Ocular Anatomy & Physiology BVOCOP-202

**Unit: 1**

**Anatomy:** Cornea: Anatomy of all the layers, cellular structure, nerve supply, reason for transparency, refractive properties Coats of eyeball: Sclera (episclera & sclera), Uvea (Iris, ciliary body, choroid), Retina Detailed anatomy, cellular structure, vasculature, nerve supply for all the above coats, pupils, nerve supply for pupillary actions, pupillary pathway. Crystalline lens, Aqueous, anterior chamber, vitreous body

**Unit: 2**

Brief ocular Embryology,orbit Ocular Adnexa and Lacrimal system, Extra ocular muscles (anatomy, innervations, action) Orbital Blood supply

**Unit: 3**

**Cranial Nerves:** Study of each of the following nerves in terms of their nucluei , course, relationship within brain, effects of compression etc at different regions Optic nerve Oculomotor nerve Trochlear nerve Trigeminal nerve Abducent nerve Facial nerve Visual Pathway, Autonomic Innervations of Ocular structures

**Unit: 4**

**Physiology:** Protective mechanisms in the eye, Precorneal tear film, eyelids and lacrimation Extrinsic Ocular muscles, their actions and control of their movements Saccadic, smooth pursuit and Nystagmic eye movements Coats of the eye ball Corneal Physiology Aqueous humor and vitreous: Intra ocular pressure Iris and pupil

**Unit: 5**

Crystalline lens and accommodation, Retinal structure and functions, dark and Light Adaptations

**Unit: 6**

Anatomy of Extra Ocular Muscles.-Rectii and Obliques, LPS. Innervation & Blood Supply. Physiology of Ocular movements. Center of rotation, Axes of Fick. Action of individual muscle.Sherrington’s law, Herring’s law

**Text Book:**

1. AK Khurana, Indu Khurana: Anatomy and Physiology of Eye, Second edition, CBS Publishers, New Delhi, 2006

**Reference Books:** 1.A Remington: Clinical Anatomy of the Visual System, Second edition, Elsevier Butterworth Heinemann, Missouri, USA, 2005.

2. RD Ravindran: Physiology of the eye, Arvind eye hospitals, Pondicherry, 2001

3. PL Kaufman, A Alm: Adler’s Physiology of the eye clinical application, 10th edition, Mosby, 2002