SCHOOL OF MEDICINE
D.Y. PATIL UNIVERSITY
(established under Section-3 of UGC Act. 1956 vide notification no. F. 9.21/2000. U.3
dated 20.06.2002 of the Govt. of India)

MD DERMATOLOGY,
VENEREOLOGY & LEPROSY
3 YEARS FULL TIME PROGRAMME
CURRICULUM
2016-2017 onwards

Sector-7 Dr. D. Y. Patil Vidyanagar, Nerul, Navi Mumbai.
Tel: 91-22 27702218 Email:-schoolofmedicine@dypatil.edu Web:-www.dypatil.edu
PROGRAMME NAME: M.D. DERMATOLOGY, VENEREOLOGY & LEPROSY

PROGRAMME OBJECTIVES:-

At the end of Postgraduate training in Dermatology, Venereology and Leprosy, the Postgraduate shall be able to –

1. Recognize the importance of Dermatological, Venereological & Leprosy diseases, with the health needs of the community.

2. Practice in the field of Dermatology, Venereology & Leprosy ethically.

3. Demonstrate the understanding of the basic sciences relevant to skin, hair & nail.

4. Diagnose and treat most of the Dermatological, Venereological & Leprosy disorders on the basis of clinical assessment and properly selected and conducted investigations.

5. Plan and advice measures for prevention and rehabilitation of the patients suffering from Dermatological, Venereological diseases & Leprosy disorders and disability related to those diseases.

6. Play an important role in the implementations of National Health Programmes.

7. Demonstrate competency in research methodology.

8. Develop good teaching skills.

Students eligibility and selection method:

The students selected for the course shall posses recognized MBBS degree, should have obtained permanent registration with Medical Council of India or any of the states of Medical Councils.

The student for the course shall be selected strictly on the basis of their academic merit.

The merit can be determined by a competitive test.

a) Theory knowledge: A student should have fair knowledge of basic sciences (Anatomy,
Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to Dermatology, Venereology & Leprosy. He/she should acquire in depth knowledge of his/her subject including recent advances. He/she should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of latest diagnostics and therapeutics available.

b) **Clinical Skills** – A student should be expert in history taking and physical examination. He/she should be able to do basic diagnostic procedures like smears, and staining. He/she should be able to do skin biopsy and various basic operative procedures of the speciality.

c) **Research** – He/she should know basic concepts of research methodology, plan research project and should have basic knowledge of statistics. He/she should be well-versed with computer and internet.

d) **Teaching** – He/she should learn the basic methodology of teaching and develop competence in teaching medical / paramedical student

**PROGRAMME OUTCOME**

At the end of the training the student will be

A competent specialist who would provide high quality health care and advance the cause of science through research & training.

**PROGRAMME SPECIFIC OUTCOMES**

- Demonstrate basic skills relevant to the Dermatology, Venereology and Leprosy.
- Diagnose and manage majority of the conditions in dermatology, venereology and leprosy and conduct appropriately selected investigations.
- Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability.
- Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
- Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with societal norms and expectations.
- Recognize the importance of dermatology with respect to community and the national priorities in the health sector.
- Practice ethically and in step with the principles of primary health care.
### TEACHING AND EXAMINATION SCHEME

**PROGRAMME STRUCTURE for MD in Dermatology, Venereology & Leprosy**

#### DURATION OF PROGRAMME -SEMESTERS:

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- The candidate must secure 50% and above in both Theory and Practical’s to Pass
- Dissertation
- 1 Poster presentation, 1 paper presentation at National/state conference and 1 research paper should be published or accepted/sent for publication during the period of post graduate studies.
Postgraduate Training Program:

Didactic lectures, seminars, journal clubs, symposia, and guest lectures are to be regularly arranged. Bed side teaching, grand rounds, inferable group discussions and clinical demonstrations should be hallmark of clinical/practical learning. Student should have hands-on training in performing various procedures (medical/surgical) and ability to interpret various investigational reports. Exposure to newer specialized diagnostic/therapeutic procedures concerning the subject.

Clinical Posting:

Duration - 3 years

Clinical Dermatology - The training should be given in wards, out-patient department, speciality clinics and operation theaters

Outpatient Department:

For the first five months of training programme, residents may be attached to the faculty member to be able to pick up methods of history taking and physical examination in Dermatology, Venererology& Leprosy. During this period the resident may get oriented to the common dermatology, venereology and leprosy problems. After 6 months, the resident may work independently under the senior residents and faculty guidance.

Wards :

Each resident should work in the ward & learn the bedside procedures. They can work-up the cases with responsibility.

SpecialityClinics :

In the various speciality clinics, the residents are posted so that they learn the details of
particular specialty. They learn the proper record keeping, investigational work up and management and complications. e.g. Dermatosurgery, Vitiligo, sexually transmitted diseases, Leprosy.

**Minor Surgical Procedures:**
A phased programme may be chalked out. In the first phase, the resident is trained for biopsy techniques, electrocautery, curettage, and excision biopsies. In the second phase, the resident assists senior resident for surgeries like vitiligo grafting, tattoo removal, grafting. In the third phase, the resident operates independently assisted by senior resident & Faculty.

**Histopathology:**
Histopathology training in the first phase and reporting of the slides to be done in the second phase is compulsory.

**Overall objectives:**
The following overall objectives are expected to be achieved by the end of 3 years of residential training programme. The students should be able to handle:

- **Basic Sciences** - attain understanding of the structure and function of skin, hair and nail.

  Male & female genital tract, basic concept of cosmetology, understand the function of skin, the hormonal and immunological aspect of skin, learn the basic concept of dermatopathology & various other diagnostic procedures. They should learn age related skin diseases e.g. Neonatal & Geriatric Dermatoses. They should be able to prescribe early diagnostic and preventive therapies for neonate or geriatric problem

- **Clinical Dermatology, Venereology & Leprosy**

  Given adequate opportunity to work on the basis of graded responsibilities in outpatients & inpatient wards and procedure room, they should be able to:

  - Acquire scientific & rational approach to the diagnosis of dermatology, venereology & leprosy cases.
  - Acquire understanding of & develop inquisitiveness to investigate to establish case and effect of the disease.
  - To competently handle all dermatology, venereology & Leprosy emergencies e.g. drug reactions, lepra reactions, balanoposthitis, angioedema. To be familiar with newer
technologies of DVL. To be able to manage collagen vascular & vesiculobullous disorders.

- Super Speciality:-

Given an opportunity to work on a rotational basis in various special clinics of subspecialties of DVL like Paediatric dermatology, HIV Clinics, Contact dermatitis.

- Dermatohistopathology

Student should be able to study the histopathology of various D.V.L. diseases. They should report the studies related clinicopathological correlation of various dermatological, Venereological and leprosy cases. Be able to understand pathophysiology of DVL diseases.

- Community dermatology

Various skin camps may be conducted where residents are posted for imparting training to the residents according to set methodology. Various community & school surveys may be also be conducted by the residents. The residents should be able to guide the schools to improve the diseases hygiene, nutrition & preventive aspects.

- Research

Recognise a research problem, state the objectives in terms of what is expected to be achieved in the end, plan rational approach. Use proper methodology to carry out the research & analyze the data with the statistical analysis. Interpret & write thesis.

Write scientific appear as expected of International standards from the material studied.

**Updated:-**

Urticaria recent guidelines

Role of Biologicals

Dermatosurgery LASER

Platelet rich plasma

Follicular hair transplant

Pathogenesis of Psoriasis

Thread lift

Newer antifungals

Newer antihistamines
Newer chemical peels

- Duration of the course

The duration of the courses shall be 3 academic years (6 academic terms)

Clinical Posting

First Year - Dept. of DVL (1 year)

Second Year - allied posting (6 months) (2 months Pathology, Microbiology, Surgery)

Dept. DVL (6 months)

Third Year - Dept. DVL (1 year)

- Thesis/Dissertations

The candidate shall prepare a dissertation on a particular, topic pertaining to Dermatology, Venerology & Leprosy, under the supervision of recognized teacher during the 1st Post and the same to be intimated by the end of the 1st Post to the University after ethical & research committee approval. Synopsis not more than 300 words is to be prepared by the Post-Graduate student for the above purpose. Five copies of dissertation are to be submitted 6 months before the final examination to the University duly signed by the teacher, HOD & Dean of the Institution. One month grace period may be permitted to submit the thesis. Students are allowed to appear for exam only after acceptance of the thesis.

- Post Graduate Examination

The examination is conducted to evaluate and certify the candidate’s level of knowledge skill & competence at the end of the training. The examination shall be held at the end of 3 academic years. The pattern of examination consists of 1) Theory 2) Clinical/Practical & Viva Voce

- Theory Exam Pattern

Postgraduate Examination

50% marks for theory & 50% for Practical

Theory

Paper I - Basic Sciences in relation to Dermatology, Venereology & Leprosy

Paper II - Clinical Dermatology

Paper III – STD and Leprosy

Paper IV - Advances in DVL
Course Contents

MUST KNOW TOPICS

- Structure and functions of skin
- Embryology of Skin and Appendages
- Light Microscopy of Skin Appendages
  - Electron Microscopy of Skin Appendages including Basement Membrane zone, Desmosomes & Dermoepidermal Junction
- Collagen, Elastin, Reticular Fibre, Mucopolysaccharides
- Pilosebaceous Unit Anatomy and Physiology
- Eccrine and Apocrine Glands Anatomy and Physiology
- Blood and Lymphatic Supply of the Skin
- Nerve Supply of the Skin
- Cells of the Skin
- Subcutaneous Tissue
- Barrier Function of skin
- Immune Functions of the Skin
- Keratinization Of Skin
- Percutaneous Absorption
- Temperature Regulation & Skin
- Sebum Production, Composition & Function
- Eccrine Sweat Production, Composition & Function
- Ultraviolet Light and Photoprotection of The Skin
- Melanogenesis and the Skin
- Skin as an Endocrine Organ
- Stress and Skin
- Neonatal Skin Changes
-Skin Changes at Puberty
-Skin Changes at Pregnancy
-Skin Changes at Menopause
-Skin & Old Age
-Skin & Oestrogen
-Anatomical Variations of the Skin
-Hair Follicle Anatomy & Physiology
-Nail Anatomy
-Mucous Membrane
-Genital Anatomy of Male
-Genital Anatomy of Female
-Anatomy of Nerve
-Facial Muscles Anatomy
-Hand and Foot Muscles Anatomy
-Cranial & Peripheral Nerves with Nerve Blocks
- Basic pathological reactions of the skin
- Basic Dermatopathology
-Basic Stains Used In Dermatology
-Immunoflorescence
-Basics of Bacteriology
-Basics of Mycology
-Basics of Virology
-Basics of Serology
-Basics of Immunology
  - Recent information about immune system
  - B and T cells
  - Langerhans cells
- Types of Hypersensitivity
- Immunoglobulins
- Interleukins, cytokines, chemokines, prostaglandins
- Immune deficiency disorders
- Hypogammaglobulinaemia
- Wiskott – Aldrich Syndrome
- Chediak Higashi Syndrome
- Complement system and its disorders
- Nature of anaphylaxis

-Basics of Genetics
-Culture and Transport Media in Dermatology
-Bedside Investigation in Dermatology
-Basics of Pharmacology
-Basics of Statistics
-Wound Healing
-Keratinocytes
-Mast Cells
-Pathophysiology of UV Radiations
-Pruritus
-Acne Vulgaris
-Actinic Keratosis
-Common Benign Growth
-Impetigo & Cellulitis
-Leg Ulcers
-Skin infections
-Bacterial
-Viral
-Fungal
Parasitic
- Pigmented Lesions
- Xerosis
- Psoriasis
- Lichen Planus
- Skin Sign of HIV
- Syphilis
- Dermatophytosis
- Urticaria & Angioedema
- AST & ASST
- Frick Test
- Prick test
- Dermographism
- Drug Reactions
- Cellular and molecular biology of inflammation, repair & carcinogenesis
- Neonates & skin
- Disorders of epidermal cohesion
- Non cutaneous manifestations of skin diseases
- Psychological aspects of skin diseases
- Pruritus
- Disorders of epidermal appendages and related disorders
- Eczemas, contact dermatitis, photodermatoses
- Epidermal and appendageal tumors
- Disorders of melanocytes
- Inflammatory and Neoplastic disorders of the dermis
- Skin changes due to mechanical and physical factors
- Photo medicine
- Disorders due to drugs & chemical agents
- Occupational skin diseases
- Disorders of hair
- Disorders of nails
- Dermatology & Medicine
  - Skin changes across the span of life
  - Skin lesions in nutritional, metabolic & heritable disorders
  - Skin manifestations of Bone marrow and blood element disorders
  - Skin manifestation of gastrointestinal & renal disorders
  - Skin manifestation of disorders of the cardiovascular and pulmonary systems
  - Skin manifestation of alterations and disorders of the endocrine system
- Genodermatoses
- Nutritional disorders
- Metabolic disorders
- Vesiculobullous disorders
- Connective tissue disorders
- Genodermatosis
- Sunscreens
- Soaps & detergents
- Pediatric dermatology
- Mastocytoses
- Vasculitis
- Sarcoidosis
- Nutrition and skin
- Histiocytoses
- Nail disorders
- Hair disorders
- Hidradenitis suppurativa
- Pyoderma gangrenosum
- Lichen myxedematosus
- Deposits in skin
- Leishmaniasis
- Basal cell carcinoma
- Squamous cell carcinoma
- Mycosis fungoides
- Kaposis sarcoma
- Melanoma
- Diet in dermatology
- Skin and angiogenesis
- Skin and kidney
- Skin and DM
- Skin and Bones
- Skin and Endocrine
- Skin and GIT
- Skin and liver
- Skin and malignancy
- Skin and HIV
- Skin and CNS
- Skin and Hematology
- Skin and eye
- Skin and metabolic
- Skin and Radiology
- Prenatal diagnosis
- Keloids and hypertrophic scar
- Skin and Rheumatoid arthritis
- Skin & obesity
- Skin & metabolic syndrome
- Perforating dermatoses
- Neutrophilic dermatoses
- Panniculitis
- Photodynamic therapy

**Therapeutics**
- Topical therapy
- Systemic therapy
- Modalities of drug delivery
- Principles of dermatologic therapy

**Dermatosurgery**
- Dermatosurgery introduction & approach
- Basic principles of dermatosurgery
- Standard dermatosurgical Procedures
- Special surgical Procedures
- Vitiligo Surgery

**Cosmetology**
- Basic Cosmetology
- Approach to Cosmetic Problems in Dermatology
- Surgical procedures in Cosmetic Cosmetology

**Sexually transmitted disease**
Syphilis
Chancroid & Chancroidal ulcers
Donovanosis
Lymphogranuloma venereum
Viral STDS
Balanoposthitis, Cervicitis & Vaginitis
Urethritis, pelvic inflammatory disease
Reiters disease
AIDS
Psychosexual disorders
Leprosy
Epidemiology
Microbiology
Immunology
Pathology
Classification, clinical features & diagnosis
System aspects
Differential diagnosis
Drug treatment
Surgical & ancillary treatment
Rehabilitation
Leprosy control in India
GOOD TO KNOW TOPICS

- Biologics in urticaria
- Treatment modalities of melanoma
- Signs in dermatology
- Syndromes in dermatology
- Appearances in dermatology
- Newborn developmental defects

NICE TO KNOW TOPICS

- Historical aspect of skin diseases
- History of leprosy
- Older treatment modalities of skin diseases
- Etymology of skin diseases
- Etymology of common drugs used
- Onchodermatology- radiation dermatosis, reaction to chemotherapy
- Liposuction

NEWER MODIFICATIONS IN TOPICS

- Teledermatology
- Trichology
- Dermatoscopy
- Platelet rich plasma
- Biologics in dermatology
- Recent advances in treatment modalities of skin diseases
- Immunotherapy in warts
TEACHING AND LEARNING METHODS

A post graduate student pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance. Every student shall attend teaching and learning activities during each year as prescribed by the department and should not be absent from work without valid reasons.

Teaching methodology:

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below.

1. **Lectures**: Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.
   a) **Didactic Lectures**: Few topics are suggested as examples:
      1) Bio-statistics
      2) Use of library
      3) Research Methodology
      4) Medical code of Conduct and Medical Ethics
      5) National Health and Disease Control Programmes
      6) Communication Skills
      These topics may preferably be taken up in the first few weeks of the first year.
   b) **Integrated Lectures**: Some of the topics may be taken up by multidisciplinary teams eg. Jaundice, Diabetes mellitus, Thyroid etc.

2. **Journal Club & Subject seminars**: Both are recommended to be held once a week. All PG students are expected to attend and actively participate in discussion and enter relevant details in the Log Book. Further, every post graduate student must make a presentation from the allotted journal(s), selected articles at least four times a year. The presentations would be evaluated and would carry weightage for internal assessment.

3. **Student Symposium**: Recommended as an optional multi-disciplinary programme. The evaluation may be similar to that described for subject seminar.
4. **Ward Rounds**: Ward rounds may be service or teaching rounds.
   
a) **Service Rounds**: Post graduate students and Interns should be responsible for everyday care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.

   b) **Teaching Rounds**: Every unit should have ‘grand rounds’ for teaching purpose. A diary (log book) should be maintained for day to day activities by the students.

   Entries of (a) and (b) should be made in the Log book. Log books shall be checked and assessed periodically by the faculty members imparting the training.

5. **Clinical Case Presentations**: Minimum of 5 cases to be presented by every post graduate student each year. They should be assessed using check lists and entries made in the log book

6. **Clinico-Pathological Conference (CPC)**: Recommended once a month for all post graduate students. Presentation is to be done by rotation. If cases are not available, it could be supplemented by published CPCs.

7. **Inter-Departmental Meetings**: Strongly recommended particularly with Departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.

   **Pathology**: A dozen interesting cases may be chosen and presented by the post graduate students and discussed. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions, the advances in immuno-histochemical techniques can be discussed.

   **Radiodiagnosis**: Interesting cases and imaging modalities should be discussed.

8. **Teaching Skills**: The post graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

9. The post graduate students should undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing the work and
presenting the same at various scientific fora.

10. **Continuing Medical Education Programmes (CME):** At least two CME programmes should be attended by each student during the MD programme.

11. **Conferences:** The student should attend courses, conferences and seminars relevant to the speciality.

12. A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

13. Department should encourage e-learning activities.

14. **Rotation:**

   **Clinical Postings**

   A major tenure of posting should be in the Department of Dermatology. It should include care of in-patients, out-patients, special clinics like STD clinic, leprosy clinic, vitiligo clinic and maintenance of case records for both in- and out-patients.

   A short posting for 2–4 weeks in the Department of Medicine is to be arranged for exposure to Emergency Medicine and Resuscitation.

15. **Clinical meetings:**

    There should be intra - and inter- departmental meetings for discussing uncommon / interesting medical problems. Each student must be asked to present a specified number of cases for clinical discussion, perform procedures/tests/operations/present seminars/review articles from various journals in inter-unit/interdepartmental teaching sessions. These should be entered in a Log Book; log books should be checked and assessed periodically by the faculty members imparting the training.
16. Thesis writing:

Thesis writing is compulsory. All MD students are required to carry out work on a selected research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a Thesis.

During the training programme, patient safety is of paramount importance, therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in medical colleges is mandatory.

ASSESSMENT

FORMATIVE ASSESSMENT, i.e., during the training may be as follows:

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

Quarterly assessment during the MD training should be based on:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs

SUMMATIVE ASSESSMENT, i.e., at the end of training

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The examination shall be in three parts:
1. **Thesis**

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. **Theory Examination:**

There shall be four papers each of three hours duration. Each paper shall consist of two long essay questions, three short essay questions and four short notes. These are:

- **Paper – I**  Basic Science as applied to Dermatology, STDs and Leprosy
- **Paper – II**  Dermatology
- **Paper – III**  STD & Leprosy
- **Paper – IV**  Recent advances in field of Dermatology, Applied Sciences pertaining to skin /VD & internal medicine and skin

3. **Clinical / Practical and viva voce Examination**

**Practical examination** should be taken to assess competence and skills of techniques and procedures and should consist of two long cases, two short cases and 10 spots.

During oral/viva voce examination, student should be evaluated for Interpretation of data, instruments, clinical problems, radiological and biochemical investigations, slides, drugs, X-rays etc.
Recommended Reading:

Books (latest edition)

- Sexually Transmitted Diseases - Sharma V K
- IADVL Text book of Dermatology - R G Walia
- IAL Textbook of Leprosy - H Kar
- Bologna “Textbook of Dermatology”
- Text Book of Dermatology, Wilkinson/Ebling/Rook, 4 Volumes, Oxford
- Text Book of Dermatology, Samuel L. Moschelia M.D. Harry J. Hurllay M.D., 2 Volumes
- Histopathology of the Skin, Walter - F. Lever- Gundula Schaumburg Lever
- Diseases of the skin, I larry L Arnold Richard 13-Dom William D. James, Andrews
- Differential Diagnosis in Dermatology, Satish S. Savant, Radha Atalshah, Deepak Gore, Richard Ashan, Barbara Lepdard
- Leprosy, Dharmendra, 2 Volumes, Samant and Company, Mumbai.
- Recent Advances in Dermatology, Champion, R.H. Pye, R.J. 8th Volumes.
- Venereal Diseases, Amborse King Claude Nicol Philip Rodin, EL.BS English Language Book Society/ Baillere Tindal, East Sussex.
- Sexually Transmitted Diseases, King K Holmes, McGraw-Hill Health profession
- Dermatology in General Medicine, Thomas B. Fitzpatrick, McGraw Hill Book Company.
- Fundamentals of Pathology of skin, Mysore Venkataram

Journals

Three international and two national journals (all indexed)