

**Pravara Institute of Medical Sciences  
(Deemed to be University)**

Loni Bk - 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)  
NAAC Re-accredited with 'A' Grade (CGPA 3.17)

Established Under Section 3 of UGC Act 1956, Vide Govt. of India  
Notification No. F.9-11/2000-U.3, dated 29<sup>th</sup> September, 2003



**Syllabus**

**Diploma in Optometry & Ophthalmic Assistant  
(D.O. & O.A.)**

**Centre for Social Medicine**

**Approved Vide Academic Council  
Resolution No. AC/2019/21/D-21  
dated 20<sup>th</sup> March, 2019**

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# Pravara Institute of Medical Sciences (Deemed to be University)

University Established under section (3) of UGC Act  
NAAC Re-accredited with 'A' Grade (CGPA 3.17)

LONI - 413736, (Near Shirdi) Tal.Rahata,  
Dist. Ahmednagar (Maharashtra) India

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- RURAL MEDICAL COLLEGE
- RURAL DENTAL COLLEGE
- DR. APJ ABDUL KALAM COLLEGE OF PHYSIOTHERAPY
- COLLEGE OF NURSING
- CENTRE FOR BIO-TECHNOLOGY
- CENTRE FOR SOCIAL MEDICINE
- PRAVARA RURAL HOSPITAL

Ref. No.

Date :

## Notification No: 25/2019


**Subject:** Rules and Regulations of "Diploma in Optometry and Ophthalmic Assistant"

**Ref :** Academic Council Resolution No. AC/2019/21/D-21 dated 20<sup>th</sup> March 2019.

It is hereby notified for information of all concerned that as per resolution passed by Academic council (Resolution No. AC/2019/21/D-21 dated 20<sup>th</sup> March 2019) and decision taken by the authorities of the university the "Diploma in Optometry and Ophthalmic Assistant" course has been introduced at Centre for Social Medicine, the constituent unit of the Pravara Institute of Medical Sciences (Deemed University), Loni from academic year 2017-2018.

The rules and regulations of "Diploma in Optometry and Ophthalmic Assistant" are hereby notified for information of all concerned. The Director, Center for Social Medicine is requested to implement the course in collaboration with Dept. of Ophthalmology, Rural Medical College, PIMS (DU) as per the approved guidelines.

Place : Loni Bk - 413 736.  
Ref.- PIMS/R/AC/2019/016  
Date : 30/05/2019

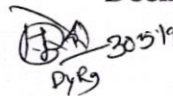
  
Registrar,  
Pravara Institute of Medical Sciences,  
Deemed to be University

Copy to :

Hon'ble Chancellor, PIMS  
Hon'ble Pro Chancellor, PIMS  
Hon'ble Vice- Chancellor, PIMS

Copy for information and necessary action to :-

- 1) The Director, Center for Social Medicine, Loni Bk - 413 736
- 2) The Dean, Rural Medical College, Loni
- 3) Controller of Examinations, PIMS (DU)
- 4) Chief Accountant / Manager Accounts, PIMS
- 5) Dy. Registrar/ Asst. Registrar, (Academic /CET)
- 6) IT Manager - To upload on university website.

  
30/5/19  
DyRg

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**Syllabus**

**Diploma in Optometry & Ophthalmic  
Assistant (D. Opt. & O.A.)**

**Mail: registrar@pmpims.org  
Fax: +91-2422-273413, Phone No.: 273600  
Homepage: <http://pravara.com>**

**PRAVARA INSTITUTE OF MEDICAL SCIENCES  
DEEMED TO BE UNIVERSITY**



**DIPLOMA IN OPTOMETRY &  
OPHTHALMIC ASSISTANT  
(D. Opt. & O.A.)**

**REGULATIONS AND CURRICULUM**

**Course offered at**

**CENTRE FOR SOCIAL MEDICINE**  
**Loni-413736 (Near Shirdi), Tal-Rahata, Dist-Ahmednagar,**  
**Maharashtra (INDIA),**  
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## **SECTION I- RULES AND REGULATIONS FOR D. Opt. & O.A. PROGRAM**

**1. Nomenclature of Degree**

Diploma in Optometry and Ophthalmic Assistant (D. Opt. & O.A.)

**2. University**

Pravara Institute of Medical Sciences, Deemed University

**3. Constituent unit**

Centre for Social Medicine

**4. Faculty**

This program is offered under the “Faculty of Allied Health Sciences”

**5. Background of the program**

This program has been specially designed to meet the ever increasing demand for well trained personnel with appropriate skills and knowledge in the field of optometry and ophthalmic sciences.

**6. Duration of the Program**

Duration of this program will be two academic years.

**7. Medium of instruction- English**

**8. Diploma in Optometry & Ophthalmic Assistant Course Objective**

- To prepare the students to screen and identify eye disease at primary level.
- To provide skills to the students for providing treatment and medical intervention to common eye disease at primary level.
- To enable the students to perform common ophthalmic diagnostic procedures and common eye procedures in vision centres, eye hospitals etc as ophthalmic assistants, optometrists, orthoptists and perfectionists.
- To assist ophthalmologist in OPD, pre-operative workups for surgery and ward procedures and post-operative care (some independently and some under supervision)
- To enable the students to get themselves self-employed as ophthalmic assistant, optometrist, refractions.
- To enable the students to estimate errors of refraction and be able to prescribe and dispense spectacles.
- To enable the students to maintain ophthalmic appliances and instruments.
- To enable the learners to conduct eye care surveys, research in community ophthalmology.
- To enable the students to participate the health education, counseling and health promotion activities.

### **9. Course Implementation Strategy**

The course will be implemented in collaboration with Dept. of Ophthalmology, Rural Medical College, PIMS-DU, Loni.

### **10. Eligibility for admission to the Diploma in Optometry & Ophthalmic Assistant Program**

12<sup>th</sup> (10+2) Science with Physics, Chemistry and Biology subjects and minimum 45% marks for general category students and 40 % for SC, ST & OBC category students.

### **11. Selection of Students for Diploma in Optometry & Ophthalmic Assistant Program**

Admission will be done purely on merit in the qualifying examination, first-cum-first served and a formal interview, after submitting all documents and verifications.

### **12. After Selection procedures**

- **Collect Provisional Admission Letter:** A provisional admission letter duly signed by the Director, CSM will be issued to all the admitted candidates.
- **Acceptance Letter of Admission:** The student to return the duly signed copy of the Provisional Admission Letter as acceptance of admission to the Director, Centre for Social Medicine.
- **Verification of Original Documents:** The following certificates will have to be submitted to the Office of CSM for verification at the time of finalizing the Admission of the Candidate. After confirmation of admission, all these documents will be retained by the Centre.
  - All educational certificates & Mark sheets/Transcripts
  - Nationality Certificate/Domicile Certificate/Valid Passport/Aadhar Card
  - School or College Leaving/Transfer Certificate
  - Migration Certificate
  - Medical Fitness Certificate
  - Gap Certificate (if applicable)

These documents will be returned to the candidate after completion of the course.

- **Confirmation of Admission:** Admission will be confirmed only after receipt of the payment of Full Tuition Fee and other statutory fees & deposits, by the candidate within the stipulated time.

### **13. Procedure for Cancellation of admission**

A candidate who has confirmed the admission may cancel it by submitting an application to the Director, Centre for Social Medicine along with the following document

- i) Application for cancellation duly signed by the candidate & Co – signed by parent/ Guardian.
- ii) Original Fees Receipts.

Period of cancellation	Permissible Refund
Within Thirty days from date of admission	Entire amount of Annual Tuition Fees after deduction of processing fee of Rs. 1000/-
Within Forty five days from date of admission	Refund will be made after following deductions <ul style="list-style-type: none"> <li>● Rs.1000/- processing fee</li> <li>● Deduction of monthly fee i.e. 10% of tuition fee</li> </ul>
After forty five days of admission	No cancellation of admission, entire tuition fee has to be paid

- All Deposit will be refunded in full in case of cancellation of admission.
- The permissible refund will be made after three months from date of application for cancellation. No Correspondence in this regard will be entertained during this period.

#### **Cancellation during the conduct of the course**

In the event of failure to qualify to continue the chosen Programme, for what so ever reasons, the student will be liable to pay the complete course fee to secure NOC and return of original documents from the institute concerned. Application needs to be submitted to the Director of the college to this effect.

#### **14. Program structure**

Year 1	
Sub. Code	Subject
DOA-101	Basic Human Biology
DOA-102	Optics & Refraction
DOA-103	Ophthalmic Diagnostic Procedures and Ocular Eye diseases & Primary Eye Care
DOA-104	Minor surgical Procedures & Theater Management and Hospital Procedures, Patient care & Medical Records
DOA-111	Practical Based on 101 - 104

Year 2	
Sub. Code	Subject
DOA-201	Low Vision Aids & Rehabilitation and Contact Lenses & Dispensing Optic
DOA-202	Community Ophthalmology and Optometry
DOA-203	Ophthalmic Diagnostic Equipments and Pediatric Optometry
DOA-204	Optometry Profession Health Education, Public Relations
DOA-211	Practical Based on 201 - 204

### **15. Attendance/Leave/Vacation**

The student must meet the requirement of 75% attendance per semester per course for granting the term. The teacher handling a course shall be responsible for maintaining a record of attendance of students who have registered for the course.

All teachers shall intimate to the Director at least seven calendar days before the last instruction day in the semester the particulars of all students who have less than 75 % attendance in the course.

The Director shall have the right to withhold the student from appearing for examination of a specific course if the above requirement is not fulfilled. The Director, at the time of issuing hall ticket has to verify that the student is meeting the minimum requirement of attendance.

There will be no leave for the students during the academic session; however, due to unavoidable circumstances if the student proceeds on leave, s/he has to take prior permission from the Director/Course coordinator.

However, students will be given a 10 days preparatory leave before start of university examinations. The time between final university examination and start of the academic session of next semester will be considered as vacation for the students. All other rules for student's vacation will be as per the university guidelines.

### **16. Assessment /Examination**

The assessment of the student shall be made in terms of an internal assessment and final assessment. The assessment of the first year subjects will be done by the college at the end of first year in the form of internal (25 %) and final (75 %) assessment. The assessment of II<sup>nd</sup> year subjects will be done in the form of Internal (25 %) assessment by college and final assessment (75%) by the university. The schedule of both the Internal and university examination will be communicated to the students through the academic calendar before starting the semester.

Reassessment of Internal Marks –in case of those students who have secured less than passing percentage of marks in the internal evaluation, the College should administer a separate internal test for these 25 marks in the subsequent semester before the university examination. Internal and Final assessment will be treated as single/combine head of passing.

The university assessment for theory subjects shall be based upon the written examination to be held at the end of second year. The written examination will be conducted for 75 marks by the university. The schedule of the examination will be communicated by the university well in advance. All rules regarding passing or university examination will be as per university rules.

### 17. Scheme of Examination.

The distribution of marks for all courses under **Diploma in Optometry & Ophthalmic Assistant Program** will be as follows.

Subject code	Title of Paper/ Practical	Marks		
		Internal	Final (College Level)	Total
<b>First Year</b>				
DOA-101	Basic Human Biology	25	75	100
DOA-102	Optics & Refraction	25	75	100
DOA-103	Ophthalmic Diagnostic Procedures and Ocular Eye diseases & Primary Eye Care	25	75	100
DOA-104	Minor surgical Procedures & Theater Management and Hospital Procedures, Patient care & Medical Records	25	75	100
DOA-111	Practical	50	150	200
<b>Total Marks</b>		<b>150</b>	<b>450</b>	<b>600</b>
<b>Second Year</b>				
Subject Code	Title of Paper/ Practical	Marks		
		Internal	Final (University Level)	Total
DOA-201	Low Vision Aids & Rehabilitation and Contact Lenses & Dispensing Optic	25	75	100
DOA-202	Community Ophthalmology and Optometry	25	75	100
DOA-203	Ophthalmic Diagnostic Equipments and Pediatric Optometry	25	75	100
DOA-204	Optometry Profession Health Education, Public Relations	25	75	100
DOA-211	Practical	50	150	200
<b>Total Marks</b>		<b>150</b>	<b>450</b>	<b>600</b>
<b>Total Marks for the Program</b>		<b>300</b>	<b>900</b>	<b>1200</b>

The pattern of question paper will cover the entire syllabus. The theory paper will consist of MCQ'S, SAQ and LAQ. However, the practical examination will cover the entire aspects of practical's, field postings, field visits and all other aspects which are not included in theory. Following is the subject wise details of examination scheme.

- **Theory subjects carrying 75 marks for examination will be assessed with following method** (DOA 101, DOA 102, DOA 103, DOA 104, DOA 201, DOA 202, DOA 203, DOA 204)

<b>Que.1</b>	<b>MCQ'S – All are compulsory</b>	<b>30 Marks</b>
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15 MCQ'S \* 2 Marks

<b>Que.2</b>	<b>Short Answer Questions (SAQ)-Attempt any three out of Four</b>	<b>15 Marks</b>
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3 Short Answer Question \* 5 Marks

<b>Que.3</b>	<b>Long Answer Questions (SAQ)-Attempt any Two out of Three</b>	<b>30 Marks</b>
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3 Long Answer Question \* 10 Marks

The question paper should give equal weightage to all the topics in the course. The questions can be subdivided as per the demand of syllabus. The time allotted for the theory examination is 3 clock hours.

- **Practical subjects carrying 150 marks for college / university examination will be assessed with following method** (DOA – 111 & DOA – 211)

Lab work / Experiment	Marks
Refraction	25
Optics	20
Fitting	20
OPD Procedure	25
OT Procedure	25
Instruments	25
Journal	10
<b>Total</b>	<b>150</b>

All components of this assessment will be evaluated by the examiners appointed by the university during the exams, for university assessment.

**18. Rule of passing.**

The student will be declared as pass only when s/he scores minimum 50 % marks in the college as well as university examination. Internal and final assessment will constitute combine head of passing.

**19. Promotion of student to next semester/year.**

Students are permitted to carry-over all failed courses from first year to second year.

**20. Fees and payments.**

The students have to pay the yearly tuition fee at the start of respective academic year in order to undertake the program. The fee structure will be decided by the university and will be revised / updated from time to time as and when it is necessary. The fee structure decided by the university at the time of entry of student in the program will remain same unless s/he completes the program. However, if the students fail to qualify to enter in second year, s/he still has to pay the entire tuition fee of the second year. The tuition fee will be collected for not more than two academic years from the students.

The other fees/charges during the academic program will be Field visit expenditure, caution money, ERP Software, Insurance, Blazer, Eligibility, Registration, examination fee etc.

**21. Maximum Duration for completion of the Programme**

The candidate shall complete the DO&OA Programme within maximum period of four academic years from the date of admission. The student will be finally declared as failed if s/he does not pass in all subjects within a total period of four years. After that, such students will have to seek fresh admission as per the admission rules prevailing at that time.

## **Section II- Syllabus of the Program (D. Opt. & O.A.)**

### **First Year**

**Course Code – DOA 101**

**Subject – Basic Human Biology**

- 1. General Anatomy**
  - Parts of Body, its functions,
  - Tissue of body,
  - General plan of organ system,
  - Cell structure and other anatomical aspects of vital organs of body.
  
- 2. General Physiology**
  - Cell physiology,
  - Blood,
  - Digestion,
  - Excretion,
  - Endocrines,
  - Reproduction,
  - Circulation,
  - Nervous System and Special Senses.
  
- 3. Anatomy & Physiology of Eye**
  - Ocular Anatomy,
  - Embryology of Eye,
  - Cornea,
  - Uvea,
  - Retina,
  - Visual path way,
  - Layers of Eye Ball,
  - Protective Mechanism in the Eye,
  - Extra ocular Muscle,
  - Physiology,
  - Lens Metabolism,
  - Visual Acuity,
  - Visual pathway.

**4. Basic Biochemistry, Pharmacology**

- Hormones & Metabolic Regulation,
- Whole body metabolism,
- Ocular Biochemical aspects of the Eye.
- Biochemistry Techniques
- Introduction of Carbohydrates,
- Proteins,
- Lipids,
- Enzymes,
- Minerals.

**5. Pharmacology & Microbiology**

- Minerals
- Mechanisms of drugs
- Principals of pharmacology
- Optometric diagnostic drugs

**6. Pathology & Microbiology**

- Pathological tests,
- Clinical pathology,
- Staining,
- Laboratory tests.
- Principles of Cultivation of Bacteria,
- Sterilization and Disinfection.

**Practical's:**

- Biochemistry Techniques
- Laboratory tests
- Sterilization and Disinfection

**Course Code – DOA -102**  
**Subject - Optics & Refraction**

**1. Refractive Errors and Its Correction**

- Diagnosis of Myopia,
- Hypermetropia,
- Aphakia,
- Astigmatism and its correction

**2. Geometric Optics**

- Fiber optics,
- Colour theory,
- Lens power,
- Visual acuity,
- Magnification,
- Refractive index of lenses,
- Prismatic power

**3. Optometric Optics**

- Form of lenses,
- Base Curves,
- Lens Tools and Blanks,
- Cylindrical lenses,
- Determining lens power,
- Absorptive lenses.
- Types of spectacle frames and lenses,
- Toric glasses,
- Bifocal and Multi focal lenses.
- Tinted lenses,

**4. Computer Programming**

- Introduction and use of computer use of computer in ophthalmic and optometry sciences.
- Management and handling and problem solving

## **5. Basic Mathematics**

- Basic formulas and calculations.
- For optometric purpose

### **Practical's:**

- Lens power
- Cylindrical lenses
- Basic formulas and calculations

**Course Code – DOA -103**

**Subject - Ophthalmic Diagnostic Procedures and Ocular Eye diseases & Primary Eye Care**

**1. Clinical Examination of Visual System**

- Visual acuity testing,
- IOP,
- Ophthalmoscopy,
- Examination of Lacrimal system,
- Orbit,
- Macular function test,
- Visual field testing.

**2. Diagnostic Procedure**

**2.1: Vision Testing Procedures**

- Testing of distant Vision
- Near Vision
- Color Vision.
- Field Vision
- Diagnostic Procedures and use of Instrument in Refractive Error.

**2.2: Visual Optics**

- Refractive conditions,
- Far and near points of accommodation,
- Refractive anomalies and their cause
- Ratinoscopy,
- Principles and methods,
- Objective and subjective methods,
- Effective power of spectacle.

**3.Common Eye Diseases:**

**3.1 Ocular Eye Disease's**

- All Ocular eye diseases of Eye including Lids,
- Lacrimal system,
- Orbit,
- Sclera,

- Conjunctiva and Cornea,

### **3.2 Systemic Diseases**

- Diabetes,
- Hypertension,
- Acquired heart disease,
- Thyroid disorders,
- General Medical Emergencies,
- Infective and Non-infective disease.

### **3.3 Ocular Eye Disease's**

- Urea,
- Vitroretinal disorders,
- Cataract,
- Glaucoma,
- Trauma,
- Neuro Ophthalmic Disorders.
- Squint

### **3.4 Common Eye Infection and Their Prevention and Control**

- Common Eye diseases and their management,
- Common eye infection that lead to visual impairment.
- Screening and prevention of blindness and visual impairment,
- Role of optometrist for prevention of avoidable blindness.

#### **Practical's**

- IOP
- Visual field testing
- Ratinoscopy
- Principles and methods
- Objective and subjective methods
- Lacrimal system
- Conjunctiva and Cornea
- Diabetes
- Cataract
- Common Eye diseases and their management
- Common eye infection that lead to visual impairment

**Course Code – 104**

**Subject – Minor surgical Procedures & theater Management and Hospital Procedure, Patient care Medical Records**

**1. Clinical Ophthalmic Techniques:**

**1.1 Minor Surgical Procedures**

- Installation of eye drops and Sub conjunctival Injection,
- Fermentation,
- Errigation,
- Epliation,
- Syringing

**2.Hospital Procedure**

**2.1: Optometry Clinics**

- Optometry clinics,
- Instruments for optometry clinics,
- Setup and management of clinic,
- Avoidable and non-avoidable blindness

**2.2: Hospital Procedures & management of Community Eye Care Camps**

- Hospital Procedures & Management of Community Eye Care Camps
- Funds,
- Administration,
- Correspondence,
- Accounts,
- Reception,
- Use,
- Computers,
- Management of Eye Camps,
- Management of Community Eye Care Camps,
- Dark Rooms,
- Refraction Setup, etc.
- Publicity of Eye Care Camps,
- Involvement of community for eye care camps.

**Practical's:**

- Installation of eye drops and Sub conjunctival Injection
- Irrigation
- Epliation
- Syringing
- Instruments for optometry clinics