

# Bachelor of Vision Science & Optometry Syllabus

## Semester I

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	Seminar	TOTAL	
01.		Human Anatomy, physiology	1				
02.		Vision Science I(Ocular Anatomy & physiology)	1				
03.		Optics I (Geometrical optics)	1				
04.		Optical Instruments I	1				
05.		Communicative English & Basic Computer Knowledge(College level Examination)				2 classes/week X 02 month each	
<b>Total of Theory</b>			<b>4</b>				
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments/Lab(Micro/Patho/Biochem)	5hrs(9 am-2pm)X 6 days				
<b>Total of Practical 30</b>							
<b>Total Semester</b>			<b>34</b>				

## Semester II

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	P	TOTAL	
01.		Ocular Microbiology (Basic & Applied- Sterilization etc), Ocular pharmacology & General Pathology	1				
02.		Vision Science II (Physiology of Vision & VA, Contrast Sensitivity, Luminance,)	1				
03.		Optics II (Physical Optics)	1				
04.		Optical Instruments II	1				
<b>Total of Theory 4</b>							
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments/Lab(Micro/Patho/Biochem)	5hrs(9 am-2pm)X 6 days				
<b>Total of Practical 30</b>							
<b>Total Semester</b>			<b>34</b>				

1 | Page

*Anindita Kundu*  
**Professor**  
 Regional Institute of Ophthalmology  
 Medical College, Kolkata-73

*Biswarup Ray*  
**Prof. Biswarup Ray**  
 Head, Ophthalmology  
 BSMC, Bankura, 722102

*A.K. Bandyopadhyay*  
**Prof. (Dr.) A. K. Bandyopadhyay**  
 Head, Dept. of Ophthalmology  
 College of Medicine & Sagore Dutta Hospital,  
 B. T. Road, Kolkata - 700058

# Bachelor of Vision Science & Optometry Syllabus

## Semester III

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	P	TOTAL	
01.		Optometry I (Ocular Diseases I & Clinical Refraction I)	1				
02.		Vision Science III (Neurology of Vision – Visual Pathway)	1				
03.		Optics III (Visual Optics)	1				
04.		Optical Instruments III	1				
<b>Total of Theory 4</b>							
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments	5hrs(9am-2pm)X 6 day				
<b>Total of Practical 30</b>							
<b>Total Semester</b>			34				

## Semester IV

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	P	TOTAL	
01.		Optometry II (Ocular Diseases II & Clinical Refraction II & Paediatric Patient Examination & Refraction)	1				
02.		Vision science IV (Ocular Motility & Squint)	1				
03.		Optics IV (Contact Lens I & LVA)	1				
04.		Optical instruments IV	1				
<b>Total of Theory 4</b>							
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments	5hrs(9am-2pm)X 6days				
<b>Total of Practical 30</b>							
<b>Total Semester</b>			34				

*Dr. Anita Kundu*  
**Professor**  
 Regional Institute of Ophthalmology  
 Medical College, Kolkata-73

*Biswarup Ray*  
**Prof. Biswarup Ray**  
 Head, Ophthalmology  
 BSMC, Bankura, 722102

*A.K. Bandyopadhyay*  
**Prof. (Dr.) A. K. Bandyopadhyay**  
 Head, Dept of Ophthalmology  
 College of Medicine & Saccro Dutta Hospital,  
 B. T. Road, Kolkata - 700058

# Bachelor of Vision Science & Optometry Syllabus

## Semester V

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	P	TOTAL	
01.		Optometry III (Operation Theatre I)	1				
02.		Vision Science V (Binocular single vision & Stereopsis)	1				
03.		Eye care professional (Basic knowledge of Ocular diseases), Public health Community Ophthalmology & Eye Banking ) I	1				
04.		Optical Instruments V	1				
<b>Total of Theory 4</b>							
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments	5hrs(9am-2pm)X 6 days				CREDITS
<b>Total of Practical 30</b>							
<b>Total Semester</b>						<b>34</b>	

## Semester VI

SL. NO.	CODE	THEORY	CONTACTS (PERIODS/WEEK)				CREDITS
			L	T	P	TOTAL	
01.		Optometry IV (Operation Theatre II, Patient data Preservation)	1				
02.		Vision science VI (Visual Field, Visual Electrophysiology)	1				
03.		Eye care professional (Basic knowledge of Ocular diseases & Diagnostic Modalities, Public health & Community Ophthalmology & Eye Banking) II	1				
04.		Optical instruments VI (Perimeters, OCT & Laser)	1				
<b>Total of Theory 4</b>							
<b>C. PRACTICAL</b>							
01.		OPD/IPD/OT/Sub Speciality Clinic/ Special Instruments/)	5hrs(9am-2pm)X 6 days				
<b>Total of Practical 30</b>							
<b>Total Semester</b>						<b>34</b>	

3 | Page

*Anigita Mondal*  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

**Prof. Biswarup Ray**  
Head, Ophthalmology  
BSMC, Bankura, 722102

*A. K. Bandyopadhyay*  
**Prof. (Dr.) A. K. Bandyopadhyay**  
Head, Dept. of Ophthalmology  
College of Medicine & Sagore Dutta Hospital,  
B. T. Road, Kolkata - 700058

## Bachelor of Vision Science & Optometry:

### Semester I

1. Human Anatomy, physiology
2. Vision science I (Ocular Anatomy & physiology)
3. Optics I (Geometrical optics)
4. Optical Instruments I
5. **Communicative English & Basic Computer Knowledge**

### Semester II

1. Ocular Microbiology (Basic & Applied- Sterilization etc), Ocular pharmacology & General Pathology(Basic)
2. Vision Science II (Physiology of Vision & VA, Contrast Sensitivity, Luminance.)
3. Optics II (Physical Optics)
4. Optical Instruments II

### Semester III

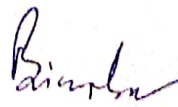
1. Optometry I (Ocular Diseases I & Clinical Refraction I)
2. Vision Science III (Neurology of Vision – Visual Pathway)
3. Optics III (Visual Optics)
4. Optical Instruments III

### Semester IV

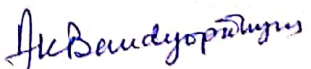
1. Optometry II (Ocular Diseases II & Clinical Refraction II& Paediatric Patient Examination & Refraction)
2. Vision science IV (Ocular Motility& Squint )
3. Optics IV (Contact Lens I& LVA)
4. Optical instruments IV

Page | 1

  
PROFESSOR  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73



Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Sagore Dutta Hospital  
B. T. Road, Kolkata - 700058

## Semester V

1. Optometry III (Operation Theatre I)
2. Vision Science V (Binocular single vision & Stereopsis )
3. Eye care professional (Basic knowledge of Ocular diseases), Public health Community Ophthalmology & Eye Banking) I
4. Optical Instruments V

## Semester VI

1. Optometry IV (Operation Theatre II, Patient data Preservation)
2. Vision science VI (Visual Field, Visual Electrophysiology)
3. Eye care professional (Basic knowledge of Ocular diseases & Diagnostic Modalities, Public health & Community Ophthalmology & Eye Banking) II
4. Optical instruments VI (Perimeters, OCT & Laser)
5. Research Methodology & Statistics

*Anand Kumar*  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73  
Medical College, Kolkata-73

*Biswarup Ray*  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

*A. K. Bandyopadhyay*  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine, Bagore Dutta Hospital,  
B. T. Road, Kolkata - 700058

## Main Syllabus for Bachelor of Vision Science & Optometry:

### Semester 1

#### 1) Human Anatomy, physiology

1. General Anatomy & Physiology
2. Skeletal system
3. Muscular System
4. Cardiovascular System
5. Digestive system
6. Respiratory system
7. Endocrine system
8. Excretory System,
9. Reproductive system
10. Nervous System
11. Lymphatic System
12. Organs of Special senses : vision(eye), Hearing & balance( auditory & vestibular system)  
taste (tongue) and smell( nose)& touch (skin)

#### 2) Vision science I (Ocular Anatomy & physiology)

##### A) Ocular Anatomy

1. Development of the Eye
2. General anatomy of the Eye ball
3. Lids and eye lid glands
4. Conjunctiva, Cornea and Sclera
5. Anterior Chamber
6. Lens
7. Uveal Tract
8. Posterior Chamber & Vitreous Humour
9. Retina & Choroid
10. Anatomy & Physiology of the Motor Mechanism of the Eye
11. Anatomy of the Orbit
12. Anatomy of the Eye Lid
13. Anatomy of the Lacrimal Apparatus
14. Blood supply of eye
15. Clinical anatomy of the Eye

Page | 3

*Ani ditya...*  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

*B. Biswarup Ray*

Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

*A. K. Bandyopadhyay*  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Sogore Dutta Hospital,  
B. T. Road, Kolkata - 700058

## B) Ocular Physiology

1. General physiology of the eye - An introduction
2. Metabolism of Ocular Tissues
3. Maintenance of Transparency of the Cornea
4. Maintenance of Transparency of the Lens
5. Visual acuity and form sense
6. Pupillary reflexes
7. Accommodation
8. Convergence
9. Aqueous Humour & Intra Ocular Pressure
10. Anatomy & Physiology of Ocular Motor Mechanism
11. Night Vision
12. Colour Vision
13. Field of Vision
14. Ocular Electrophysiology

## 3. Optics I (Geometrical optics)

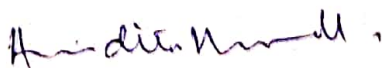
1. Properties of Light
2. Rays of Light & Images
3. Reflection
4. Refraction
5. Elementary Physiological Optics
6. Optical aberrations
7. Accommodation & Convergence

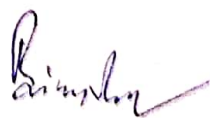
## 3) Optical Instruments I

1. Snellen's Chart
2. Different Charts for VA testing: Bailey-Lovie, ETDRS charts, Contrast sensitivity Charts,
3. Trial Box with Trial Frame & Near Vision Chart
4. Colour Vision chart
5. Streak Retinoscope & Mirror Retinoscope
6. Tonometer Schiottz /NCT (Non Contact Tonometer)/Applanation

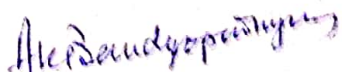
## 4) Communicative English & Basic Computer Knowledge

Page | 4

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73



**Prof. Biswarup Ray**  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medical & Surgical Datta Hospital  
B. T. Road, Kolkata - 700088

## Semester II

### 1) Ocular Microbiology (Basic & Applied- Sterilization etc), Ocular pharmacology & Pathology (General)

#### A) Ocular Microbiology

1. Introduction to Microbiology & classification.
2. Gram Positive Bacteria
3. Gram Negative Bacteria
4. Fungus
5. Virus
6. Aseptic techniques
7. Disinfection & Sterilization

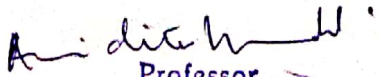
#### A) Ocular pharmacology


1. Ocular Pharmacology – An introduction
2. Routes of drug administration
3. Miotics, Mydriatics & Cycloplegics drugs
4. Antibacterial drugs & therapy
5. Antifungal drugs & therapy
6. Anti-Viral drugs & therapy
7. Anti-inflammatory drugs & therapy
8. Anti-glaucoma drugs & therapy
9. Anti-Inflammatory agents
10. Lubricating agents & Artificial Tears
11. Irrigating solutions
12. Viscoelastic substances
13. Anti VEGF agents
14. Dyes used in Ophthalmology
15. Local Anaesthetics agents
16. Ocular antiseptics & disinfectants
17. Contact lens solution
18. Immunosuppressive agents

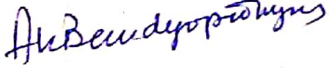
#### B) General Pathology

1. Cell Injury, Necrosis & Healing & Repair
2. Inflammation & Infection & Immunology
3. Neoplasia & Genetic disorder

Page | 5

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Surore Dutta Hospital,  
B. T. Road, Kolkata - 700058



4. Physical & Chemical Injury
5. Nutritional diseases

## 2 Vision Science II (Physiology of Vision & VA, Contrast Sensitivity, Luminance,)

1. Clinical skill Development
2. Rhodopsin cycle, Magnocellular & parvocellular cycle
3. Visual perceptions
4. Physiology of vision & the Developing Brain
5. Binocular vision & Stereopsis

## 3) Optics II (Physical Optics)

1. Elementary basis of light- Interference, diffraction, polarization spectrum, surface tension, viscosity
2. Principles of Refraction.
3. Lens Shapes -Convex, Concave
4. Thin Lens equation, thick lens equation
5. Front and back vertex power
6. Aberrations
7. Spherical, Cylindrical & Toric surfaces, Aspheric surfaces
8. Prisms -definition, uses, nomenclature, apex
9. Determination of focal length & dioptric power of lens
10. Strum's Conoid
11. Transposition & Neutralization of lenses

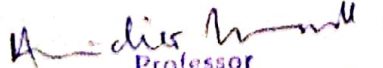
## 4) Optical Instruments II


1. Direct Ophthalmoscope
2. Indirect Ophthalmoscopy
3. Fundus lenses (90D/78D/60D)
4. Gonioscopy lenses (One mirror/Two mirror/Three mirror & Four mirror)
5. Auto-Refracto Keratometer
6. A-Scan Biometry & Ultrasound Pachymetry
7. Slit Lamp with /without Photo grab system
8. Small Surgical Instruments used in OPD, IPD & OT

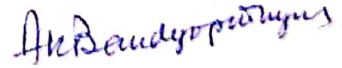
## Semester III

### Optometry I (Ocular Diseases I & Clinical Refraction I)

Page | 6

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Sagar Dutta Hospital,  
B. T. Road, Kolkata - 700058

## Ocular Diseases I

- a) Ocular Diseases I- Basic concepts
- b) Diseases of Conjunctiva, Cornea, Sclera & Ocular motility


## Clinical Refraction I

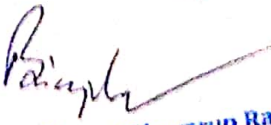
- a) Emmetropia & Ametropia -Aetiology, Population, Distribution, Growth of eye.
- b) Myopia
- c) Hypermetropia
- d) Astigmatism
- e) Aphakia/Pseudo-phakia
- f) Presbyopia
- g) Keratoconus
- h) Post-Op. Refractive errors
- i) Refraction of irregular reflex
- j) Accommodation & Convergence -1. Far point, near point, range, amplitude of accommodation
- k) Accommodation & Convergence -2. Methods of measurements, NPA, AC/ A ratio.
- l) Retinoscopy -Principle & Method
- m) Objective Refraction
- n) Subjective Refraction
- o) Cross Cylinder
- p) Low- Vision aids: Techniques & microscopes
- q) Rehabilitation of blinds

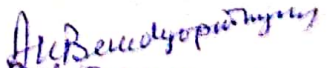
## 2.Vision Science III (Neurology of Vision – Visual Pathway)

- 1. The Visual Pathway
- 2. Neurology of the Brain in relation to Vision
- 3. The papillary pathways and reactions

Page | 7

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
RSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medical Science, Sankore Dutta Hospital,  
B. T. Road, Kolkata - 700058

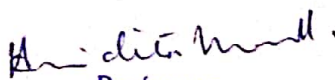
### 3) Optics III (Visual Optics)

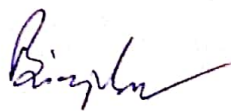
1. Schematic eye
2. Emmetropia & Ammetropia –Aetiology, Population. Distribution, Growth of eye.
3. Myopia
4. Hypermetropia
5. Astigmatism
6. Aphakia/Pseudo-phakia
7. Presbyopia
8. Keratoconus
9. Post-Op. Refractive errors
10. Refraction of irregular re/ex
11. Accommodation & Convergence -1. Far point, near point, range, amplitude of accommodation
12. Accommodation & Convergence -2. Methods of measurements. NPA. AC I A ratio.
13. Retinoscopy -Principle & Methods
14. Objective Refraction
15. Subjective Refraction
16. Cross Cylinder

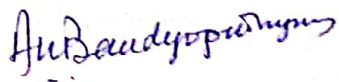
### 4) Optical Instruments III

- a) Surgical Instruments used in OPD, IPD & OT
- b) YAG Laser
- c) Green Laser
- d) Lensometer.
- e) LVA clinic
- f) Contact lens Clinic
- g) Squint Clinic

Page | 8

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Sagore Dutta Hospital  
B. T. Road, Kolkata - 700055

## Semester IV

### 1) Optometry II (Ocular Diseases II & Clinical Refraction II & Paediatric Patient Examination & Refraction)

Ocular diseases II- basic; Diseases of Uveal Tract, Glaucoma Lens, & Injuries of Eye

Clinical Refraction II

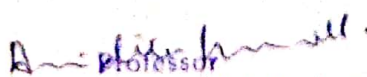
- 2) Manufacturing Spectacle Lens
- 3) Plastic Lenses -Manufacturing & Characteristic
- 4) Lens Designs -Aspheric
- 5) High Index Lenses.
- 6) Photocromatic Lenses
- 7) Tinted Lenses
- 8) Polaroid Lenses
- 9) Bifocals
- 10) Measurement for ordering spectacle, IPD, Marking centration.V. D. Calculation.
- 11) Fitting Bifocals, Multifocals, Prism Lenses
- 12) Fitting Lenses in Frames
- 13) Glazing & Edging
- 14) Final Checking & Adjustments to prescriptions
- 15) Patient complains, handling correction.
- 16) Repair of spectacles
- 17) Special types of spectacles monocells/ptosis hemianopic glasses
- 18) Test chart standards
- 19) Phoropter
- 20) Objective Optometer
- 21) Projection Charts
- 22) Refraction room Standards

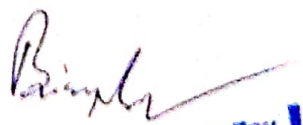
Paediatric Patient Examination & Refraction

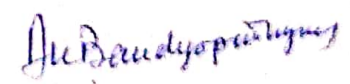
### 2. Vision science IV: Ocular Motility & its disorder; Squint

1. Actions of Extra ocular muscles
2. Nervous control of Ocular movements
3. Binocular function, Grades of Binocular vision, Simultaneous perception, Fusion and Stereopsis
4. Convergence & Accommodation
5. Methods of examination of strabismus, History, visual acuity and cover test

Page | 9

  
PROFESSOR  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102


  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Jagore Dutta Hospital,  
B. T. Road, Kolkata - 700058


6. Ocular movements and their testing
7. Measurements of angle of squint
8. A.C/A ratio : Its importance in congenital squint, methods of testing
9. Testing of Binocular function
10. Definition & Classification of Strabismus
11. Comitant Strabismus
12. Incomitant strabismus
13. Abnormalities of binocular vision – diplopia, confusion and suppression
14. Abnormal retinal correspondence (1) definition, aetiology and classification, investigation and relative importance
15. Suppression : Detection and treatment
16. Amblyopia : Definition, aetiology, development, classification, detection and management with occlusion therapy
17. After image : Definition, description usage of after images in
18. Indications of orthoptic and surgical treatment of strabismus
19. Postoperative orthoptic management
20. Accommodative anomalies
21. Convergence anomalies
22. Nystagmus

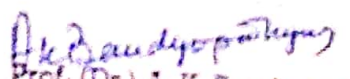
### 3) Optics IV (Contact Lens I & LVA)

1. History of Contact Lens
2. Corneal Anatomy and Physiology
3. Corneal Physiology and Contact Lens
4. Preliminary Measurements and Investigations
5. Contact Lens materials
6. Optics of the Contact Lens
7. Glossary of Terms: Contact Lenses
8. Indications and Contra Indications Contact Lens
9. Types of Contact Lenses
10. Rigid gas permeable contact lens design
11. Soft Contact lens design & manufacture
12. Keratometry, Placido's disc, Tonography
13. Fitting of Spherical SCL and effect of parameter changes
14. Astigmatism correction options
15. Fitting Spherical RGP contact Lenses, Low OK, High OK
16. Effects of RGP contact Lens parameter changes on lens fitting
17. Fitting in Astigmatism (Sph RGP)

Page | 10

  
 Professor  
 Regional Institute of Ophthalmology  
 Medical College, Kolkata-73

  
 Prof. Biswanup RAY  
 Head, Corneal Ophthalmology  
 BSMC, Barokata, 722102

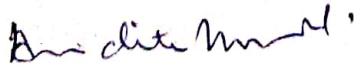
  
 Prof. (Dr.) A. K. Bandyopadhyay  
 Head, Department of Ophthalmology  
 College of Medicine & Bagore Dutta Hospital,  
 B. T. Road, Kolkata - 700088

18. Follow-up post fitting examination
19. Follow-up Slit Lamp examination
20. Fitting in Keratoconus
21. Fitting in Aphakia, Pseudophakia
22. Cosmetic Contact Lenses
23. Fitting Contact Lens in children
24. Toric Contact Lenses
25. Bifocal Contact Lenses
26. Continuous wear and extended wear lenses
27. Therapeutic Lenses/Bandage lenses
28. Contact lens following ocular surgeries
29. Disposable contact lenses, frequent replacement and Lenses
30. Use of Specular Microscopy and Pachymetry in Contact Lenses
31. Care & maintenance of Contact Lenses
32. Contact Lens modification of finished lenses
33. Instrumentation in contact lens practise
34. Checking finished lenses parameters
35. Recent developments in Contact lenses
36. Review of lenses available in India

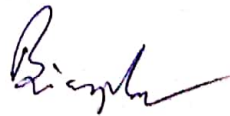
#### 4) Optical instruments IV

1. Fundus Camera
2. External eye photography
3. Manual Katerometer
4. Keratometer & Corneal Topography
5. Specular Microscopy
6. Exophthalmometer
7. USG A& B Scan

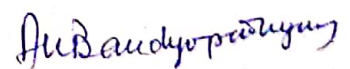
Page | 11



Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73



**Prof. Biswarup Ray**  
Head, Ophthalmology  
BSMC, Bankura, 722102



Prof. (Dr.) A. K. Bandyopadhyay  
Head, Department of Ophthalmology  
College of Medicine & Sarore Dutta Hospital,  
B. T. Road, Kolkata - 700058

**Semester V**

**1) Optometry III (Operation Theatre I)**

1. Orientation to Operation Theatre & discipline in OT
2. Theatre management: Role of OA in OT including Registers & Records
3. Disinfection & Sterilization Procedures
4. Instrument and Equipment Maintenance: Electrical Connection, Microscopes, Phaco machines, Surgical Instruments
5. Introduction to Ocular Anaesthesia
6. Management of Systemic Emergencies in OT: Acute Myocardial Infarction, cardiac Arrest, Hypoglycemia, Seizures, Acute Pulmonary Oedema, Shock


**2) Vision Science V**

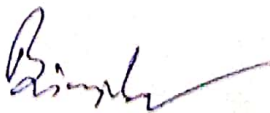
1. Binocular single vision
2. Stereopsis
3. Amblyopia

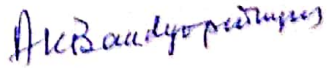
**3) Eye care professional (Basic knowledge of Ocular diseases), Public health Community Ophthalmology & Eye Banking ) I**

1. Diseases of Retina & Vitreous ( sp. Stress on Diabetic Retinopathy)
2. Diseases of Optic Nerve
3. Ocular Manifestation of Systemic Diseases
4. Community ophthalmology
  1. Concepts of community Ophthalmology
  2. The Epidemiology of Blindness ( General Principles )
  3. The Epidemiology of Blindness (Disease specific strategies)
  4. Screening procedures in Ophthalmology
  5. School eye screening programme & screening of RE, Cataract, Glaucoma, Diabetic Retinopathy
  6. Concept of Primary, secondary & Tertiary eye care
  7. Organization of Outreach services
  8. Information, Education, communication (IEC)
  9. Rehabilitation of the visually handicapped

Page | 12

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Kolkata, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Department of Ophthalmology  
College of Medicine & Jagore Datta Hospital,  
B. T. Road, Kolkata - 700058

10. National programme for control of Blindness & Visual Impairment (NPCB & VI) – I

11. Vision 2020 : The Right to sight

Eye banking

1. Publicity
2. What is eye donation?
3. The Donars & Recipients
4. Collection of eyes & Preservation of enucleated Eye

4) Optical Instruments V

1. Operating microscope
2. Phacoemulsification machine
3. Vitrectomy Machine
4. Cardiac monitor

Page | 13



Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73



Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722110



Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Saree Dutta Hospital,  
B. T. Road, Kolkata - 700058



## Semester VI

### 1 Optometry IV (Operation Theatre II, Patient data Preservation)

1. Basic Knowledge of Sutures, Needles & Lenses( Intraocular)
2. OA role in Cataract Surgery
3. OA in assisting Speciality Surgeries: DCR & DCT, Glaucoma Surgeries, Cornea surgeries- Pterygium excision, PKP
4. Anaesthetic agents & Technique of Local anaesthesia
5. Patient data Preservation

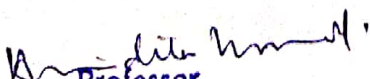
### 2. Vision science VI (Visual Field, Ocular Electrophysiology)

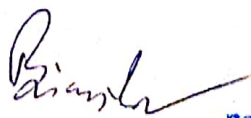
1. Visual field & Perimeter
2. VEP
3. ERG
4. EOG

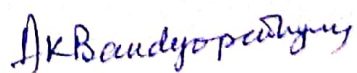
### 3. Eye care professional II (Basic knowledge of Ocular diseases& Diagnostic Modalities, Public health & Community Ophthalmology& Eye Banking)

1. Diseases of Retina & Vitreous ( sp. Stress on Diabetic Retinopat
2. Diseases of Optic Nerve
3. Ocular Manifestation of Systemic Diseases
4. Community ophthalmology
  - a. Concepts of community Ophthalmology
  - b. The Epidemiology of Blindness ( General Principles )
  - c. The Epidemiology of Blindness (Disease specific strategies)
  - d. Screening procedures in Ophthalmology
  - e. School eye screening programme
  - f. Concept of Primary, secondary & Tertiary eye care
  - g. Organization of Outreach services

Page | 14

  
Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73

  
Prof. Biswarup Ray  
Head, Ophthalmology  
BSMC, Bankura, 722102

  
Prof. (Dr.) A. K. Bandyopadhyay  
Head, Dept. of Ophthalmology  
College of Medicine & Sargore Dutta Hospital,  
B. T. Road, Kolkata - 700058

- h. Organization of Reach-in-Programme
- i. Information, Education, communication (IEC)
- j. Rehabilitation of the visually handicapped
- k. National programme for control of Blindness & Visual Impairment (NPCB & VI) - I
- l. Vision 2020 : The Right to sight

#### Eye banking

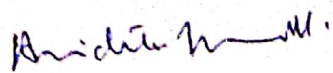
1. Publicity
2. What is eye donation?
3. The Donars & Recipients
4. Collection of eyes & Preservation of enucleated Eye

#### 5. Optical instruments VI

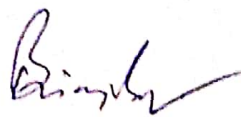
6. Perimeter – Manual & Automated
7. Frequency doubling perimeter
8. Optical Coherence Tomography.
9. LASER

#### 5. Research Methodology & Statistics

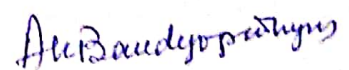
Page | 15



Professor  
Regional Institute of Ophthalmology  
Medical College, Kolkata-73



**Prof. Biswarup Ray**  
Head, Ophthalmology  
BPMC, Bankura, 722102



**Prof. (Dr.) A. K. Bandyopadhyay**  
Head, Dept. of Ophthalmology  
College of Medicine & Saree Dutta Hospital,  
B. T. Road, Kolkata - 700058