

Objective:

To understand the pathophysiology of the eye and comprehensive understanding of the diseases in the eye also covering the drug delivery into the eye.

Unit 1

Anatomy and physiology of the eye: Overview, Cornea, Conjunctiva, Sclera, Lacrimal Gland, Tear secretion and outflow, Ciliary Body, Aqueous humor secretion and outflow, Choroid, Retina Photo-transduction, Blood Circulation to the Eye, Extra ocular Muscles.

Unit 2

Pathophysiology: Major ocular diseases, Dry Eye, Corneal disorders (Keratoconus and Fuchs dystrophy), Corneal wound healing, Glaucoma, Uveitis, Age related Macular degeneration, Diabetic Retinopathy.

Unit 3

Ocular drug delivery: Drug Delivery: An Evolving Concept, Barriers to Drug Delivery, In Vitro Models in Drug Discovery and Delivery, Mechanism of ocular absorption. Instruments for diagnosing anterior Uveitis.

TEXT BOOKS/ REFERENCES:

1. Leonard A Levin, Siv F. E. Nilsson, James Ver Hoeve, Samuel Wu, Paul L. Kaufman and Albert Alm, "Adler's Physiology of the Eye", Elsevier, 2011.
2. Irving Fatt, Barry A. Weissman, "Physiology of the Eye: An Introduction to the Vegetative Functions", Butterworth-Heinemann, 1992.
3. Leonard A Levin, Daniel M. Albert, "Ocular Disease: Mechanisms and Management", Elsevier, 2010.
4. http://www.tedmontgomery.com/the_eye/
<http://webvision.med.utah.edu/>