



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

Ordinance Governing
MD General Medicine
Curriculum 2019-20

SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC 2018 dated 19th December 2018)

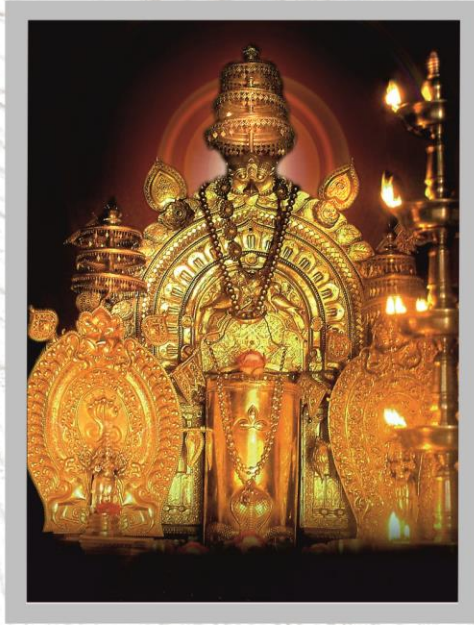
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|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

Edition Year : 2019-20

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THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with three wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



SHRI
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MANJUNATHESHWARA
UNIVERSITY

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SDMU/Notif/28/2019

Date: 24 - 04 - 2019

NOTIFICATION

Regulations and Curricula of Medical Postgraduate Degree Courses in Clinical Subjects - 2019

- Ref:**
1. Minutes of the Board of Studies - Medical PG held on 16-03-2019 (SDMU/BOS PG: 01/2019 dated 16-03-2019)
 2. Minutes of the 1st Joint Faculty Meeting held on 19-03-2019 (Letter No: SDMU/JF/M-01/85/2019; Dated: 19-03-2019)
 3. Minutes of the 1st Meeting of Academic Council held on 20-03-2019 (Letter No: SDMU/AC/M-01/93/2019; Dated: 21-03-2019)
 4. Minutes of the 2nd Meeting of BoM held on 22-03-2019 (Letter No: SDMU/BoM/M-02/94/2019; Dated: 23-03-2019)

Ordinance: In exercise of the powers conferred under Statutes 1.1 (Powers - Section xii), 1.2 (Powers and Functions - Section vii), 1.4 (Powers and Functions - Sections ix & x), 1.5b (Powers and Functions - Sections b & c) of Shri Dharmasthala Manjunatheshwara University, the BoM is pleased to approve and notify the Ordinance governing Regulations and Curricula of the following Medical Postgraduate Degree/ Diploma Courses in Clinical Subjects - 2019:

Sl No	Course	Sl No	Course
1	M.D. (General Medicine)	7	M. D. (Hospital Administration)
2	M. D. (Pediatrics)	8	M. S. (General Surgery)
3	M. D. (Dermatology)	9	M. S. (Ophthalmology)
4	M. D. (Psychiatry)	10	M. S. (Orthopedics)
5	M. D. (Anaesthesiology)	11	M. S. (Otorhinolaryngology)
6	M. D. (Radio-Diagnosis)	12	M. S. (Obstetrics & Gynecology)

Diploma

- 1 Diploma in Public Health

The ordinance shall be effective for the students joining the courses during 2019-20 and onwards.

By Order

REGISTRAR

- To:**
1. The Principal, SDM College of Medical Sciences & Hospital.
 2. Members of BoG, BoM & Academic Council, Shri Dharmasthala Manjunatheshwara University


- Copy to:**
1. The Vice-Chancellor, Shri Dharmasthala Manjunatheshwara University
 2. The Controller of Examinations, Shri Dharmasthala Manjunatheshwara University



COMPETENCY-BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN GENERAL MEDICINE

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1. AIMS

To produce a postgraduate student who after undergoing the required training

1. Should be able to deal effectively with the needs of the community.
2. Should be competent to handle all problems related to his/her speciality including recent advances.
3. Should also acquire skill in teaching medical/Para-medical students in the subject that he/she has received his/her training.
4. Should be aware of his/her limitations.
5. Should know the principles of research methodology and modes of accessing literature.

2. Intended outcome will be a consultant specialist who can practice medicine:

1. At a defined level of competency in different practice settings like ambulatory (outpatient), inpatient, intensive care and emergency setting ensuring continuum of care.
2. With an emphasis on the diseases/health problems most prevalent in our area.
3. While prioritizing basic sciences as well as knowledge of recent advances and basic sciences as applicable to general medicine.
4. With competence in procedural and communication skills commensurate with the specialty.
5. While being capable of learning in a self-directed manner to diagnose, treat, prevent and document the vast number of conditions using relevant resources whether prevalent or uncommon in our geographical area.

6. With empathy conforming to the principles of bioethics.
7. While working efficiently in a healthcare team.
8. With an ability to teach juniors, undergraduates, paramedical staff.

3. SUBJECT SPECIFIC OBJECTIVES :

The postgraduate training should enable the student to:

1. Practice efficiently internal medicine specialty, backed by scientific knowledge including basic sciences and skills.
2. Diagnose and manage the majority of conditions in his specialty (clinically and with the help of relevant investigations).
3. Exercise empathy and a caring attitude and maintain professional integrity, honesty and high ethical standards.
4. Plan and deliver comprehensive treatment using the principles of rational drug therapy.
5. Plan and advise measures for the prevention and rehabilitation of patients belonging to his specialty.
6. Manage emergencies efficiently by providing Basic Life Support (BLS) and Advanced Life Support (ALS) in emergency situations.
7. Recognize conditions that may be outside the area of the specialty/competence and refer them to an appropriate specialist.
8. Demonstrate skills in the documentation of case details including epidemiological data.
9. Play the assigned role in the implementation of National Health Programs.
10. Demonstrate competence in basic concepts of research methodology and clinical epidemiology and preventive aspects of various disease states.

11. Be a motivated 'teacher' - defined as one keen to share knowledge and skills with a colleague or a junior or any learner.
12. Continue to evince keen interest in continuing education irrespective of whether the student is in a teaching Institution or is practicing by use of appropriate learning resources.
13. Be well versed with his medico-legal responsibilities.
14. Undertake audit, use information technology tools and carry-out research, both basic and clinical, with the aim of publishing the work and presenting the work at scientific forums.
15. The student should be able to recognize the patient's mental condition characterized by self-absorption and reduced ability to respond to the outside world (e.g. Autism), abnormal functioning in social interaction with or without repetitive behaviour and/or poor communications, etc.

4. SUBJECT SPECIFIC COMPETENCIES

These competencies include

- A) Cognitive domain
- B) Psychomotor domain
- C) Affective domain

A. Cognitive domain

The cognitive domain will contain two sets of competencies which are the knowledge of basic sciences and subject-specific topics.

a. Basic Sciences

1. Basics of human anatomy as relevant to clinical practice, surface anatomy of various viscera, neuro-anatomy, important structures/organs location in different anatomical locations in the body; common congenital anomalies.

2. The basic functioning of various organ-system, control of vital functions, pathophysiological alteration in diseased states, interpretation of symptoms and signs in relation to pathophysiology.
3. Common pathological changes in various organs associated with diseases and their correlation with clinical signs; understanding various pathogenic processes and possible therapeutic interventions possible at various levels to reverse or arrest the progress of diseases.
4. Knowledge about various microorganisms, their special characteristics important for their pathogenic potential or of diagnostic help; important organisms associated with tropical diseases, their growth pattern/life-cycles, levels of therapeutic interventions possible in preventing and/or eradicating the organisms.
5. Knowledge about pharmacokinetics and pharmacodynamics of the drugs used for the management of common problems in a normal person and in patients with diseases kidneys/liver etc. which may need an alteration in metabolism/excretion of the drugs; rational use of available drugs.
6. Knowledge about various poisons with specific reference to different geographical and clinical settings, diagnosis and management.
7. Research Methodology and Studies, epidemiology and basic Biostatistics.
8. National Health Programmes.
9. Biochemical basis of various diseases including fluid and electrolyte disorders; Acid-base disorders etc.
10. Recent advances in relevant basic science subjects.

b. Systemic Medicine

1. Preventive and environmental issues, including principles of preventive health care, immunization and occupational, environmental medicine and bioterrorism.
2. Ageing and Geriatric Medicine including Biology, epidemiology and Neuro-psychiatric aspects of ageing.
3. Clinical Pharmacology - Principles of drug therapy, the biology of addiction and complementary and alternative medicine.
4. Genetics - Overview of the paradigm of the genetic contribution to health and disease, principles of Human Genetics, single gene and chromosomal disorders and gene therapy.
5. Immunology - The innate and adaptive immune systems, mechanisms of immune-mediated cell injury and transplantation immunology.
6. Cardio-vascular diseases - Approach to the patient with possible cardiovascular diseases, heart failure, arrhythmias, hypertension, coronary artery disease, valvular heart disease, infective endocarditis, diseases of the myocardium & pericardium and diseases of the aorta and peripheral vascular system.
7. Respiratory system - Approach to the patient with respiratory disease, disorders of Ventilation, asthma, Chronic Obstructive Pulmonary Disease (COPD), Pneumonia, pulmonary embolism, cystic fibrosis, obstructive sleep apnea syndrome and diseases of the chest wall, pleura and mediastinum.
8. Nephrology - Approach to the patient with renal diseases, acid-base disorders, acute kidney injury, chronic kidney disease, tubulointerstitial diseases, nephrolithiasis, Diabetes and the kidney, obstructive uropathy and treatment of irreversible renal failure.

9. Gastro-intestinal diseases - Approach to the patient with gastrointestinal diseases, gastrointestinal endoscopy, motility disorders, diseases of the oesophagus, acid peptic disease, functional gastrointestinal disorders, diarrhoea, irritable bowel syndrome, pancreatitis and diseases of the rectum and anus.
10. Diseases of the liver and gall bladder - approach to the patient with liver disease, acute viral hepatitis, chronic hepatitis, alcoholic and non-alcoholic steatohepatitis, cirrhosis and its sequelae, hepatic failure and liver transplantation and diseases of the gall bladder and bile ducts.
11. Haematologic diseases - Haematopoiesis, anaemias, leucopenia and leucocytosis, myeloproliferative disorders, disorders of haemostasis and haemopoietic stem cell transplantation.
12. Oncology - Epidemiology, biology and genetics of cancer, paraneoplastic syndromes and endocrine manifestations of tumours, leukaemias and lymphomas, cancers of various organ systems and cancer chemotherapy.
13. Metabolic diseases - Inborn errors of metabolism and disorders of metabolism.
14. Nutritional diseases - Nutritional assessment, enteral and parenteral nutrition, obesity and eating disorders.
15. Endocrine - Principles of endocrinology, diseases of various endocrine organs including diabetes mellitus.
16. Rheumatic diseases - Approach to the patient with rheumatic diseases, osteoarthritis, rheumatoid arthritis, spondyloarthropathies, systemic lupus erythematosus (SLE), polymyalgia, rheumatic fibromyalgia and amyloidosis.
17. Infectious diseases - Basic consideration in Infectious Diseases, clinical syndromes, community-acquired clinical syndromes. Nosocomial infections, Bacterial diseases – General consideration, diseases caused by gram-positive

bacteria, diseases caused by gram-negative bacteria, miscellaneous bacterial infections, Mycobacterial diseases, Spirochetal diseases, Rickettsia, Mycoplasma and Chlamydia, viral diseases, DNA viruses, DNA and RNA respiratory viruses, RNA viruses, fungal infections, protozoal and helminthic infections.

18. Neurology - approach to the patient with neurologic disease, headache, seizure disorders and epilepsy, coma, disorders of sleep, cerebrovascular diseases, Parkinson's disease and other movement disorders, motor neuron disease, meningitis and encephalitis, peripheral neuropathies, muscle diseases, diseases of neuromuscular transmission and autonomic disorders and their management.
19. The mental condition characterized by complete self-absorption with reduced ability to communicate with the outside world (Autism), abnormal functioning in social interaction with or without repetitive behaviour and/or poor communication etc.
20. Dermatology - Structure and functions of the skin, infections of skin, papulosquamous and inflammatory skin rashes, photo-dermatology, erythroderma, cutaneous manifestations of systematic diseases, bullous diseases, drug-induced rashes, disorders of hair and nails, principles of topical therapy.

B. Psychomotor domain

Includes clinical assessment skills, procedural skills, respiratory management, management of critically ill patients, neurology interpretations, laboratory diagnostic abilities, observation of procedures, interpretation skills, interpretation under supervision and communication skills.

a. Clinical Assessment Skills

1. Elicit a detailed clinical history
2. Perform a thorough physical examination of all the systems

b. Procedural skills

1. Test dose administration
2. Mantoux test
3. A sampling of fluid for culture
4. IV- Infusions
5. Intravenous injections
6. Intravenous cannulation
7. ECG recording
8. Pleural tap
9. Lumbar puncture
10. Cardiac TMT, Holter Monitoring, Echocardiogram, Doppler studies
11. Cardio Pulmonary Resuscitation (CPR)
12. Central venous line insertion, CVP monitoring
13. Blood and blood components matching and transfusions
14. Arterial puncture for ABG
15. Fine needle aspiration cytology (FNAC) from palpable lumps
16. Bone marrow aspiration and biopsy
17. Abdominal paracentesis - diagnostic
18. Aspiration of liver abscess
19. Pericardiocentesis
20. Joint fluid aspiration
21. Liver biopsy
22. Nerve/ muscle/ skin/ kidney/ pleural biopsy
23. Intercostal tube placement with underwater seal

24. Point of care Ultrasound , Screening echocardiography
25. Upper GI endoscopy, procto-sigmoidoscopy

c. Respiratory management

1. Nebulization
2. Inhaler therapy
3. Oxygen delivery

d. Critically ill person

1. Monitoring a sick person
2. Endotracheal intubation
3. CPR
4. Using a defibrillator
5. Pulse oximetry
6. Feeding tube/Ryle's tube, stomach wash
7. Nasogastric intubation
8. Urinary catheterization – male and female
9. Sedation
10. Analgesia
11. Haemodialysis
12. Prognostication

e. Neurology- interpret

1. Nerve Conduction studies
2. EEG
3. Evoked Potential interpretation
4. Certification of Brain death

f. Laboratory-Diagnostic Abilities

1. Urine protein, sugar, microscopy
2. Peripheral blood smear
3. Malarial smear
4. Ziehl Nielson smear-sputum, gastric aspirate
5. Gram's stain smear-CSF, pus
6. Stool pH, occult blood, microscopy
7. KOH smear
8. Cell count - CSF, pleural, peritoneal, any serous fluid

g. Observes the procedure

1. Subdural, ventricular tap
2. Joint Aspiration – Injection
3. Endoscopic Retrograde Cholangio- Pancreatography (ERCP)
4. Peritoneal dialysis

h. Interpretation Skills

Clinical data (history and examination findings), formulating a differential diagnosis in order of priority, using principles of clinical decision making, plan investigative work-up, keeping in mind the cost-effective approach i.e. problem solving and clinical decision making.

- Blood,
- Urine,
- CSF and fluid investigations –
- Haematology,
- Biochemistry

- X-ray -chest, abdomen, bone and joints.
- ECG
- Treadmill testing
- ABG analysis
- Ultrasonography
- CT scan chest and abdomen
- CT scan head and spine
- MRI
- IVP, VUR studies
- Pulmonary function tests
- Immunological investigations
- Echocardiographic studies

i. Interpretation under supervision

Hemodynamic monitoring, Nuclear isotope scanning, MRI spectroscopy/SPECT, Ultrasound-guided aspiration and biopsies

j. Communication skills

- While eliciting clinical history and performing physical examination
Communicating health, and disease
- Communicating about a seriously ill or mentally abnormal patient
- Communicating death
- Informed consent
- Empathy with patient and family members
- Referral letters and replies
- Discharge summaries

- Death certificates
- Pre-test counselling for HIV
- Post-test counselling for HIV
- Pedagogy -teaching students, other health functionaries-lectures, bedside clinics, discussions
- Health education - prevention of common medical problems, promoting a healthy lifestyle, immunization, periodic health screening, counselling skills in risk factors for common malignancies, cardiovascular disease, AIDS
- Dietary counselling in health and disease
- Case presentation skills including recording case history/examination, preparing follow-up notes, preparing referral notes, oral presentation of new cases/follow-up cases
- Co-ordinating care - teamwork (with house staff, nurses, faculty etc.)
- Linking patients with community resources
- Providing referral
- Genetic counselling

C. Affective Domain:

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.

3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

5. Syllabus:

a. Basic Sciences

1. Basics of human anatomy as relevant to clinical practice Surface anatomy of various viscera neuro-anatomy important structures/organs location in different anatomical locations in the body Common congenital anomalies.
2. The basic functioning of various organ-system, control of vital functions, pathophysiological alteration in diseased states, interpretation of symptoms and signs in relation to pathophysiology.
3. Common pathological changes in various organs associated with diseases and their correlation with clinical signs; understanding various pathogenic processes and possible therapeutic interventions possible at various levels to reverse or arrest the progress of diseases.
4. Knowledge about various microorganisms, their special characteristics important for their pathogenic potential or of diagnostic help; important organisms associated with tropical diseases, their growth pattern/life-cycles, levels of therapeutic interventions possible in preventing and/or eradicating the organisms.
5. Knowledge about pharmacokinetics and pharmacodynamics of the drugs used for the management of common problems in a normal person and in patients with diseases kidneys/liver etc. which may need an alteration in metabolism/excretion of the drugs; rational use of available drugs.

[PHARMACOLOGY DEPARTMENT CO-ORDINATION]

6. Knowledge about various poisons with specific reference to different geographical and clinical settings, diagnosis and management.
7. Research Methodology and Studies, epidemiology and basic Biostatistics.
8. National Health Programmes. [IN CO-ORDINATION WITH COMMUNITY MEDICINE]
9. Biochemical basis of various diseases including fluid and electrolyte disorders; Acid-base disorders etc.
10. Recent advances in relevant basic science subjects.

b. Systemic Medicine

11. Preventive and environmental issues- including principles of preventive health care, immunization and occupational, environmental medicine and bioterrorism.
12. Ageing and Geriatric Medicine:
 - Biology
 - Epidemiology
 - Neuro-psychiatric aspects of ageing
13. Clinical Pharmacology:
Principles of Drug therapy biology of addiction
Complementary and alternative medicine
14. Genetics:
 - Overview of the paradigm of a genetic contribution to health
 - Disease principles of Human Genetics
 - Single gene and chromosomal disorders
 - Gene therapy

15. Immunology:
 - Innate and adaptive immune systems
 - Mechanisms of immune-mediated cell injury
 - Transplantation immunology
16. Cardio-vascular diseases:
 - Approach to the patient with possible cardiovascular diseases
 - Heart failure
 - Arrhythmias
 - Hypertension
 - Coronary artery disease
 - Valvular heart disease
 - Infective endocarditis
 - Diseases of the myocardium and pericardium
 - Diseases of the aorta and peripheral vascular system
17. Respiratory system:
 - Approach to the patient with respiratory disease
 - Disorders of ventilation
 - Asthma
 - Chronic Obstructive Pulmonary Disease (COPD)
 - Pneumonia
 - Pulmonary embolism
 - Cystic fibrosis
 - Obstructive sleep apnea syndrome
 - Diseases of the chest wall, pleura and mediastinum

18. Nephrology:

- Approach to the patient with renal diseases
- Acid-base disorders
- Acute kidney injury
- Chronic kidney disease
- Tubulointerstitial diseases
- Nephrolithiasis
- Diabetes and the kidney
- Obstructive uropathy and treatment of irreversible renal failure

19. Gastro-intestinal diseases:

- Approach to the patient with gastrointestinal diseases
- Gastrointestinal endoscopy
- Motility disorders
- Diseases of the oesophagus
- Acid peptic disease
- Functional gastrointestinal disorders
- Diarrhoea
- Irritable bowel syndrome
- Pancreatitis
- Diseases of the rectum and anus

20. Diseases of the liver and gall bladder:

- Approach to the patient with liver disease
- Acute viral hepatitis
- Chronic hepatitis
- Alcoholic and non-alcoholic steatohepatitis

- Cirrhosis and its sequelae
- Hepatic failure and liver transplantation
- Diseases of the gall bladder and bile ducts

21. Haematologic diseases:

- Haematopoiesis
- Anaemias
- Leucopenia and Leucocytosis
- Myeloproliferative disorders
- Disorders of haemostasis
- Haemopoietic stem cell transplantation

22. Oncology:

- Epidemiology
- Biology and genetics of cancer
- Paraneoplastic syndromes and endocrine manifestations of tumours
- Leukaemias and lymphomas
- Cancers of various organ systems
- Cancer chemotherapy

23. Metabolic diseases - Inborn errors of metabolism and disorders of metabolism.

24. Nutritional diseases –

- Nutritional assessment
- Enteral and parenteral nutrition
- Obesity and eating disorders

25. Endocrine –

- Principles of endocrinology
- Diseases of various endocrine organs including diabetes mellitus

26. Rheumatic diseases:

- Approach to the patient with rheumatic diseases
- Osteoarthritis
- Rheumatoid arthritis
- Spondyloarthropathies
- The systemic lupus erythematosus (SLE)
- Polymyalgia
- Rheumatic fibromyalgia and amyloidosis

27. Infectious diseases:

- The basic consideration in Infectious Diseases
- Clinical Syndromes
- Community-acquired clinical syndromes
- Nosocomial infections
- Bacterial diseases - General consideration, diseases caused by gram-positive bacteria, gram-negative bacteria
- Miscellaneous bacterial infections
- Mycobacterial diseases
- Spirochetal diseases
- Rickettsia
- Mycoplasma and Chlamydia
- Viral diseases-
- DNA viruses

- DNA and RNA respiratory viruses
- RNA viruses
- Fungal infections, Protozoal and Helminthic infections.

28. Neurology –

- Approach to the patient with neurologic disease, headache, seizure disorders and epilepsy, coma, disorders of sleep, cerebrovascular diseases.
- Parkinson’s disease and other movement disorders
- Motor neuron disease
- Meningitis and encephalitis
- Peripheral neuropathies
- Muscle diseases,
- Diseases of neuromuscular transmission and autonomic disorders and their management.

29. The mental condition characterized by complete self-absorption with reduced ability to communicate with the outside world (Autism), abnormal functioning in social interaction with or without repetitive behaviour and/or poor communication etc.

30. Dermatology:

- Structure and functions of the skin
- Infections of skin
- Papulosquamous and inflammatory skin rashes
- Photo-dermatology
- Erythroderma
- Cutaneous manifestations of systematic diseases

- Bullous diseases
- Drug-induced rashes
- Disorders of hair and nails
- Principles of topical therapy

6. TEACHING AND LEARNING METHODS

- The residents will be trained using seminars, journal clubs, symposia, reviews and guest lectures as predominant teaching-learning techniques for acquiring knowledge.
- Bedside teaching, grand rounds, interactive group discussions and clinical demonstrations will be the hallmark of clinical/practical learning.
- Residents will have hands-on training in performing many procedures and ability to interpret the results of various tests/investigations.
- Exposure to newer specialized diagnostic/therapeutic procedures will be given.
- Importance will be attached for Ward rounds especially in conjunction with emergency admissions.
- Work in the outpatient department will be used to train residents in ambulatory care

- Work in sub-speciality and symptom-specific clinics will be used to train residents in the continuum of care for chronic diseases and preventive management.
- External rotation postings in departments like cardiology, neurology and other subspecialties will be for learning the functioning of various subspecialties of medicine and for achieving specified competencies related to those subjects.
- Residents will be learning most of the skills at the skills lab before actual practice on patients.
- Residents will attend Conferences, Seminars, Continuing Medical Education (CME) Programmes which are methods of continued education and self-improvement.
- Residents will learn Research methodology while doing the dissertation.
- The resident will be required to present one poster, to read one paper at a national/state conference and to publish one research paper so as to make him eligible to appear at the postgraduate degree examination. Acceptance by an indexed journal also qualifies as eligibility.
- Maintenance of records by Log books will be checked and assessed periodically by the faculty members imparting the training.
- Postgraduate students will be required to participate in the teaching and training programme of undergraduate students and interns.
- E-learning activities will be in the form of participation in a structured e-mail learning group and participation in webinars.
- Joint meetings with colleagues will be by participation in common classes and DRH auditorium staff lectures.

- Interdepartmental learning with radiologists and pathologists play a valuable part in training interpretation skills. Hence the residents will actively participate in Clinical- Pathological Case discussions [CPC] and Clinical- Radiological Case discussions.

The training techniques and approach will be based on principles of adult learning.

Timely feedback will be given to ensure competence.

a. Illustration of Structured Training

Time Period	Description/Levels	Content	Responsibilities
1 st Month:	Orientation	Basic cognitive skills	Combined duties Supervised procedures
1 st Year	Beginners	Procedural abilities, OPD & ward work	History sheet writing - Clinical abilities - Procedural abilities (PA,PI)*, - Laboratory-diagnostic (All PI) - Communication skills-O, A, PA - BLS & ACLS
2 nd Year	An intermediate degree of cognitive abilities	Specialized procedural skills	Emergency - Independent duties - All procedures - Respiratory management abilities (All PI) - Communication skills (PA, PI) - Writing a thesis - Teaching UGs
3 rd Year	Special skills	-Intensive critical care	Advanced levels of independent duties casualty calls - ICU, ICCU - UG teaching

Specialized skills include exchange transfusions, intercostal drainage, peritoneal dialysis, defibrillation / cardioversion, etc.

Levels of necessary cognitive skills are best illustrated by the following:

Basic: History taking, diagnosis/differential diagnosis, points for and against each diagnosis. Intermediate: Detailed discussion on differential diagnoses, analysis and detailed interpretation of clinical and laboratory data.

Advanced: Analysis of clinical information and synthesis of reasonable concepts including research ideas.

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially in the skill laboratory.

b. Co-ordination of teaching-learning activities:

- The teaching-learning activities will span from Monday to Saturday each week.
- An introductory e-learning activity will be initiated every week on Monday for the weeks learning and will span 3 days. One resident from each year will design the learning activity with guidance from 2 teachers assigned for the entire system.
- A subject seminar will discuss topics considered core competencies on Wednesdays. This will be done by a resident each from 1st and 2nd year under the guidance of the chairpersons. The residents presenting subject seminar shall also prepare a set of 20 MCQs for assessment of the learning and place it on the e-learning group.
- A journal club is designed to nurture self-directed learning by access to electronic literature, being updated in recent advances and for critical appraisal of scientific publications before implementing in practice. So the journal club will be held by one resident each from 1st and 2nd year. The 1st year PG shall present an original article in preparation for his / her thesis till synopsis submission and then shall present original articles, revised guidelines or review articles or meta-analysis related to the topic assigned for the week. The links to

the articles shall be shared among all the residents and faculty beforehand and placed on the e-learning group.

- On Friday, PGs will present a case in grand rounds/ clinical seminar in which their skills in history taking, examination, interpretation of investigations and planning treatment will be noted. A second topic related to interpretation skills or communication skills or prognostication will be discussed by the same set of PGs. .
- Clinicopathological conference or Clinicoradiological conference will be held.
- There will be staff lectures by the teachers related to the system covered during the month.
- Webinars will be held for updates in newer technologies or treatments.
- Guest lectures for exposure to different perspectives in patient care.
- Common classes will be held for 1st year PGs of all departments on Wednesdays to encourage the interdepartmental exchange of knowledge and to learn broader perspectives.
- Institutional staff lecture will be held every Saturday in DRH auditorium by teachers from various departments.
- On Friday morning, a program called Chintana will be held in DRH auditorium to learn humanities, empathy and introspection.
- On the first and second Wednesdays, mortality and morbidity meetings will be held at the departmental level. On the third Friday of the month institutional patient care review [mortality meeting] will be held. These activities will help in learning audit.
- The PGs of the first year shall observe bedside clinics and theory classes conducted by the faculty of their respective units. The second year and third year PGs will teach undergraduates by pedagogy and bedside clinics.

7. ASSESSMENT

Assessment shall be formative and summative

FORMATIVE ASSESSMENT

During the training programme, formative assessment will be continual and will assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system.

a. General Principles

Internal Assessment will be frequent, cover all domains of learning and used to provide feedback to improve learning; it will also cover professionalism and communication skills. The Internal Assessment will be conducted in theory and Practical / clinical examination.

b. Quarterly assessment during the MD training will be based on:

- Journal based / recent advances learning
- Patient-based /Laboratory or Skill based learning
- Self-directed learning and teaching
- Departmental and interdepartmental learning activity
- External and Outreach Activities / CMEs

c. The student will be assessed periodically as per categories listed in **postgraduate student appraisal form.**

d. End of term theory examination conducted at end of 1st, 2nd year and after 2 years -9 months

e. End of term practical/oral examinations after 2 years- 9 months.

POSTGRADUATE STUDENT APPRAISAL FORM

Name of the Department/unit:

Name of the PG student:

Period of Training: From.....to.....

Sl. No	Particulars	Not Satisfactory	Satisfactory	More than satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1	Journal based / recent advances				
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				
6	Thesis/research work				
7	Log Book Maintenance				

Publications Yes/No

Remarks:

.....

Remarks: Any significant positive or negative attribute of a postgraduate student to be mentioned for a score less than 4 in any category remediation must be suggested. Individual feedback to postgraduate students is strongly recommended.

Signature of Assesse Signature of Consultant

Signature of HOD

SUMMATIVE ASSESSMENT

a. Namely, assessment at the end of the training.

The summative examination will be carried out as per the rules given in MCI's Postgraduate Medical Education Regulations, 2000.

b. The Postgraduate examination shall be in three parts:

1. Thesis:

Every postgraduate student shall carry out work on an assigned 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. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the postgraduate student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. The 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 examiner, who shall not be the examiners for Theory and clinical examination. A postgraduate 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:

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify postgraduate student's level of knowledge, skill and competency at the end of the training.

Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing the examination as a whole. The examination for M.D./ MS shall be held at the end of the 3rd academic year. There will be four theory papers, each for 100 marks, as below (Total=400 marks):

Paper I: Basic Medical Sciences

Paper II: Medicine and allied specialities including Dermatology & Psychiatry

Paper III: Tropical Medicine and Infectious Diseases

Paper IV: Recent Advances in Medicine

The ratio of marks in theory and practice will be equal.

The pass percentage will be 50% in each paper and practical.

The candidate will have to pass the theory and practical examinations separately.

3. Clinical / Practical and Oral/viva voce Examination:

- a. Cases pertaining to major systems.
- b. Stations for clinical, procedural and communication skills.
- c. Logbook Records and day-to-day observation during the training.
- d. Oral/viva voce examination shall be comprehensive enough to test the postgraduate student's overall knowledge of the subject.

Clinical examination will be for 200 marks.

- One long case 65 marks of 45 minutes duration for an approach to the patient that is nearest to real life encounter.
- Three short cases 45 marks each of 30 minutes duration for examination skills and management skills.

Viva-voce: It will be for 80 marks. It will encompass questions designed to assess higher order of thinking and structured to assess conditions with high prevalence or high mortality or morbidity rather than recall of uncommon syndromes.

Pedagogy: It will be for 20 marks [topic will be given in advance. The resident will be required to make a presentation for 8-10 minutes].

Maximum marks= Theory 400 + Practical 200 + viva including Pedagogy 100 =700

8. Timeline for dissertation management:

The postgraduate residents will adhere to the timeline of these management as suggested by the university and report compliance to the guide monthly on every second Saturday. The progress shall be reported quarterly to the Head of the Department after assessment.

Post Graduate synopsis and dissertation progress check-list

PART- I Timeline for the PG Dissertation from the time of admission till the Synopsis submission					
SL. No.	Task	Time allotted for task	To be completed by date	Completed (Yes or No)	Remarks of the Guide
1	The orientation of the PG student to the dept. and allotment of a guide by the HOD	June 1 to 15	June 15		
<p>Two days PG orientation and research methodology workshop to be attended compulsorily by 1st PGs.(Tentative dates between 10th June to 20th June) All HODs to ensure that all the 1st year PG students have a printed copy of their recent PG subject syllabus downloaded from the SDM University website and the same to be carried to the PG orientation and research methodology workshop failing which the student would be marked absent.</p>					
2	Pilot study/Survey for feasibility under the guidance of the guide	June 16 to July15	July 15		
3	Finalization of the topic with guide	July 1 to15	July 15		
4	Thorough literature search and collecting references	July 1 to Aug 31	Aug 31		
5	<ul style="list-style-type: none"> Rough draft of synopsis shown to guide Presentations of the synopsis within the Dept. as per the convenience of the staff and HOD. 	Aug 16 to 31	Aug 31		
6	Final draft in SDM University format (Check spelling , reference Style)	Sept 1 to 15	Sept 15		
Synopsis refresher and query clarifying session (Tentative date-Sept-10 th)					

7.	Synopsis submission to Institutional Ethical committee (IEC) in the exact format (Check annexure, guide's sign. Consent form etc.)	Sept 16 to 30	Sept 30		
8.	<ul style="list-style-type: none"> • IEC Meeting • Changes suggested (If any) by IEC to be incorporated and resubmitted for final approval) • Collection of the IEC Approval 	Oct 1 to 30	Oct 30		
9.	Synopsis submission to University (Online upload)	Nov 16 to 30	Nov 30		
PART- 2 Timeline for PG Dissertation progress after Synopsis submission till the end of 1st Year.					
10.	<ul style="list-style-type: none"> • Begin preliminary data collection • Begin addition data to online master chart in consultation with a statistician 	Dec 15 to Jan 15	Jan 15		
11.	<ul style="list-style-type: none"> • Rough draft of write –up of an introduction with reference in Vancouver style. • Data Collection- 1-5% of the calculated sample size to be completed. 	Jan 15 to Feb 15	Feb 15		
12.	<ul style="list-style-type: none"> • Bibliography collection Obtaining permission from copyright holders for reproducing figures and tables from other sources. • Rough draft of write –up of a review of the literature with reference in Vancouver style. • Data collection: 6-10% of the calculated sample size to be completed. 	Feb 15 to Mar 30	Mar 30		

13.	<ul style="list-style-type: none"> Rough draft write-up of materials and methods. Rough draft of a write-up of statistical methods. Data collection 11-15% of the calculated sample size to be completed. 	Apr 1 to Apr 30	Apr 30		
14.	Data collection: 16-of the calculated sample size to be completed.	June 1 to June 30	June 30		
PART-3 timeline for the PG Dissertation progress during the 2 nd year					
15.	Preparation for Oral / poster presentation of as per RGUHS guidelines during the second year.	July 01 to July 31	Refer international/National/ State conference dates		
16.	<ul style="list-style-type: none"> Data collection: 26-40% of the calculated sample size to be completed. Submit completed write – up of an introduction in soft and hard copy to the guide. (Corrections/modifications suggested by the guide in the rough draft submitted earlier to be incorporated) 	July 01 to Aug 15	Aug 15		
17.	<ul style="list-style-type: none"> Data collection: 41-50% of the calculated sample size to be completed. Submit completed write-up of review of literature in soft and hard copy to the guide. (corrections/modifications suggested by the guide in the rough draft submitted earlier to be incorporated) 	Aug 16 to Oct. 15	Oct. 15		
Submission of interim report (1year after IEC approval): last date 30 th October with the inclusion of details of the progress of the work is done in terms of % data collected and analyzed and expected date of completion of the dissertation work for which IEC approval was obtained.					

18.	<ul style="list-style-type: none"> • Data collection: 51-60% of the calculated sample size to be completed. • Submit completed write-up of materials and methods in soft and hard copy to the guide. (Corrections /modifications suggested by the guide in the rough draft submitted earlier to be incorporated) • Early statistical analysis of data and incorporate any changes into further data a collection based on advise by the statistician 	Oct 16 to Dec 15	Dec 15		
19.	<ul style="list-style-type: none"> • Data collection 61-75% of the calculated sample size to be completed • Meet the guide regarding corrections in introduction, review of literature and materials and methods in the final completed write - up 	Dec 16 to Feb 15	Feb 15		
20	<ul style="list-style-type: none"> • Data collection 76-100% of the calculated sample size to be completed. • Final approval of guide for write-ups of introduction, review of literature and materials and methods. 	Feb 16 to Apr 15	Apr 15		
21	<ul style="list-style-type: none"> • Completion of the master chart • Statistical analysis to be finalized and final writes up of results to be prepared. • Submit final write-ups of results, discussion and conclusion in soft and hard copy to the guide and discuss corrections to be made. 	Apr 16 to June 15	June 15		
PART-4 Timeline for the PG Dissertation progress during the third year till the submission to the university					

22.	<ul style="list-style-type: none"> Final approval of the guide for results, Discussion and conclusion. Guide approves thesis. 	June 16 to July 15	July 15		
23.	Intradepartmental meet and power point presentation of the dissertation by the PG.	July 16 to Aug 15	Aug 15		
24.	Plagiarism check, print copies, binding & ready for submission	Aug 16 to Sep 15	Sep 15		

Note: All PG students have to send a soft copy of the updated 'Master Chart' of the dissertation authenticated by the guide every month to the HOD, Guide, PG coordinator and to the office of the Principal without fail.

9. WARD ROTATIONS SCHEDULE

The Junior Residents in medicine undergo the following rotation-training during their 3 years' course towards M D (Med.):

(i) Medicine Units :

- One year in parent unit split as initial 6 months from June to end of November of 1st year and June to November of 3rd year

(ii) External rotations: during the 2nd year, for example

- Cardiology - one month
- Nephrology - one month
- Neurology - one month
- Casualty (Emergency Medicine) - one month
- Gastroenterology - fifteen days
- Haematology - fifteen days
- Pulmonary - fifteen days
- Radiology - fifteen days

Medical intensive care unit: Two months

The external rotations may not be restricted to the postings as shown in the example.

(iii) The remaining period will be in units other than parent unit on rotation

Total: 36 months

10. SUGGESTED BOOKS AND JOURNALS

A. Recommended Reading Text Books (latest edition)

- API Textbook of Medicine
- Davidson's Principles and Practice of Medicine
- Harrison's Principles & Practice of Medicine
- Oxford Textbook of Medicine
- Kumar & Clark: Book of Clinical Medicine
- Cecil: Text Book of Medicine

B. Reference books

- Hurst: The Heart
- Braunwald - Heart Disease: A Textbook of Cardiovascular Medicine
- Marriot's Practical Electrocardiography
- Crofton and Douglas: Respiratory Diseases
- Brain's Diseases of the Nervous system
- Adam's Principles of Neurology
- William's Text Book of Endocrinology
- De'Gruchi's Clinical Hematology in Medical Practice
- Kelly's Text Book of Rheumatology
- Sleisenger & Fordtran: Gastrointestinal and Liver disease
- Manson's Tropical Diseases

C. Clinical Methods

- Hutchinson's Clinical Methods
- Macleod's Clinical examination
- John Patten: Neurological Differential Diagnosis
- Neurological examination in Clinical Practice by Bickerstaff

D. Journals

03-05 international Journals and 02 national (all indexed) Journals

- Journal of Association Physicians of India
- Indian Journal of Tuberculosis and Chest Diseases
- Indian Heart Journal
- Neurology India
- Indian Journal of Gastroenterology
- British Medical Journal
- Postgraduate Medical Journal
- The Lancet
- Journal of American Medical Association
- British Heart Journal
- Medical Clinics of North America
- New England Journal Medicine
- Annals of Internal Medicine
- Recent Advances in Internal Medicine



SDM College of Medical Sciences & Hospital



SDM College of Dental Sciences & Hospital



SDM College of Physiotherapy &
SDM Institute of Nursing Sciences



Shri Dharmasthala Manjunatheshwara University



SDM Research Institute for Biomedical Sciences



Panoramic View of Campus