

# SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)

Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade

Category - I deemed to be university under UGC Act - 20f8

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## CURRICULUM

### Master of Surgery (M.S.) OPHTHALMOLOGY

Attested CTC

*Sharan*  
15/2/2021

Vice-Chancellor

Sumandeep Vidyapeeth

An Institution Deemed to be University

Vill. Piparia, Taluka: Waghodia.

Dist. Vadodara-391 760. (Gujarat)



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AI#IENDED UP TO DECEMBER-2020

### **Programme outcome M.S.**

The purpose of MS education is to create specialists who would provide high quality health care and advance the cause of science through research & training. The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

### **Programme specific outcome M.S.**

**POS 1.** A post graduate specialist having undergone the required training should be able to recognize the health needs of the community, acquire knowledge to handle effectively medical / surgical problems and should be aware of the recent advances pertaining to his specialty.

**POS 2.** Practice the speciality concerned ethically and in step with the principles of primary health care.

**POS 3...**The PG student should acquire the basic skills in teaching of medical / para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development.

**POS 4.** Play the assigned role in the implementation of national health programme, effectively and responsibly.

**POS 5..** Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

**POS 6..** Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

**COURSE OUTCOME (CO):** The student should possess basic knowledge of the structure, function and development of the human body as related to ophthalmology, of the factors which may disturb these mechanisms and the disorders of structure and function which may result thereafter.

1. The student should be able to practice and handle most day-to-day problems independently in ophthalmology. The student should recognize the limitations of his/her own clinical knowledge and know when to seek further help.
2. The student should have knowledge of the effects of environment on health and be familiar with the epidemiology of at least the more common diseases in the field of ophthalmology.
3. The student should be able to integrate the preventive methods with the curative and rehabilitative measures in the comprehensive management of the disease.
4. The student should be familiar with common eye problems occurring in rural areas and be able to deal with them effectively.
5. The student should also be made aware of Mobile Ophthalmic Unit and its working and components.
6. The student should be familiar with the current developments in Ophthalmic Sciences.
7. The student should be able to plan educational programmes in Ophthalmology in association with senior colleagues and be familiar with the modern methods of teaching and evaluation.



8. The student should be able to identify a objective for research, plan a rational approach to its solution, execute it and critically evaluate his/her data in the light of existing knowledge.
9. The student should reach the conclusions by logical deduction and should be able to assess evidence both as to its reliability and its relevance.
10. The student should have basic knowledge of medico-legal aspects of medicine.
11. The student should be familiar with patient counseling and proper consent taking.

**GOAL:-** To produce competent specialist and/or teachers in ophthalmology who will have good knowledge of historical aspects of ophthalmology, its evolution and present day community needs and his professional obligations as per national policies.

Who will be able to function as a competent independent specialist at any level of health care delivery system.

Who will have ethics and discipline in his practice.

Who will be able to keep abreast about the recent advancement in his subject and administer such developments on evidence based methodology for the welfare of his patient.

**OBJECTIVE:-**

At the end of the course the student shall have:

- a) Complete knowledge of ophthalmic history & its evolution.
- b) Competence in history taking and art of examination.
- c) Knowledge to use all commonly used ophthalmic equipments and interpret their findings.
- d) Knowledge to use various diagnostic test and special investigations judiciously.
- e) Understanding about drugs used, their side effects & their contraindications.
- f) Excellent communication skills & a very compassionate dealing with patients.
- g) Understanding about value of informed written consent, medico-legal issues and insurance and protection system in such cases.
- h) Sufficient knowledge to treat all eye ailments and to deliver optimal care. He should use evidence based practice using journals, internet and other resources after critical assessment of the evidence.
- i) Understanding research methodology, value of various statistical studies and application of bio-statistical tests.
- j) Expertise in searching evidence, their validity and application in day to day practice.
- k) Surgical skills for management of various common ophthalmic conditions.
- l) Understanding of principles of sterilization, maintenance of instruments, equipments, sutures and post operative care.

The above goal & objectives will be achieved by imparting training as per the syllabus outlined by MCI.

Syllabus for degree and diploma attached as Appendix 'A'



- To introduce Basic life support (BLS) and Advanced Cardiac Life Support (ACLS) training for all the First year Postgraduate Resident Doctors from academic year 2017-18.

To introduce New chapter / topic 'Intellectual Property Rights (IPR) for all the First year Postgraduate Resident Doctors from academic year 2020-2021 of duration of 4hrs (Board of Studies letter no.: SBKS/DEAN/742/2021, dated 05/06/2021 and Vide Notification of Board of Management Resolution Ref no.: SVDU/R/3051-1/2020-21, dated - 29<sup>th</sup> July 2021)

List of topics :

1. Introduction-Concept of Intellectual Property, Historical view of Intellectual Property system in India and International Scenario, Evolution of Intellectual Property Laws in India, Legal basis of Intellectual Property Protection, Need for Protecting Intellectual Property, Theories on concept of property - Major IP Laws in India.
  2. Types of IPR: Patents, Copyright, Trademark Industrial Designs, Trade Secrets.
  3. Patents: Concept of Patent, Criteria of Patentability, Inventions NOT patentable, Process of Obtaining a Patent, Duration of Patents, Rights of Patentee, Limitation of rights, Infringement and Enforcement.
  4. Copyrights: Meaning of Copyright, Copyright Vs. Moral rights, Copyright eligibility, Term of Copyright, Registration of Copyright, Infringement and Remedies
  5. Trademark: Meaning of Trademark, Criteria for trademark, Procedure for Trademark Registration, Term of protection, Infringement and Remedies.
  6. Industrial Designs: Meaning of Industrial Designs, Rights in Industrial Designs: Nature, Acquisition and duration of rights.
  7. Trade Secrets: Meaning of Trade Secrets, Need to protect Trade secrets, Criteria of Protection, Procedure for registration, Infringement.
  8. Commercialization of IPR: Traditional IP and Evolving IP, Assignment, Licensing, Cross License, Patent Pool, Negotiations, Defensive Publications, Technical Disclosures, Patent Pooling, Patent Trolling, Brand Management, Brand and Pricing Strategies.
- With reference to the Notification vide no. MCI-18(1)2020-Med.1121415, dated 16.09.2020, related to 'Postgraduate Medical Education (Amendment) Regulations 2020'; all the postgraduate students pursuing MD / MS in broad specialties in Sumandeep Vidyapeeth Deemed to be University, as a part of course curriculum, shall undergo a compulsory Residential rotational posting in the 3rd or 4th or 5th semester of the Postgraduate programme, for a duration of three months, in the District Hospitals / District Health System, is confirmed and approved for execution.
  - (Board of Studies letter no.: SBKS/DEAN/1576/2020, dated 0/10/2021 and Vide Notification of Board of Management Resolution :Ref no. SVDU/R/1271-1/2020-21, dated - 30<sup>th</sup> December 2020)
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### PG CURRICULUM: MS OPHTHALMOLOGY

All post graduates after enrollment will be exposed to organized evidence searching skills lectures along with teaching of clinical epidemiology, biostatistics and research methodology.

The PG training will be imparted as under

1) Seminars –A seminar will be held once a week, where residents will present, by rotation, a topic already given .The seminars will have a thorough analysis of the topic prepared from some standard books and evidences from journals and net, related to various aspects of the subject . These evidences will be shown as links to elaborate the issue. The seminar will be facilitated by a faculty member and interactive discussion will be encouraged. Performance will be assessed and record maintained in the resident's logbook.

2)Journal club - once aweek.

Articles of clinical as well as research interest will be presented once a week along with the important references from various journals as evidences in the form of links. The presentation and the article will be assessed by a faculty member on a prescribed Performa supplied centrally. Performance will be assessed and record maintained in the resident's log book.

3)Case presentation- Once a week, a resident will present case of clinical interest . D/D will be discussed in details and recent advances in investigations and treatment will be discussed along with evidences to be shown in a separate slide. Performance will be assessed and record maintained in the resident's logbook.

4)Spot case discussions everyday during normal OPD working. Every post graduate student will be exposed to at least one encounter of role modeling in which a consultant after raising a relevant query will assist in searching for its evidence and demonstrate evidence searching methodologies, its importance and utility to thestudent.

5) Surgery training: Residents will be posted to OT by rotation and will be trained in OT discipline, sterilization procedures, instruments cleaning & sterilization, equipments maintenance , Patient preparation, assisting surgical procedures and doing step-wise common surgicalprocedures.



6) Camps – Periodically community outreach camps are organized and 2-4 residents by rotation along with one faculty member will attend the camps. A record will be maintained about the number of cases seen, cases selected for surgery and cases of academic interest.

7) Contact programme: Residents (one at a time) by rotation will be sent to premier institute like LVPEI, Hyderabad for a period of one month. ( The period will be considered special leave for calculating attendance). Resident will keep a record of the proceedings and get it signed by HOD on return.

8) Each resident will attend and present at least one poster and one paper at a state or national conference. He will also have to have one paper published in a indexed journal published or accepted for publication before appearing for final university exam.

9) A log book with a record of all day to day activity will be maintained by each resident and signed by concerned faculty member.

10) Each resident will have to do a scientific study for his dissertation which must be completed, submitted and accepted by the university before university exam. The topic will be selected after due deliberations by all the faculty members in the department and then sent for approval by the institutional review board, research committee and the ethics committee. Work will ensue after the due approval.



### **EXAMINATION PATTERN:-**

#### **M.S.(Ophthalmology)THEORY:-** TOTAL 400 MARKS

There will be 4 papers in theory

PAPER I – Basic sciences

PAPER II – Ophthalmic medicine & surgery

PAPER III – Ophthalmology in relation to systemic conditions

PAPER IV – Recent advances in ophthalmology

- ❖ Each paper shall have 100 marks with 3 hours duration and 50% marks must be obtained to pass.
- ❖ Each paper shall have the following pattern:
  - Long answer questions – 3 (each of 20marks)
  - Short answer questions – 2 (each of 10marks)
  - Very short answer questions – 4 (each of 5marks)

#### **PRACTICAL:**

TOTAL 600 MARKS

| CASE                                                                                         | No. | Marks/case | Marks      |
|----------------------------------------------------------------------------------------------|-----|------------|------------|
| Long case                                                                                    | 1   | 150        | 150        |
| Short case anterior segment                                                                  | 2   | 75         | 150        |
| Short case posterior segment                                                                 | 2   | 75         | 150        |
| Table viva consisting of instruments, drugs, optics slides specimen, OCT, B scan & perimetry | 1   | 150        | 150        |
| <b>TOTAL</b>                                                                                 |     |            | <b>600</b> |

**TOTAL (Theory + Practical): 1000 marks**

### **EXAMINATION PATTERN:- P.G. Diploma**

#### **(Ophthalmology)THEORY:-** TOTAL 300 MARKS

There will be 3 papers in theory

PAPER I – Basic sciences

PAPER II – Ophthalmic medicine & surgery

PAPER III – Ophthalmology in relation to systemic conditions & recent

Advances in ophthalmology

- ❖ Each paper shall have 100 marks with 3 hours duration and 50% marks must be obtained to pass
- ❖ Each paper shall have the following pattern:
  - Long answer questions – 3 (each of 20marks)
  - Short answer questions – 2 (each of 10marks)
  - Very short answer questions – 4 (each of 5marks)



**PRACTICAL:**

TOTAL 400 MARKS

| CASE                                                                                        | No. | Marks      |
|---------------------------------------------------------------------------------------------|-----|------------|
| Long case                                                                                   | 1   | 150        |
| Short case anterior segment                                                                 | 1   | 75         |
| Short case posterior segment                                                                | 1   | 75         |
| Table viva consisting of instruments, drugs, optics slides specimen, OCT, B scan &perimetry | 1   | 100        |
| <b>TOTAL</b>                                                                                |     | <b>400</b> |

**TOTAL (Theory + Practical): 700 marks****APPENDIX – ‘A’****THE SYLLABUS: P.G. Ophthalmology**

1. Basic Sciences
  - a. Anatomy & embryology of eye, adnexa, orbit, visual pathways, related cranial nerves.
  - b. Physiology of the eye, vision, BSV, ocular motility, aqueous & IOP, tear, metabolism of ocular tissues.
  - c. Basic ocular pathology & microbiology related to the eye
  - d. Optics, refractive errors and their management.
2. Ophthalmic medicine and surgery
  - a. All the diseases related to eye, its adnexa, orbit, Extra ocular motility, optic nerve, cranial nerves etc.
  - b. All surgical procedures relating to all the structures mentioned as above.
  - c. Relation of ophthalmology to various systemic conditions.
  - d. Neuro-ophthalmology.
  - e. Eyebanking, Keratoplasty.
  - f. National programme for control of blindness & its application
  - g. Therapeutics in ophthalmology.
  - h. Radiotherapy in ophthalmology.
  - i. Application of various specialized investigations and imaging modalities in ophthalmology.
  - j. Uses of lasers and other recent advances in ophthalmology.

