

# **Shri Rawatpura Sarkar University, Raipur**



## **Examination Scheme & Syllabus**

**for**

**MASTERS IN OPTOMETRY**

**SEMESTER-I**

**CBCS PATTERN**

(Effective from the session: 2022-23)



# Faculty of Science Shri Rawatpura Sarkar University, Raipur

## Master in Optometry Semester-I Examination Scheme (Effective from the session: 2022-23)

### PROGRAM OUTCOME

1. Understood the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.
2. Acquired the skills in handling scientific instruments, planning and performing in laboratory experiments. The skills of observations and drawing logical inferences from the scientific experiments.
3. Analyzed the given scientific data critically and systematically and the ability to draw the objective conclusions. Been able to think creatively (divergently and convergent) to propose novel ideas in explaining facts and figures or providing new solution to the problems.
4. Realized how developments in any science subject helps in the development of other science subjects and vice-versa and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
5. Developed scientific outlook not only with respect to science subjects but also in all aspects related to life. Can have greatly and effectively influence which inspires in evolving new scientific theories and inventions. Imbided ethical, moral and social values in personal and social life leading to highly cultured and civilized personality.
6. Developed various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.
7. Realized that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life

### PROGRAM SPECIFIC OBJECTIVE

1. To develop the students in such a way so that they can practice independently as a primary eye care practitioner and render eye care services for the benefit of society.
  2. To develop expertise in assessment, evaluation, planning, and inventions in achieving the eye care needs of Indian society.
  3. To develop such professionals who will actively participate in community optometry programs to achieve the goals of Vision 2020 and the national programs for the prevention of blindness and effectively organize and participate in vision screening eye camps to help controlling blindness.
  4. To create Postgraduate optometry teachers with strong academics and research background who will help develop the science of Optometry.
  5. To help the students to learn to maintain collaborative relationships with members of other disciplines to improve health care.
-



**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

**Teaching and Examination Scheme**

S. No.	Course Code	Course Title	Hours / Week			Credits	Maximum Marks			Sem End Exam Duration (Hrs)	
			L	T	P		Continuous Evaluation	Sem End Exam	Total		
1.	SMS09101T	Public Health Epidemiology, Community Optometry		4		4	30	70	100	3	
2.	SMS09102T	Pediatric Optometry & Binocular Vision		4		4	30	70	100	3	
3.	SMS09103T	Recent Advances in Optometry		4		4	30	70	100	3	
4.	SMS09104T	Basics of Computer Application		4		2	30	70	100	3	
5.	SMS09191P	Clinics-1			4	2	30	70	100	5	
6.	SMS09192P	Practical Recent Advances in Optometry			4	2	15	35	50	5	
TOTAL				16	12	22				650	





# Faculty of Science Shri Rawatpura Sarkar University, Raipur

## Master in Optometry Semester-I Examination Scheme (Effective from the session: 2022-23)

<b>Title</b>	<b>PUBLIC HEALTH EPIDEMIOLOGY, COMMUNITY OPTOMETRY</b>				
<b>Code</b>	<b>SMS09101T</b>				
<b>Credit</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	
	<b>4</b>			<b>4</b>	
<b>Prerequisite</b>	Basic knowledge about community optometry.				
<b>Course Objectives</b>	The Course will provide the basic public health problem relevant to eye care services and the role of optometrist in the prevention of Blindness. This will cover the major vision threatening diseases in the region /country and government and International agencies policies in the prevention of particular diseases. Basically the course gives an outline to the Students for their role as a primary eye care practitioner and prevention of blindness in the country.				
<b>Content</b>	<p><b>UNIT I</b> PHILOSOPHY OF PUBLIC HEALTH History of public health History of public health optometry (including epidemiology, man power, projections, community reimbursement mechanisms.</p> <p><b>UNIT II</b> HEALTH CARE SYSTEMS Organizations of health services (principles of primary, secondary and tertiary care) Health Care Delivery systems in India and determinants of health Detriments of health care delivery system Planning of health services (including relevant legislation and implications to optometric practice) Health economics Health manpower protection and in the practice of ophthalmology.</p> <p><b>UNIT III</b> MODES OF HEALTH AND VISION CARE DELIVERY Solo and group practice modes, Multidisciplinary and institutional practice modes Optometry's role as a care primary care profession, Third party involvement in financing health care services (including both governmental and non- governmental programs).</p> <p><b>UNIT IV</b></p>				



**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

	<p>Global medicine and evolution of Public Health in India Public Health optometry: concepts and implementation, Levels of prevention – optometrist’s role in community Concepts of National Health Programs General principles of Epidemiology and methods Screening in populations.</p> <p><b>UNIT V</b></p> <p>Epidemiology of blindness –cataract, Glaucoma deficiency disorders Scope of geriatric ophthalmology in preventive and rehabilitation care Ocular manifestation in systematic disorders Natural history of diseases, Transmission of disease Basics in research methodology in populations Demography and vital statistics National and International Agencies in Health Care Training and Instructional services.</p>
<b>Course Outcomes</b>	<ul style="list-style-type: none"><li>• To know about history of public health</li><li>• To understand about healthcare system in India/World</li><li>• To understand mode of health and vision care</li><li>• To understand role of optometrist in the prevention of Blindness</li><li>• The Course will provide the basic public health problem relevant to eye care services</li></ul>
<b>Text Books</b>	<ol style="list-style-type: none"><li>1. Handbook of Visual Optics, Two-Volume Set Kindle Edition by Pablo Artal (Editor)</li><li>2. Clinical Procedures for Ocular Examination, Fourth Edition Paperback – 16 January 2016 by Nancy Carlson (Author), Daniel Kurtz (Author)</li></ol>
<b>Reference Books</b>	<ol style="list-style-type: none"><li>1. Retinal Pigment Epithelium and Macular Diseases (Documenta Ophthalmologica Proceedings Series Book 62) Kindle Edition by Gabriel Coscas (Editor), Felice Cardillo Piccolino (Editor)</li><li>2. Clinical Procedures for Ocular Examination, Third Edition Paperback – 16 October 2003 by Nancy Carlson (Author), Daniel Kurtz (Author)</li><li>3. Instrumentation for Eyecare Paraprofessionals (The Basic Bookshelf for Eyecare Professionals) Paperback – 30 November 1998 by Michelle Herrin (Author)</li></ol>

---



# Faculty of Science Shri Rawatpura Sarkar University, Raipur

## Master in Optometry Semester-I Examination Scheme (Effective from the session: 2022-23)

<b>Title</b>	<b>PEDIATRIC OPTOMETRY &amp; BINOCULAR VISION</b>			
<b>Code</b>	<b>SMS09102T</b>			
<b>Credit</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>
	4			4
<b>Prerequisite</b>	Basic knowledge about pediatric optometry.			
<b>Objective</b>	The course is designed to help expand the student’s knowledge base in all aspects of behavioral vision care. Advanced competency is expected in the following principles and procedures for each clinical condition			
<b>Content</b>	<p><b>UNIT – I</b> Refractive Development, Early Refractive Development, Infant Accommodation and Convergence, Conjugate Eye Movements of Infants, Development of the Vestibuloocular and Optokinetic reflexes.</p> <p><b>UNIT - II</b> Retinal and cortical Development, Abnormal Visual Development, Clinical Applications: Assessment of Child Vision and Refractive Error, Cycloplegic Refraction,</p> <p><b>UNIT – III</b> Development of Scotopic Retinal Sensitivity, Infant Color vision, Binocular Vision Development, Stereopsis in Infants and its developmental relation to visual acuity, Dyslexia and Optometry Management.</p> <p><b>UNIT – IV</b> Color Vision Assessment in Children, Dispensing for the Child patient, Pediatric Contact Lens Practice. Ocular Trauma in Children, Myopia control, Clinical uses of prism.</p> <p><b>UNIT – V</b> Electrodiagnostic Needs of Multiple Handicapped Children, Management Guidelines – Ametropia, Constant Strabismus, Management Guidelines – Amblyopia, Accommodation and Vergence anomalies, Nystagmus, Pediatric Ocular Diseases.</p>			

---



# Faculty of Science Shri Rawatpura Sarkar University, Raipur

## Master in Optometry Semester-I Examination Scheme (Effective from the session: 2022-23)

<b>Course Outcomes</b>	<ul style="list-style-type: none"> <li>• To know about refractive development in human eye</li> <li>• To understand abnormal visual development and vision assessment in children</li> <li>• To understand about photoreceptors</li> <li>• To know color vision assessment in children</li> <li>• To understand all aspects of behavioral vision care.</li> </ul>
<b>Text Books</b>	<ol style="list-style-type: none"> <li>1. Principles and Practice of Pediatric Optometry Hardcover – 1 August 1990 by David Rosen bloom (Editor)</li> <li>2. Handbook of Pediatric Retinal OCT and the Eye-Brain Connection Paperback – 8 August 2019 by Cynthia A. Toth MD (Author)</li> </ol>
<b>Reference Books</b>	<ol style="list-style-type: none"> <li>1. How to Improve Your Child's Eyesight Naturally: A Thoughtful Parent's Guide Paperback – 29 March 2004 by Janet Goodrich Ph.D. (Author)</li> <li>2. Taylor and Hoyt's Pediatric Ophthalmology and Strabismus Hardcover – 23 December 2016 by Scott R. Lambert MD (Author), Christopher J. Lyons MB FRCS FRC FRCS (Author)</li> </ol>

<b>Title</b>	<b>RECENT ADVANCES IN OPTOMETRY</b>				
<b>Code</b>	<b>SMS09103T</b>				
<b>Credit</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	
	<b>4</b>			<b>4</b>	
<b>Prerequisite</b>	Basic knowledge about optometry instruments.				
<b>Objective</b>	Evidence based approach to Diagnosis, Clinical decision Making, Management and co management of anterior segment ocular diseases. Developing more reading ability of scientific journals for more evidence based management with recent understanding of diseases with advance research techniques and technology				



**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

	in the country .
<b>Content</b>	<p><b>UNIT – I</b> Introduction to Electronic Medical Records, Teleophthalmology in Eye care.</p> <p><b>UNIT – II</b> Topography/Pentacam/Orbscan, Specular microscopy,Pachymetry, Abberometry.</p> <p><b>UNIT - III</b> Advance Diagnostic methods: OCT, HRT, GDx,Gonioscopy, ONH evaluation.</p> <p><b>UNIT – IV</b> Referral criteria, Shaw Lens technology, Google Smart lenses, Bionic lenses.</p> <p><b>UNIT – V</b> Kamara Lenses &amp; Presbyopia surgery, Computer Vision &amp; Imaging techniques.</p>
<b>Course Outcomes</b>	<ul style="list-style-type: none"><li>• Evidence based approach to Diagnosis</li><li>• Clinical decision Making</li><li>• Management and co management of anterior segment ocular diseases.</li><li>• Referral criteria</li><li>• To know about advance technologies</li></ul>
<b>Text Books</b>	<ol style="list-style-type: none"><li>1. Handbook of Visual Optics, Two-Volume Set Kindle Edition by Pablo Artal (Editor)</li><li>2. Clinical Procedures for Ocular Examination, Fourth Edition Paperback – 16 January 2016 by Nancy Carlson (Author), Daniel Kurtz (Author)</li></ol>
<b>Reference Books</b>	<ol style="list-style-type: none"><li>1. Retinal Pigment Epithelium and Macular Diseases (DocumentaOphthalmologica Proceedings Series Book 62) Kindle Edition by Gabriel Coscas (Editor), Felice CardilloPiccolino (Editor)</li></ol>

---

---





**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

	<ol style="list-style-type: none"><li>2. Clinical Procedures for Ocular Examination, Third Edition Paperback – 16 October 2003 by Nancy Carlson (Author), Daniel Kurtz (Author)</li><li>3. Instrumentation for Eyecare Paraprofessionals (The Basic Bookshelf for Eyecare Professionals) Paperback – 30 November 1998 by Michelle Herrin (Author)</li></ol>
--	---

<b>Course Title</b>	<b>BASICS OF COMPUTER APPLICATION</b>				
<b>Course Code</b>	<b>SMS09191P</b>				
<b>Course Credits</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>TC</b>	
	2			2	
<b>Prerequisites</b>	Basic knowledge about computers.				
<b>Course Objective</b>	The module is designed to provide introduction to Basic math and provides practical approach to hone your computer skills.				
<b>Course Contents</b>	<ul style="list-style-type: none"><li>• Basic integrals.</li><li>• Basic statistics: Mean, median, mode.</li><li>• Word, power point, excel.</li><li>• Internet and its advantages &amp; disadvantages.</li><li>• Scholarly article search engine, sites.</li></ul>				
<b>Course Outcomes</b>	After successful completion of this module the students would be able to use basic computers to make their projects, presentations and perform statistical functions.				
<b>Text books</b>	<ol style="list-style-type: none"><li>1. OBJECTIVE Computer Awareness Paperback – 1 January 2019 by <u>Arihant Experts</u> (Author)</li><li>2. Computer Paperback – 1 January 2016 by <u>Rani Ahilya</u> (Author)</li></ol>				

---

---



# Faculty of Science Shri Rawatpura Sarkar University, Raipur

## Master in Optometry Semester-I Examination Scheme (Effective from the session: 2022-23)

<b>Reference books</b>	<ol style="list-style-type: none"><li>1. Handbook of Computer Science &amp; IT Paperback – 1 January 2013 by <u>Arihant Experts</u> (Author)</li><li>2. Joseph, P.T., S.J., E- Commerce: An Indian Perspective, Prentice Hall of India.</li><li>3. Computer Programming Crash Course: 7 Books in 1- Coding Languages for Beginners: C++, C#, SQL, Python, Data Science for Python, Raspberry pi and Arduino. Teach Yourself to Code. Learn Faster. Kindle Edition by <u>Julian James McKinnon</u> (Author)</li></ol>
------------------------	--

<b>Title</b>	<b>CLINICS-I</b>			
<b>Code</b>	<b>SMS09192P</b>			
<b>Credit</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>
			<b>4</b>	<b>4</b>
<b>Prerequisite</b>	Practical knowledge about Optometry diagnosis and treatments.			
<b>Objective</b>	The objective of clinics in this semester is to be able to get hand-on experience related to diagnosis, interpretation of the reports/findings and management.			
<b>Content</b>	<p>The objective of clinics in this semester is to be able to get hand-on experience related to diagnosis, interpretation of the reports/findings and management.</p> <p>An approximate of guided 240 hours needs to be completed in this semester. The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics. The focus will be on the specialized subjects studies in this semester. The logbook has to be maintained and case sheets of each subject in the semester with complete management and follow up are mandatory for submission at the end of the semester.</p> <p><b>Note:</b> The log book needs to be signed by the Faculty during every visit. No case record will be considered without the Faculty's signature</p>			
<b>Course Outcomes</b>	The students will be by rotation go to community clinics, Campus clinics, and associated hospital and optical / optometric clinics. The focus will be on the specialized subjects studies in this semester.			



**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

<b>Course Title</b>	<b>RECENT ADVANCES IN OPTOMETRY</b>				
<b>Course Code</b>	<b>SMS09193P</b>				
<b>Course Credits</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>TC</b>	
	<b>4</b>			<b>4</b>	
<b>Prerequisites</b>	Basic knowledge about optometry instruments.				
<b>Course Contents</b>	<ul style="list-style-type: none"><li>- Refractive instruments, Test charts standards, Choice of test charts, Trial case lenses &amp; trial frame design.</li><li>- Retinoscope – types available, Adjustment of Retinoscopes - special features, Cylinder retinoscopy.</li><li>- SPECIAL INSTRUMENTS &amp; TESTS: Brightness acuity test, Video acuity test, Potential Acuity Meter, Abberometer.</li><li>- OPHTHALMOSCOPES AND RELATED DEVICES: Design of ophthalmoscopes – illumination, Design of ophthalmoscopes-viewing Ophthalmoscope disc filters for ophthalmoscopy.</li><li>- SLIT LAMP: Slit lamp systems, Viewing microscope systems Scanning laser devices, Slit lamp accessories Mechanical design instruments</li><li>- TONOMETER: Tonometer principles Types of tonometers and standardization, Use and interpretation of tonometers.</li><li>- FUNDUS CAMERA: Fundus camera-principles Fundus camera – techniques, External eye photography apparatus.</li><li>- Keratometer.</li><li>- Corneal topography.</li><li>- COLOR VISION TESTING DEVICES: Color confusion Hue discrimination Colour matching, Different charts used by various age groups.</li><li>- Optical devices and electronic (low vision) aids.</li></ul>				
<b>Text books</b>	<ol style="list-style-type: none"><li>1. Handbook of Visual Optics, Two-Volume Set Kindle Edition by <u>Pablo Artal</u> (Editor)</li><li>2. Clinical Procedures for Ocular Examination, Fourth Edition Paperback – 16 January 2016 by <u>Nancy Carlson</u> (Author), <u>Daniel Kurtz</u> (Author)</li></ol>				

---

---



**Faculty of Science**  
**Shri Rawatpura Sarkar University, Raipur**

**Master in Optometry**  
**Semester-I**  
**Examination Scheme**  
**(Effective from the session: 2022-23)**

<b>Reference books</b>	<ol style="list-style-type: none"><li>1. Retinal Pigment Epithelium and Macular Diseases (Documenta Ophthalmologica Proceedings Series Book 62) Kindle Edition by <u>Gabriel Coscas</u> (Editor), <u>Felice Cardillo Piccolino</u> (Editor)</li><li>2. Clinical Procedures for Ocular Examination, Third Edition Paperback – 16 October 2003 by <u>Nancy Carlson</u> (Author), <u>Daniel Kurtz</u> (Author)</li><li>3. Instrumentation for Eyecare Paraprofessionals (The Basic Bookshelf for Eyecare Professionals) Paperback – 30 November 1998 by <u>Michelle Herrin</u> (Author)</li></ol>

