Clinical Refraction BVOCOP-303

**Unit: 1**

Review of Geometrical Optics Conjugacy, object space and image space. Sign convention Spherical refracting surface, Spherical mirror; catoptric power, Cardinal points, Clinical Relevance of: Fluorescence, Interference, Diffraction, Polarization application, Spherical and Chromatic

**Unit: 2**

Optics of Ocular Structure Cornea and aqueous Crystalline lens Vitreous Schematic and reduced eye **Unit: 3**

Measurements of Optical Constants of The Eye, Corneal curvature and thickness Keratometry 3.3 Curvature of the lens and ophthalmophakometry, Angles and axes of the eye.

**Unit: 4**

Visual Acuity, Light and Dark Adaptation, Color Vision, Spatial and Temporal Resolution.

**Unit: 5**

Refractive Anomalies and their Causes Etiology of refractive anomalies, Optical component measurements, Growth of the eye in relation to refractive errors

**Text books:**

1. A K Khurana: Theory & Practice of Optics & Refraction,4th Edition,Elsevier Publications,2006. **Reference Books:**

1. M P Keating: Geometric, Physical and Visual optics, 2nd edition, Butterworth- Heinemann, USA, 2002

2. HL Rubin: Optics for clinicians, 2nd edition, Triad publishing company. Florida, 1974.

3. H Obstfeld: Optic in Vision- Foundations of visual optics & associated computations, 2nd edition, Butterworth, UK, 1982.

4. WJ Benjamin: Borish’s clinical refraction,2nd edition, Butterworth Heinemann, Missouri, USA,2006

5. T Grosvenor: Primary Care Optometry,4th edition, Butterworth – heinneman,USA,2002.

6. A H Tunnacliffe: Visual optics, The Association of British Optician, 1987

7. AG Bennett & RB Rabbets: Clinical Visual optics, 3rd edition, Butterworth Heinemann, 1998.