry – Fundus Fluorescein Angiography – Ocular ultrasonography.

**Reference:** Ophthalmic Nursing 1<sup>st</sup> edition by Dr. A.K. Khurana, MS.

**THEORY - PAPER II**  
**Diseases of the Eye - I**  
**INSTRUMENTS, PROCEDURES AND INVESTIGATIONS**

**OBJECTIVE**

To differentiate the diagnosis from the symptoms and signs presented by the patient or through attendant's appraisal about the illness and to enable the student understand the principles of investigations required in these cases and ultimately the treatment to be applied in individual cases.

**Unit – 1: Diseases of Lid:-**

Diseases of the Eyelids: Congenital Anomalies – Inflammatory Disorders: Blepharitis, Stye, Chalazion. Anomalies in the Position of the Lashes and Lid margin: Trichiasis, Entropion, Ectropion, Ptosis.

**Unit – 2: Diseases of Conjunctiva:-**

Diseases of Conjunctiva – Conjunctivitis – Classification: Acute, Chronic, Allergic. Degenerative Conditions of Conjunctiva: Pinguecula, Pterygium, Concretions. Symptomatic Conditions of Conjunctiva: Sub Conjunctival Haemorrhage, Tumours and Cysts of conjunctiva.

**Unit – 3: Diseases of the lacrimal apparatus:-**

Diseases of the Lacrimal Apparatus – Tear film and its Abnormalities: Tear film, Dry Eye, The watering of Eye. Dacryocystitis: Forms, Etiology, Treatment.

**Unit – 4: Diseases of the Lens:-**

Diseases of the Lens – Cataract – Classification: Etiology Classification, Morphological Classification. Management of Cataract in Adults: PreOP –Evaluation, Medications, Preparations. – Types of Surgical Technique – Post Operative care – Complication: Intra operative /Post operative. Displacements of the Lens.

**Unit – 5: Systemic Ophthalmology, Community Ophthalmology.**

**Reference:** Ophthalmic Nursing 1<sup>st</sup> edition by Dr. A.K. Khurana, MS.

**THEORY -PAPER III**  
**Diseases of the Eye – II**  
**INSTRUMENTS, PROCEDURES AND INVESTIGATIONS**

**OBJECTIVE**

To introduce to students, the various Diseases of the Eye, and to differentiate the Diagnosis from the symptoms and signs presented by the patient about the illness and to enable the students to understand the principles of investigations required in these cases and the treatment to be applied in individual cases.

**Unit – 1: Diseases of Cornea & Sclera:-**

Diseases of Cornea & Sclera – Diseases of Cornea – Keratitis - Ulcerative Keratitis: Bacterial Corneal Ulcer, Fungal corneal Ulcer, Viral corneal Ulcer - Non Ulcerative Keratitis. – Corneal Degeneration and Dystrophies – Abnormalities of corneal Transparency – Keratoplasty.  
Diseases of Sclera: Episcleritis - Scleritis – Staphylomas.

**Unit – 2: Diseases of the Uveal tract / Glaucoma:-**

Diseases of the Uveal Tract: Uveitis: Classification, Diagnosis, Treatment. – Specific uveitis Syndromes – Prulent Endophthalmitis – Panophthalmitis – Tumours of the Uveal tract.  
Glaucoma: Aqueous Humour and Intra ocular Pressure – Classification – Congenital & Developmental glaucomas – Primary Glaucoma – Secondary Glaucomas – Treatment of Glaucoma: Medicine, Laser, Surgery.

**Unit – 3: Diseases of Retina & Vitreous humour:-**

Diseases of Retina: Retinal Detachment – Classification – Treatment – Retinoblastoma – Diabetic Retinopathy – Hypertensive Retinopathy – Retinitis Pigmentosa.  
Diseases of the Vitreous: Vitreous opacities – Vitreous Detachment – Vitreous Haemorrhage.

**Unit – 4:**

Eye Banking – Tissue Retrieval – Evaluation – Utilization.

**Unit – 5:**

OT Sterilization – Cleaning and sterilizing theatre. Cleaning and sterilizing Instrument. Autoclaving.

**Reference:** Ophthalmic Nursing 1<sup>st</sup> edition by Dr. A.K. Khurana, MS.

**PRACTICAL: PAPER I  
OPHTHALMIC NURSING – I**

**OBJECTIVE:**

To enable the student to carry out nursing care in O.P.D as well as in Ward

**Unit – 1:**

Vision checking, Urine sugar checking, IOP Measuring, Checking Lacrimal Patency.

**Unit – 2:**

Vital Signs– Taking of BP, Pulse, Respiration,  
Charting of Temperature ,Bed making,  
Use of Oxygen and Care of Cylinder, Basic Emergency Care

**Unit – 3:**

Introduction to Basic Equipments used in OPD – Slit Lamp, Retinoscope, Trial Frames,  
Gonioscope, Direct and Indirect Ophthalmoscope, Perimetry, A-scan.

**Unit – 4:**

Ocular Therapy - Instillation of Eye drops and Eye Ointments, Cleaning and Swabbing of Eye  
Lids, Hot and Cold Compresses, Irrigation of Eyes, Practicals in Topical Administration, Oral  
Administration.

**Unit – 5:**

Optics – Identification of Various types of Lenses including IOL,  
Use of Trial Frames.

**Reference :** 1. Practical Manual of Ophthalmology 1<sup>st</sup> edition by Dr. Vinod Lohya, MBBS,  
2. Ophthalmic Nursing 1<sup>st</sup> edition by Dr. A.K. Khurana, MS.



**PRACTICAL- PAPER II  
OPHTHALMIC NURSING – II**

**OBJECTIVE:**

To enable the student to assist the Doctor in various procedures, - O.P.D, Ward, OT and Eye Bank.

**Unit – 1:**

Admission procedure, Discharge procedure, processing a eye patient , Identifying Various Eye Diseases ,Counseling to the patients by Various Eye Diseases

**Unit – 2:**

Assisting O.P.D Procedures - clinical ocular examination techniques in diagnosis - dilatation, doctors consulting rooms, Investigation rooms, and Laboratory.

**Unit – 3:**

Outreach Camps – Organizing, Conducting

**Unit – 4:**

Eye bank – Tissue Retrieval, Evaluation, Utilization.

**Unit – 5:**

Essential surgical equipment for ophthalmic surgery, needles & sutures used in ophthalmology, intraocular lenses. Practical training in cleaning and sterilizing theatre. Cleaning and sterilizing Instrument. Autoclaving.

**Reference:**

1. Principles and Practice of Nursing Volume I – 6<sup>th</sup> edition by Sr.Nancy, MSJ.
2. Practical Manual of Ophthalmology 1<sup>st</sup> edition by Dr. Vinod Lohya, MBBS,
3. Ophthalmic Nursing 1<sup>st</sup> edition by Dr. A.K. Khurana, MS.