

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ



CURRICULUM / STATUTES/ REGULATIONS

FOR 4 YEARS MD Medicine

Faisalabad Medical University

Faisalabad

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Section A

VISION STATEMENT:

Faisalabad Medical University has been established since 05-05-2017 for purpose of imparting better medical education and encouraging and arranging extensive research and publication in the field of medical science. The vision of university is:

“Striving to achieve national and international stature in undergraduate and postgraduate medical education with strong emphasis on professionalism, leadership, community health services, research and bioethics”

MISSION STATEMENT

The mission of the University is:

“Educate Healthcare professionals to prevent, diagnose and treat human illnesses to practice evidence-based medicine with focus on lifelong healthcare in order to meet the challenges of community needs and competitive medical profession at the same time”

STATUTES

Nomenclature

The name of degree programmer shall be MD Medicine

Course Title:

MD

Training Centers

Department of Affiliated hospitals of Faisalabad Medical University, Faisalabad.

Duration of Course

The duration of course shall be 4 years with continuous training in a recognized department under the guidance of an approved supervisor.

Course structure:

1. Core knowledge:

Competency based learning for trainees. (2 exams to be conducted by university at mid and end of Programme. Structural internal exam to be included throughout the Programme which is conducted by the department. At the end of 1st year and 3rd year, continuous internal assessment to be conducted by department which will carry weightage in final assessment. This assessment will be conducted at the end of 4th year also)

2. Clinical Training in internal medicine
3. **Research and Thesis writing.**
4. Mandatory Workshops

throughout the course of programme will be conducted. The basic workshops will be attended by all trainees from all specialties and will be evenly distributed throughout the course:

1. Communication skills
2. Research synopsis and thesis writing skills
3. Basic Biostatistics and Research Methodology
4. Information Technology Skills
5. Initial life support (ILS)

At the end of each workshop, assessment will be done regarding the workshop and certificates will be issued to passing trainees only. The workshops will be conducted by the University and will be paid as in all post-graduate programmes and supervised by the department of Medical Education, FMU, Faisalabad. The trained certified coaches/teachers will be invited and they will get incentive from the university. All the interested trainers will contact the department for inclusion in trainers list.

Feedback of the facilitators will be recorded for the continuation of the process. Medical education department will issue yearly planner for these workshops in the light of curriculum document. University will certify it.

Section B:

Admission Criteria

Central induction Policy as per Government rules

Registration and Enrollment

The number of PG Trainees/ Students and Beds to trainee ratio at the approved teaching site will be as per policy of Pakistan Medical & Dental Council

The University will approve supervisors for MD medicine course.

Candidates selected for the courses after their selection and enrollment shall be registered with FMU as per prescribed Registration Regulation.

Accreditation Related Issues Of The Institution

A. Faculty

Properly qualified teaching staff in accordance with the requirements of Pakistan Medical and Dental Council (PMDC). Supervisors will be decided by the university according to the set standards and rules.

B. Adequate resources

The university will provide adequate resources Including class-rooms (with audiovisual aids), demonstration rooms, computer lab, clinical pathology lab, theaters, instruments and other equipment etc. for proper Training of the residents as per their course outcomes and objectives.

C. Library

Departmental library should have latest editions of recommended books, reference books and latest journals (National and International).

Freezing of Program

Freezing of training, maternity leave, ex Pakistan leave and extraordinary leave etc. would be allocated through the office of dean of postgraduate sciences FMU to the competent authority.

Section C:

AIMS AND OBJECTIVES OF THE COURSE

AIM

The aim of four years MD programme in medicine is to train residents to acquire the competency of a specialist in the relevant field so that they can become good clinicians, teachers, researchers and community health provider in their specialty after completion of their training according to the global standards.

LEARNING OBJECTIVES:

- To enhance sensitivity and responsiveness to community needs and the economics of health care delivery.
- To cultivate the practice of evidence-based medicine and critical appraisal skills.
- To cultivate the correct professional attitude and enhance communication skill towards patients, their families and other healthcare professionals.
- To inculcate a commitment to continuous medical education and professional development.
- To achieve the professional requirements to prepare for Higher Physician Training in one or more specialty.
- To provide a broad experience in specialty, including its interrelationship with other disciplines and to enhance medical knowledge, clinical skills, and attitude in bedside diagnostic and therapeutic procedures.
- To provide a broad training and in-depth experience for trainees to acquire competence and professionalism in their specialty in the diagnosis, investigation and treatment of medical problems towards the delivery of holistic patient care.
- To acquire competence in managing acute emergencies and identifying medical/surgical problems in patients referred by primary care and other doctors, and in selecting patients for timely referral to appropriate tertiary care or the expertise of another specialty.

- To encourage contributions aiming at advancement of knowledge and innovation in medicine through basic and/or clinical research and teaching of junior trainees and other health related professionals.
- To acquire professional competence in training future trainees in their specialty to serve at any Medical Institute all around the world.

CORE COMPETENCIES:

Patient Care:

- Residents are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness, treatment of disease and at the end of life.
- Gather accurate, essential information from all sources, including medical/surgical interviews, physical examinations, medical records and diagnostic/therapeutic procedures.
- Make informed recommendations about preventive, diagnostic and therapeutic options and interventions based on clinical judgment, scientific evidence, and patient preference.
- Develop, negotiate and implement effective patient management plans and integration of patient care.
- Perform competently the diagnostic and therapeutic procedures considered essential to their respective specialty.

Interpersonal And Communication Skills:

- Residents are expected to demonstrate interpersonal communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.
- Provide effective and professional consultation to other Doctors and health care professionals.
- Interact with consultants in a respectful, appropriate manner.
- Use effective listening, nonverbal, questioning, and narrative skills to communicate with patients and families.
- Maintain comprehensive, timely, and legible medical records.

C. Professionalism

- Residents are expected to demonstrate behaviors that reflect a commitment to continuous professional developmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.
- Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families, and colleagues.
- Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, socioeconomic status, beliefs, behavior and disabilities of patients and professional colleagues.
- Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.
- Recognize and identify deficiencies in peer performance
- Understand and demonstrate the skill and art of end of life care.

D. Practice-Based Learning:

- Residents are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care practices.
- Identify areas for improvement and implement strategies to enhance knowledge, skills, attitudes and processes of care.
- Analyze and evaluate practice experiences and implement strategies to continually improve the quality of patient care practice.
- Develop and maintain a willingness to learn from errors and use errors to improve the system or processes of
- care.
- Use information technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education.

E. Systems-Based Practice

- Residents are expected to demonstrate both an understanding of the contexts and systems in which health care is provided, and the ability to apply this knowledge to improve and optimize health care.

- Understands accesses and utilizes the resources, providers and systems necessary to provide optimal care.
- Understand the limitations and opportunities inherent in various practice types and delivery systems, and develop strategies to optimize care for the individual patient.
- Apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management.

Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

LEARNING OBJECTIVES:

Knowledge:

At the end of the programme, the Trainee should be able to:

- Understand and explain core Medical/Surgical concepts.
- Discuss Etiology, clinical manifestation, disease course and prognosis, investigation and management of common diseases.
- Analyze Scientific basis and recent advances in pathophysiology, diagnosis and management of diseases.
- Describe Spectrum of clinical manifestations and interaction of multiple diseases in the same patient.
- Explain Psychological and social aspects of medical/surgical illnesses.
- Demonstrate the Effective use and interpretation of investigation and special diagnostic procedures.
- Critically analyze the efficacy, cost-effectiveness and cost-utility of treatment modalities including various advanced treatment modalities.
- Explain and Evaluate Medical audit and quality assurance
- Practice Ethical principles and solve medico legal issues related to medical/surgical illnesses.
- Updated knowledge on evidenced-based medicine and its implications for diagnosis and treatment of medical/surgical patients.

- Evaluate and Differentiate different care approaches and types of health care facilities towards the patients care with medical illnesses, including convalescence, rehabilitation, palliation, long term care, and medical ethics.
- Practice taking care of patient safety and clinical risk management.
- Understand the concepts of administration and management and overall forward planning for respective units.

Skills:

At the end of the programme, the Trainee should be able to:

- Take a detailed history, gathers relevant data from patients, and assimilates the information to develop diagnostic and management plan.
- Record an initial history and physical examination and follow-up notes as well as deliver comprehensive oral presentations to their team members based on these written documents.
- Elicit abnormal physical signs and interpreting their significance.
- correlate clinical abnormalities with pathophysiologic states and diagnosis of diseases.
- select appropriate investigation and diagnostic procedures for confirmation of diagnosis and patient management.
- Interpret basic as well as advanced laboratory data as related to the disorder/disease.
- interpret routine laboratory and ancillary tests including complete blood count, chemistry panels, ECG, chest x-rays, pulmonary function tests, and body fluid cell counts. In addition, students will properly understand the necessity of incorporating sensitivity, specificity, pre-test probability and Bayes laws/theorem in the ordering of individual tests in the context of evaluating patients' signs and symptoms.
- form differential diagnosis with up-to-date scientific evidence and clinical judgment using history and physical examination data and the development of a prioritized problem list to select tests and make effective therapeutic decisions.
- Asses the risks, benefits, and costs of varying, effective treatment options; involving the patient in via open discussion; selecting drugs from within

classes; and the design of basic treatment programs and using critical pathways when appropriate. Ability to recognize and appreciate the importance of cost-effectiveness of treatment modalities

- perform competently noninvasive and invasive procedures essential for the practice of general internal medicine. This includes technical proficiency in taking informed consent, performing by using appropriate indications, contraindications, interpretations of findings and evaluating the results and handling the complications of the related procedures mentioned in the syllabus.
- Perform important bedside diagnostic and therapeutic procedures and understanding of their indications.
- present clinical problems and literature review in grand rounds and seminars.
- Practice good communication skills and interpersonal relationship with patients, families, colleagues, nursing and allied health professionals.
- Mobilize appropriate resources for management of patients at different stages of illnesses, including critical care, consultation of specialties and other disciplines, ambulatory and rehabilitative services, and community resources.
- Diagnose and manage Medical/Surgical emergency problems.
- Diagnosis and management of acute and chronic medical/surgical problems as secondary care in a regional/district hospital.
- Practice Diagnostic skills to effectively manage complex cases with unusual presentations.
- Implement strategies for preventive care and early detection of diseases in collaboration with primary and community care doctors.
- Interpret medical statistics and critically appraise published work and clinical research on disease presentations and treatment outcomes. Experience in basic and/or clinical research within the training programme should lead to publications and/or presentation in seminars or conferences.
- Practice evidence-based learning with reference to research and scientific knowledge pertaining to their discipline through comprehensive training in Research Methodology

- utilize the medical literature to expand one's knowledge base and to search for answer to medical problems. They will keep abreast of the current literature and be able to integrate it to clinical practice.

Attitude:

At the end of the programme, the Trainee should be able to:

- Understand that well-being and restoration of health of patients must be of paramount consideration.
- Show Empathy and good rapport with patient and relatives are essential attributes.
- Be an aspiration to be the team-leader in total patient care involving nursing and allied health professionals should be developed.
- Evaluate The cost-effectiveness of various investigations and treatments in patient care should be recognized.
- Ensure the privacy and confidentiality of patients and the sanctity of life must be respected.
- Understand the importance of informed consent, advanced directives and the physician-patient relationship.
- Appreciate the importance of the effect of disease on the psychological and socio-economic aspects of individual patients and to understand patients' psycho-social needs and rights, as well as the medical ethics involved in patient management.
- Show Willingness to keep up with advances in respective Specialties.
- Show Willingness to refer patients to the appropriate specialty in a timely manner.
- Promote of health via adult immunizations, periodic health screening, and risk factor assessment and modification.
- Recognize that teaching and research are important activities for the advancement of the profession.

Content list:**Teaching & Learning Program details****Core Faculty Lectures (CFL):**

- Lectures are yet a good way of teaching. Residents will have core faculty lectures in the given fields of internal medicine as well as its sub-specialties like cardiology, pulmonology, gastroenterology etc. there would be monthly lecture on a given theme.

Introductory Lecture Series (/LS):

Various topics will be discussed as introductory lectures from various sub-specialties to the residents of internal medicine.

Long case and short case presentation:

Given schedule of long case and short case presentation will be mandatory for the residents. It includes,

- Long cases
- short cases
- mini Cex
- DOPS.

Details of each is given under portfolio and log-book section.

Seminar Presentation:

Seminars should be held in a noon conference format. Year three and four residents should present an in-depth review of a given topic along with recent advances from the literature gathering various sources. Residents should formally face the critique by both the associate program director and their resident colleagues.

Journal Club Meeting (JC):

one JC meeting fortnightly should be held to discussion of any current articles or topic in interest. Faculty or even outside researchers can be invited to present international outlines or results of current research activities. The article should be critically discussed, and its applicable results should be highlighted, which may be incorporated in clinical practice. Record of this activity will be kept in portfolio/logbook.

Small Group Discussions/ Problem based learning/ Case based learning:

Traditionally small groups consist of 8-12 participants. Small groups can take on a variety of different tasks, including problem solving, role play, discussion, meaningful debate, workshops, and presentations.

From the study of a problem students develop principles and rules and generalize their applicability to a variety of situations PBL is said to develop problem solving skills and to gain an integrated body of knowledge. It is a student-centered approach of learning, in which students determine what and how they learn.

Case studies help learners identify problems and solutions, compare options, and decide how to handle a real situation.

Discussion/Debate:

There are several types of discussion tasks which would be used as learning method for residents including: guided discussion, in which the facilitator poses a discussion question to the group and learners offer responses or questions to each other's contributions as a means of broadening the discussion and its scope.

Inquiry-based discussion

in which learners are guided through a series of questions to discover some relationship or principle; exploratory discussion, in which learners examine their personal opinions, suppositions or assumptions and then visualize alternatives to these assumptions; and debate in which students argue opposing sides of a controversial topic. With thoughtful and well-designed discussion tasks, learners can practice critical inquiry and reflection, developing their individual thinking, considering alternatives and negotiating meaning with other discussants to arrive at a shared understanding of the issues at hand.

Case Conference (CC):

These sessions are held three days each week; the focus of the discussion is selected by the presenting resident. For example, some cases may be presented to discuss a differential diagnosis, while others are presented to discuss specific management issues.

Noon Conference (NC):

The noon conferences focus on monthly themes of the various specialty medicine topics for eleven months of the year, i.e., cardiology, Gastroenterology, Hematology, etc.

Grand Rounds (GR):

The Department of Medicine hosts Grand Rounds on weekly basis. Speakers from local, regional, and national medicine training programs are invited to present topics from the broad spectrum of internal medicine. All residents on inpatient floor teams, as well as those on ambulatory block rotations and electives are expected to attend

Professionalism Curriculum (PC):

This is an organized series of recurring large and small group discussions focusing upon current issues and dilemmas in medical professionalism and ethics presented. Primarily by an associate program director. Lectures are usually presented in a noon conference format.

Evening Teaching Rounds:

During these sign-out rounds, the inpatient Chief Resident makes a brief educational presentation on a topic related to a patient currently on service, often related to the discussion from morning report. Serious cases are mainly focused during evening rounds.

Clinico-pathological Conferences:

The clinicopathological conference, popularly known as CPC primarily relies on case presentation method of teaching medicine. It is a teaching tool that illustrates the logical, measured consideration of a differential diagnosis used to evaluate patients. The process involves case presentation, diagnostic data, discussion of differential diagnosis, logically narrowing the list to few selected probable diagnoses and eventually reaching a final diagnosis and its brief discussion. The idea was first practiced in Boston, back in 1900 by a Harvard internist, Dr. Richard C. Cabot who practiced this as an informal discussion session in his private office. Dr. Cabot incepted this from a resident, who in turn had received the idea from a roommate, primarily a law student.

Evidence Based Medicine (EBM):

Residents are presented a series of noon monthly lectures presented to allow residents to learn how to critically appraise journal articles, stay current on statistics, etc. The lectures are presented by the program director.

Clinical Audit based learning:

Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria...Where indicated, changes are implemented...and further monitoring is used to confirm improvement in healthcare delivery." Principles for Best Practice in Clinical Audit {2002, NICE/CHI)

Peer Assisted Learning:

Any situation where people learn from, or with, others of a similar level of training, background or other shared characteristic. Provides opportunities to reinforce and revise their learning.

Encourages responsibility and increased self-confidence. Develops teaching and verbalization skills. Enhances communication skills, and empathy. Develops appraisal skills (of self and others) including the ability to give and receive appropriate feedback. Enhance organizational and team-working skills.

Morbidity and Mortality Conference (MM):

The M&M Conference is held in morning as first activity of the. A case, with an adverse outcome, though not necessarily resulting in death, is discussed, and thoroughly reviewed. Faculty members are invited to attend, along with the resident involved in management of the patient. The discussion focuses on how care could have been improved.

Clinical Case Conference:

Each resident, except when on vacation, will be responsible for at least one clinical case conference each month. The cases discussed may be those seen on either the consultation or clinic service or during rotations in specialty areas. The resident, with

the advice of the Attending Physician on the Consultation Service, will prepare and present the case(s) and review the relevant literature.

SEQ as assignments on the content areas:

SEQs assignments are given to the residents on regular basis to enhance their performance during written examinations.

Bedside teaching rounds in ward:

"To study the phenomenon of disease without books is to sail an uncharted sea whilst to study books without patients is not to go to sea at all" Sir William Osler 1849-1919. Bedside teaching is regularly included in the ward rounds. Learning activities include the physical exam, a discussion of particular medical diseases, psychosocial and ethical themes, and management issues.

Directly Supervised Procedures - (DSP):

Residents learn procedures under the direct supervision of an attending or fellow during some rotations. For example, in the Medical Intensive Care Unit the Pulmonary /Critical Care attending or fellow, or the MICU attending, observe the placement of central venous and arterial lines. Specific procedures used in patient care vary by rotation.

Self-directed learning: self-directed learning residents have primary responsibility for planning, implementing, and evaluating their effort. It is an adult learning technique that assumes that the learner knows best what their educational needs are. The facilitator's role in self-directed learning is to support learners in identifying their needs and goals for the program, to contribute to clarifying the learners' directions and objectives and to provide timely feedback. Self-directed learning can be highly motivating, especially if the learner is focusing on problems of the immediate present, a potential positive outcome is anticipated and obtained, and they are not threatened by taking responsibility for their own learning.

Core curriculum meeting:

All the core topics of Medicine should be thoroughly discussed during these sessions. The duration of each session should be at least two hours once a month.

It should be chaired by the chief resident (elected by the residents of the relevant discipline). Each resident should be given an opportunity to brainstorm all topics included in the course and to generate new ideas regarding the improvement of the course structure

Annual Grand Meeting Once a year all residents enrolled for MD Internal Medicine should be invited to the annual meeting at FMU. One full day will be allocated to this event. All the chief residents from affiliated

institutes will present their annual reports. Issues and concerns related to their relevant courses will be discussed. Feedback should be collected and suggestions should be sought in order to involve residents in • decision making. The research work done by residents and their literary work may be displayed. In the evening an informal gathering and dinner can be arranged. This will help in creating a sense of belonging and ownership among students and the faculty.

Learning through maintaining log book: it is used to list the core clinical problems to be seen during the attachment and to document the student activity and learning achieved with each patient contact.

Learning through maintaining portfolio: Personal Reflection is one of the most important adult educational tools available. Many theorists have argued that without reflection, knowledge translation and thus genuine "deep" learning cannot occur. One of the Individual reflection tools maintaining portfolios, Personal Reflection allows students to take inventory of their current knowledge skills and attitudes, to integrate concepts from various experiences, to transform current ideas and experiences into new knowledge and actions and to complete the experiential learning cycle.

Task-based-learning: A list of tasks is given to the students: participate in consultation with the attending staff, interview and examine patients, review several new radiographs with the radiologist.

Teaching in the ambulatory care setting: A wide range of clinical conditions may be seen. There are large numbers of new and return patients. Students can experience

a multi-professional approach to patient care. Unlike ward teaching, increased numbers of students can be accommodated without exhausting the limited No. of suitable patients.

Community y Based Medical Education: CBME refers to medical education that is based outside a tertiary or large secondary level hospital. Learning in the fields of epidemiology, preventive health, public health principles, community development, and the social impact of illness and understanding how patients interact with the health care system. Also used for learning basic clinical skills, especially communication skills.

Audio visual laboratory: audio visual material for teaching skills to the residents is used specifically in teaching gastroenterology procedure details.

E-learning/ web-based medical education/com puter-assisted instruction: Computer technologies, including the Internet, can support a wide range of learning activities from dissemination of lectures and materials, access to live or recorded presentations, real-time discussions, self-instruction modules and virtual patient simulations. distance-independence, flexible scheduling, the creation of reusable learning materials that are easily shared and updated, the ability to individualize instruction through adaptive instruction technologies and automated record keeping for assessment purposes.

Research based learning: All residents in the categorical program are required to complete an academic

outcomes-based research project during their training. This project can consist of original bench top laboratory.

research, clinical research or a combination of both. The research work shall be compiled in the form of a thesis which is to be submitted for evaluation by each resident before end of the training. The designated Faculty will organize and mentor the residents through the process, as well as journal clubs to teach critical appraisal of the literature.

Some of their teaching strategies specific for different specialties as mentioned in the relevant parts of the curriculum

Some of the other teaching strategies which are specific for certain domains of internal medicine are given alongwith relevant modules.

Methods of Teaching & Learning during course conduction

Inpatient Services:

All residents will have rotations in intensive care, coronary care, emergency medicine, general medical wards, general medicine, ambulatory experiences etc. The required knowledge and skills pertaining to the ambulatory based training in following areas shall be demonstrated.

General Internal Medicine

Nephrology

Emergency Medicine

Coronary care unit

Psychiatry

Inpatient Oncology and Palliative Care Services

Cardiology

Pulmonary Medicine

Endocrinology

Rheumatology

Gastroenterology & Hepatology

Outpatient Experiences:

Residents should demonstrate expertise in diagnosis and management of patients in acute care clinics and longitudinal clinics and gain experience in Dermatology, Endocrinology, Gastroenterology, Hematology-Oncology, Neurology, Nephrology, Pulmonology, Rheumatology etc.

Electives/ Specialty Rotations:

In addition, the resident will have rotations in a variety of elective or mandatory departments, including various specialties of internal medicine. Residents may also go to other institutes if the chosen rotation is not present in their parent institute. Specific objectives and details are given in separate section of clinical rotations.

Mandatory Workshops:

Each candidate of MS/MD/MDS program would attend the 05 mandatory workshops and any other workshop as required by the university.

The five mandatory workshops will include the following:

Communication skills

Research synopsis and thesis writing skills

Basic Biostatistics and Research Methodology

Information Technology Skills

Initial life support (ILS)

The workshops will be held on 03 monthly basis.

An appropriate fee for each workshop will be charged.

Each workshop will be of 02 - 05 days duration.

Certificates of attendance will be issued upon satisfactory completion of workshops.

Endocrinology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Thyrotoxicosis. Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in Thyrotoxicosis. Investigate Biochemically and Radiologically if needed. Manage Thyrotoxicosis with special emphasis on Thyroid Storm and Graves Ophthalmopathy. Evaluate referral.</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency</p>	<p>MCQ's, Ward Test OSCE Short and long Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.thyroid.org/Professionals Portal</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Hypercalcemia and Hyperparathyroidism.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the Causes of Hypercalcemia.</p> <p>Enlist Clinical Presentation of Hypercalcemia.</p> <p>Enumerate the difference between Primary, Secondary and Tertiary Hyperparathyroidism.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Briefly discuss the steps of Management in Hypercalcemia with special emphasis on Severe Hypercalcemia.</p> <p>Discuss the pathology of FHH.</p> <p>When to Refer</p>	<p>Lectures,</p> <p>Small Group Discussion,</p> <p>Bedside Teaching in OPD, IPD, Emergency</p>	<p>MCQ's,</p> <p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define Diffuse Goiter, Thyroid Nodule and MNG. Discuss Pathophysiology. Enlist the Causes. Enlist Differentiating points of Benign and Malignant Nodule. Classify Thyroid CA. Enumerate Steps of Management of Different types of Thyroid CA. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.thyroid.org/Professionals Portal

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define Delayed Puberty and Amenorrhea. Discuss Pathophysiology. Enlist the Causes. Enumerate the Clinical Features. Investigate Biochemically and Radiologically if needed. Enlist Steps of Management in Delayed Puberty and Amenorrhea. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23 rd Edition". "Kumar and Clarks Clinical Medicine-9 th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20 th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Infertility.</p> <p>Enlist Causes of Infertility.</p> <p>Define Gynaecomastia and Pseudogynaecomastia.</p> <p>Enlist its causes.</p> <p>Define Hirsutism and PCOS.</p> <p>Enlist causes of Hirsutism.</p> <p>Investigate PCOS Biochemically and Radiologically if needed.</p> <p>Discuss Steps of Management in PCOS.</p> <p>Enumerate Clinical Features of Turner and Klinefelter Syndrome.</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.endocrine.org/clinical-practice-guidelines</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Management case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Hypercalcemia and Hyperparathyroidism.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the Causes of Hypercalcemia.</p> <p>Enlist Clinical Presentation of Hypercalcemia.</p> <p>Enumerate the difference between Primary, Secondary and Tertiary Hyperparathyroidism.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Briefly discuss the steps of Management in Hypercalcemia with special emphasis on Severe Hypercalcemia.</p> <p>Discuss the pathology of FHH.</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Management of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	<p>Define Hypocalcemia.</p> <p>Discuss Pathophysiology.</p> <p>Enlist Differential Diagnosis of Hypocalcemia.</p> <p>Differentiate between Hypocalcemia and Pseudohypocalcemia.</p> <p>Enumerate the Clinical Features of Hypocalcemia.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Enlist steps of management in Hypocalcemia with special emphasis on Severe Hypocalcemia.</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Addison's Disease	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Cushing Syndrome.</p> <p>Enlist Causes of Exogenous and Endogenous Cushing.</p> <p>Classify Endogenous Cushing syndrome.</p> <p>Enumerate Clinical Features of Cushing Syndrome.</p> <p>Enlist sequence of Investigations in suspected spontaneous Cushing to confirm it then to determine the cause.</p> <p>Discuss steps of Management in different types of Cushing Syndrome..</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.endocrine.org/clinical-practice-guidelines</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Addison's Disease. Discuss Pathophysiology. Enlist the Causes. Classify Addison's Disease. Enlist Clinical Presentation Enumerate the Clinical Features. Investigate Biochemically and Radiologically if needed. Manage the Addison's Disease with special emphasis on Addisonian Crisis. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clark's Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.endocrine.org/clinical-practice-guidelines

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Hyperaldosteronism. Discuss Pathophysiology. Enlist the Causes of Mineralocorticoid excess. Enumerate the Clinical Features. Investigate Biochemically and Radiologically if needed. Briefly Discuss the steps of Management of Different Types of Hyperaldosteronism. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.endocrine.org/clinical-practice-guidelines

Exit Outc	Enablin g	Learning Objectives	Method	Assessme nt	Learning Resources
Manag e case of Endocr ine Disord er	Proper History Taking, Examinati on, Lab and Radiologic al Investigati ons Treatment Plan	Define Pheochromocytoma and Paraganglionoma Discuss Pathophysiology. Enumerate the Clinical Features. Investigate Biochemically and Radiologically to Localize the Lesion. Manage Pheochromocytoma and Paraganglionoma with special emphasis on its Perioperative management. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.endocrine.org/clinical-practice-guidelines

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	<p>Define CAH.</p> <p>Discuss Pathophysiology with Enzyme Defect at different levels of Steroidogenesis.</p> <p>Enlist Different Types of CAH.</p> <p>Enlist Clinical Presentation of Common type of CAH</p> <p>Enumerate the Clinical Features of CAH.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Manage different types of 21 (OH) Deficiency</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.endocrine.org/clinical-practice-guidelines</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Hypoglycemia. What is Whipple Triad. Enlist Causes of Spontaneous Hypoglycemia. Investigate Biochemically and Radiologically if needed. Manage Hypoglycemia When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://care.diabetesjournals.org/content/Supplement_1</p>

Exit Outco	Enabling Outcome	Learning Objectives	Method	Assessm ent	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define NET's. Enumerate Pancreatic Neuro endocrine Tumors. Enlist Clinical Features of Carcinoid Syndrome. 4. Investigate Biochemically and Radiologically if needed. Manage Different Neuro endocrine Tumors When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>1. Define Hypopituitarism.</p> <p>2. Enumerate the Clinical Features.</p> <p>3. Enlist Causes of Anterior Pituitary Hormone Deficiency.</p> <p>4. Investigate Biochemically and Radiologically to Localize the Lesion.</p> <p>5. Manage a case of Hypopituitarism.</p> <p>6. Enlist Indications, Contraindications, Describe Dose of Insulin, Protocol and Interpretation of results of ITT.</p> <p>7. When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.endocrine.org/clinical-practice-guidelines</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Hyperprolactinemia Enumerate the Clinical Features. Enlist Causes of Hyperprolactinemia. Investigate Biochemically and Radiologically to Localize the Lesion. Manage a case of Hyperprolactinemia with special emphasis on Prolactinoma When to Refer	Small Group Discussion , Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.endocrine.org/clinical-practice-guidelines

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Acromegaly Enumerate the Clinical Features. Enlist Causes of Acromegaly. Investigate Biochemically and Radiologically to Localize the Lesion. Manage a case of Acromegaly. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.endocrine.org/clinical-practice-guidelines</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	Define Diabetes Insipidus (DI) Enumerate the Clinical Features of DI. Enlist Causes of DI. Investigate Biochemically to differentiate between Cranial DI from Nephrogenic DI and Radiologically to Localize the Lesion. Manage a case of DI. Describe protocol of Water Deprivation Test and its Interpretation. When to Refer	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Endocrine Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan	<p>Enlist diseases included in MEN 1 and MEN 2.</p> <p>Enumerate the Clinical Features of each.</p> <p>Enlist Genetic Abnormalities in MEN.</p> <p>Investigate Biochemically and Radiologically to Localize the Lesion.</p> <p>Manage a case MEN.</p> <p>Enlist Diseases included in APS 1 and APS 2.</p> <p>When to Refer</p>	Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

NOTE:

- In 1st year of MD programme, PG should have core basic knowledge of every topic as mentioned in contents of Endocrinology curriculum.
- In 1st year of MD programme, PG should be able to manage Endocrine Emergencies like Adrenal Crisis, Thyroid storm and Myxedema Coma.
- In 2nd year of MD programme, PG should learn approach to patient with Endocrine diseases, be able to make Differential Diagnosis and be able to do basic management of these diseases.
- In 3rd year and 4th year of MD Programme, PG should be able to have grip on Differential Diagnosis and be able to manage all the Endocrine Diseases and their complications.
- In 3rd year and 4th year of MD Programme, PG must be able to interpret biochemical investigations and imaging modalities relevant to Endocrine Diseases.
- In 3rd 4th year of MD Programme, PG must be have updates about recent Endocrine guidelines as mentioned in column of Learning Resource.

Endocrine Procedures to be performed in first 2 years are as follows:

- Overnight Dexamethasone Suppression Test
- Low Dose Dexamethasone Suppression Test
- High Dose Dexamethasone Suppression Test
- Short Synecthin Test
- Endocrine Procedures to be performed in Last 2 years are as follows:

- Water Deprivation Test for Diabetes Insipidus
- OGTT for Acromegaly
- Insulin Tolerance Test for Hypopituitarism
- Growth Hormone Day Curve
- Hydrocortisone Day Curve
- Interpretation of DEXA Scan

Diabetes Mellitus

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Diabetes Mellitus	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define Diabetes Mellitus. Discuss Pathophysiology of Type 1 and Type 2 Diabetes. Define Diagnostic Criteria of Diabetes and Pre-Diabetes Discuss Protocol of OGTT and Interpretation of results of OGTT. Define Diagnostic Criteria of GDM and when to perform OGTT in pregnancy with interpretation of results of OGTT	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Diabetes Mellitus	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Enlist Diagnostic Criteria of DKA and HHS.</p> <p>Discuss Pathophysiology of both.</p> <p>Enumerate the Clinical Features.</p> <p>Investigate Biochemically</p> <p>Manage a case of DKA and HHS.</p> <p>When to Refer</p>	<p>Lectures,</p> <p>Small Group Discussion,</p> <p>Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's,</p> <p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://care.diabetesjournals.org/content/Supplement_1</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
<p>Manage case of Diabetes Mellitus</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Manage Type 1DM, Type DM and GDM. Briefly discuss following Lifestyle Modification B.Oral Hypoglycemic Drugs plus GLP 1 Agonists with their Mechanism of action and Side Effects C. Different Formulations of Insulin with their side effects and Duration of action Enlist Microvascular, Macrovascular and Autonomic Complications of Diabetes.</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Ward Test OSCE Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://care.diabetesjournals.org/content/Supplement_1</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Diabetes Mellitus	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Discuss Pathogenesis of Diabetic Retinopathy. Enlist its Clinical Features. Manage a case of Diabetic Nephropathy along with its Prevention. When to refer.</p> <p>Discuss Pathogenesis of Diabetic Nephropathy along with Diagnosis and Screening. Manage Diabetic Nephropathy along with its Prevention. When to Refer.</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Ward Test OSCE Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://care.diabetesjournals.org/content</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
<p>Manage case of Diabetes Mellitus</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Classify Diabetic Nephropathy. Enlist Clinical Features of Autonomic Neuropathy. Enumerate Management Options for Peripheral and Autonomic Neuropathies. Discuss Briefly Pathophysiology of Diabetic Foot Ulcer. Enlist Clinical Features of Diabetic Foot. Enumerate Preventive advice for Foot care of Diabetic Patient. Manage Diabetic Foot. When to Refer.</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Ward Test OSCE Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition". https://www.medscap.e.org/ https://www.globalhealthdelivery.org/uptodate https://care.diabetesjournals.org/content/Supplement_1</p>

Note

- Emergencies like management of DKA, HHS and Hypoglycemia should be covered in first year of training.
- Basic Core knowledge of Diabetes and management of Diabetes Mellitus should be covered in first year of training.
- Management of Diabetes related complications should be covered in 2nd year of MD training.
- MD Trainee should have knowledge of recent guidelines and new advances in Diabetes.
- MD Trainee should be able to perform OGTT for Diabetes and Gestational Diabetes.

Rheumatology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Rheumatoid Arthritis Discuss Pathophysiology Classification criteria of Rheumatoid Arthritis Enlist Clinical Presentations Examination of Hand joints and relevant examination Investigate Biochemically, Radiologically and immunologically Manage the Rheumatoid Arthritis DMARD When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Systemic Lupus Erythematosis Discuss Pathophysiology Classification criteria of Systemic Lupus Erythematosis Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Systemic Lupus Erythematosis Recognize emergencies & their management. DMARDS & Immunosuppressants When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Inflammatory Muscle Disease Pathophysiology Classification criteria of Inflammatory Muscle Disease Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Inflammatory Muscle Disease Recognize emergencies & their management. DMARDS & Immunosuppressants When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	<p>Define Sjogrens syndrome</p> <p>Pathophysiology</p> <p>Classification criteria of Sjogrens syndrome</p> <p>Enlist Clinical Presentation</p> <p>Systemic examination for organ involvement</p> <p>Investigate Biochemically, Radiologically and immunologically</p> <p>Manage the Sjogrens syndrome</p> <p>Recognize emergencies & their management.</p> <p>DMARDS & Immunosuppressants</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	<p>Define Polymyalgia Rheumatica</p> <p>Pathophysiology</p> <p>Classification criteria of Polymyalgia Rheumatica</p> <p>Enlist Clinical Presentation</p> <p>Systemic examination for organ involvement</p> <p>Investigate Biochemically, Radiologically and immunologically</p> <p>Manage the Polymyalgia Rheumatica</p> <p>Recognize emergencies & their management.</p> <p>DMARDS & Immunosuppressants</p> <p>10. When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	<p>Define Vasculitis</p> <p>Pathophysiology</p> <p>Types of Vasculitis</p> <p>Enlist Clinical Presentation</p> <p>Systemic examination for organ involvement</p> <p>Investigate Biochemically, Radiologically and immunologically</p> <p>Manage the Vasculitis</p> <p>Recognize emergencies & their management.</p> <p>DMARDS & Immunosuppressants</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Osteoporosis Pathophysiology Enlist Clinical Presentation Causes Investigations Interpretation of DEXA Scan Manage the Osteoporosis When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Fibromyalgia Pathophysiology Enlist Clinical Presentation Classification criteria Manage the Fibromyalgia When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Gout Pathophysiology Enlist Clinical Presentation Joint examination Investigate Biochemically and Radiologically Manage the Gout Recognize complications Indication of Uric Acid lowering drugs When to Refer	Lectures, Small Group Discussion, Bedside Teaching OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

Exit Outcome	Enabling	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Systemic Sclerosis Discuss Pathophysiology Classification criteria of Systemic Sclerosis Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Systemic Sclerosis Immunosuppressants When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	“Davidson's Principles and Practice of Medicine-23 rd Edition”. “Kumar and Clarks Clinical Medicine-9 th Edition”. “Current Medical Diagnosis and Treatment 2020” “Harrison Principles of internal medicine- 20 th Edition”.

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Mixed Connective Tissue Disease Discuss Pathophysiology Classification criteria of Mixed Connective Tissue Disease Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Mixed Connective Tissue Disease Immunosuppressants When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23 rd Edition". "Kumar and Clarks Clinical Medicine-9 th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20 th Edition".

Exit Outcome	Enabling	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Ankylosing spondylitis Discuss Pathophysiology Classification criteria of Ankylosing spondylitis Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Ankylosing spondylitis DMARDS When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23 rd Edition". "Kumar and Clarks Clinical Medicine-9 th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20 th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Psoriatic Arthritis Discuss Pathophysiology Classification criteria of Psoriatic Arthritis Enlist Clinical Presentation Systemic examination for organ involvement Investigate Biochemically, Radiologically and immunologically Manage the Psoriatic Arthritis DMARDS When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23 rd Edition". "Kumar and Clarks Clinical Medicine-9 th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20 th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Osteoarthritis Discuss Pathophysiology Enlist Clinical Presentation Investigate Radiologically Manage the Osteoarthritis Lifestyle modifications and pharmacological therapy Indications of Surgery When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Septic Arthritis Discuss Pathophysiology Enlist Clinical Presentation Investigations Manage the Septic Arthritis Pharmacological therapy Indications of Surgery When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23 rd Edition". "Kumar and Clarks Clinical Medicine-9 th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20 th Edition".

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Rheumatological Disorder	Proper History Taking, Examination, Lab and Radiological Investigations Treatment Plan Counseling	Define Juvenile Idiopathic Arthritis Pathophysiology Classification criteria of Juvenile Idiopathic Arthritis Enlist Clinical Presentations Examination of Hand joints and relevant examination Investigate Biochemically, Radiologically and immunologically Manage the Juvenile Idiopathic Arthritis	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, OSCE, Short & Long cases, Ward Test	"Davidson's Principles and Practice of Medicine- 23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine- 20th Edition".

NOTE:

In 1st year of MD programme, PG should have core basic knowledge of every topic as mentioned in contents of Rheumatology curriculum.

- In 1st year of MD programme, PG should be able to manage Rheumatological emergencies like acute flare of SLE and Scleroderma renal crisis.
- In 2nd year of MD programme, PG should learn approach to patient with Rheumatological diseases, be able to make Differential Diagnosis and be able to do basic management of these diseases.
- In 3rd year and 4th year of MD Programme, PG should be able to have grip on Differential Diagnosis and be able to manage all the Rheumatological Diseases and their complications.
- In 3rd year and 4th year of MD Programme, PG must be able to interpret biochemical investigations and imaging modalities relevant to Rheumatological Diseases.
- In 3rd 4th years of MD Programme, PG must be have updates about recent Rheumatology guidelines as mentioned in column of Learning Resource.
- Procedures to be performed in first 2 years are as follows:
 - Knee joint aspiration
 - Intra articular knee injection
 - Intra articular Shoulder injection
 - Injection for various tendinopathies

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Procedures to be performed in Last 2 years are as follows:

- Injection for Carpal tunnel syndrome

- Injection for tarsal tunnel syndrome
- Intra articular injection for sacroiliac joint
- Infusion of various biological agents
- Interpretation of DEXA Scan

Infectious Diseases

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infections Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Covid 19 (sars cov -2) Human Immunodeficiency Virus: epidemiology transmission pathogenesis clinical features AIDS Investigations Management Guidelines Prognosis Systemic viral infections with exanthem Measles Rubella Parvo virus (B 19) HHV 6 & 7 Varicella Chicken pox/Shingles Enteroviralexanthems Systemic viral infections without exanthems Mumps influenza Infectious Mononucleosis Cytomegalovirus Dengue Yellow fever Viral hemorrhagic fevers (Lassa fever, Ebola, Marburg, Yellow, Dengue, CCH, Rift valley fever), Kyssanur fever, Bolivian and Argentinian hemorrhagic fever, Hantaan fever)	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	“Davidson's Principles and Practice of Medicine- 23rd Edition”. “Kumar and Clarks Clinical Medicine-9th Edition”. “Current Medical Diagnosis and Treatment 2020” “Harrison Principles of internal medicine- 20th Edition”. https://www.medscape.org/ https://www.globalhealthdelivery.org/

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	HSV 1 & 2 HHV 8 Enterovirus infections(hand, foot & mouth disease; herpangina) Pox viruses (Small pox, Monkey pox, cow pox, Vaccinia virus)	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine- 20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Norovirus Astro virus Rota virus Hepatitis viruses(AtoE)	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptod</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Adeno viruses Rhino virus Para influenza RSV	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Japanese B encephalitis West-Nile Virus Enterovirus 71 Nipah virus encephalitis Human T cell Lymphotropic virus type 1	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Rubella Parvo virus B 19 HBV HIV 1 Chikungunya virus	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
<p>Manage a case of infectious Diseases</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Staphylococcus infections Skin infections wound infections cannula related infections MRSA infections Toxic shock syndrome</p> <p>Streptococcal infections Skin presentations Scarlet fever Streptococcal toxic shock syndrome</p> <p>Treponematoses Syphilis Endemic Treponematoses (Yaws)</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Class Test, Ward Test and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Brucellosis</p> <p>Borrelia ; Lyme disease;</p> <p>Louse born relapsing fever; thick-born relapsing fever;</p> <p>Leptospirosis (Microbiology epidemiology)</p> <p>Complications/ manifestations:</p> <p>Bacteremic Leptospirosis aseptic meningitis Weil's Disease</p> <p>Plague; Buboni; septicemic plague; Pneumonic plague</p> <p>Listeriosis</p> <p>Typhoid & Para typhoid infections</p> <p>Tularemia</p> <p>Melioidosis</p>	<p>Lectures,</p> <p>Small Group Discussion,</p> <p>Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Class Test, Ward Test</p> <p>and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Staphylococcal food poisoning</p> <p>Bacillus cereus food poisoning</p> <p>Clostridium perfringens</p> <p>Campylobacter jejuni</p> <p>Salmonella</p> <p>Escherichia coli (ETEC, EIEC, EHEC, EAEC, EPEC)</p> <p>Clostridium difficile</p> <p>Yersinia</p> <p>Cholera</p> <p>Vibrio parahemolyticus</p> <p>Bacillary dysentery (Shigellosis)</p>	<p>Lectures,</p> <p>Small Group Discussion,</p> <p>Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's,</p> <p>Class Test,</p> <p>Ward Test</p> <p>and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Diphtheria Pneumococcal infections Anthrax(cutaneous, gastrointestinal, inhalational)	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious Diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Leprosy epidemiology transmission pathogenesis clinical features leprosy reactions investigations management prognosis</p> <p>Tuberculosis epidemiology transmission pathogenesis clinical features leprosy reactions investigations management prognosis</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Class Test, Ward Test and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
<p>Manage a case of infectious Diseases</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Systemic protozoal infections Malaria Pathogenesis life cycle pathology clinical features investigations management prevention Babeiosis African trypanosomosis Chagas Disease Toxoplasmosis Leishmaniasis Gastrointestinal protozoal infections Amebiasis Giardiasis Cyclosporiasis Cryptosporidiosis</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Class Test, Ward Test and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Intestinal Nematods</p> <p>Human Hookworm Strongiloidiasis Ascariasis enterobiusvermicularis trichiristrichura</p> <p>Tissue dwelling human nematods</p> <p>Lymphatic filariasis Loiasis Onchocerciasis Dracunculiasis</p> <p>Zoonotic trichinosis cutaneous larva migrans</p> <p>Trematods Scistosomiasis Liver flukes</p> <p>Cestodes(tapeworms)</p> <p>Intestinal Taenia Solium TaeniaSaginata Taeniaasiatica Cysticercosis Echinococcus</p>	<p>Lectures,</p> <p>Small Group Discussion,</p> <p>Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's,</p> <p>Class Test,</p> <p>Ward Test</p> <p>and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of infectious diseases	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Superficial Mycosis Candidiasis</p> <p>Subcutaneous infections chromoblastomycosis Mycetoma Phaeohyphomycosis Sporotrichosis</p> <p>Systemic mycosis Aspergilosis Candidiasis Cryptococcosis Fusariosis Mucormycosis Pencilliummarneffiiinf Histoplasmosis Coccidioidomycosis ParaCoccidioidomycosis</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, Class Test, Ward Test and OSCE</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

NOTE

All pandemics like covid 19 should be thoroughly covered during the 1st year of training.

All endemics like dengue, typhoid, malaria, tuberculosis should also be covered during 1st year of training.

Workshops regarding the management of these infectious diseases will be mandatory for all trainees.

Quarterly assessment tests comprising mcqs and table vivas will be conducted.

Gastroenterology

Topics/Contents

Nausea, Vomiting, Hiccups

Dyspepsia

GERD, Dysphagia

Esophageal motility disorders

Upper GI bleed, Esophageal varices

Gastritis, NSAID gastritis

Peptic ulcer disease

Diarrhea, Malabsorption syndrome

Coeliac disease

Irritable bowel syndrome

Inflammatory bowel disease

Intestinal motility disorders

Constipation

Antibiotic associated colitis

Diverticulitis

Lower GI and rectal bleed

GI cancers

Abdominal distension

Jaundice

Acute hepatitis

Chronic hepatitis

Chronic liver disease & Decompensated cirrhosis

**Liver diseases in Pregnancy(Fatty liver of pregnancy,
acute fulminant Hepatitis, Viral Hepatitis E)**

Portal hypertension

Encephlopathy

Fulminant liver failure

Diseases of pancreas, Acute Pancreatitis

Chronic Pancreatitis

Space occupying lesions of pancreas

Diseases of Gall bladder and spleen

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage dyspepsia	Proper history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Dyspepsia and Epigastric Pain	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage causes of Nausea and Vomiting	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Nausea, Vomiting, Hiccups Different causes, and management.	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage GERD	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	GERD	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Esophageal motility disorders	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Esophageal motility disorders	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Gastritis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Gastritis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Objectives	Enabling Outcomes	Learning Objectives	Methods	Assessment	Learning Resources
To diagnose and manage cases of Peptic ulcer disease	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Peptic ulcer disease	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Objectives	Enabling Outcomes	Learning Objectives	Methods	Assessment	Learning Resources
To diagnose and manage cases of Diarrhea	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Diarrhea	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Coeliac disease	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Coeliac disease	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage cases of Irritable bowel syndrome	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Irritable bowel syndrome	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Inflammatory bowel disease	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Inflammatory bowel disease	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Inflammatory bowel disease	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Inflammatory bowel disease	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Constipation	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Constipation	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Intestinal motility disorders	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Intestinal motility disorders	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Antibiotic associated colitis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Antibiotic associated colitis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Diverticulitis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Diverticulitis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Lower GI and rectal bleed	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Lower GI and rectal bleed	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage GI cancers	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	GI cancers	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Abdominal distension	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Abdominal distension	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Jaundice	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Jaundice	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Acute hepatitis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Acute hepatitis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Chronic liver disease & Decompensated cirrhosis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Chronic liver disease & Decompensated cirrhosis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Liver diseases in Pregnancy	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Liver diseases in Pregnancy (Fatty liver of pregnancy, acute fulminant Hepatitis, Viral Hepatitis E)	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Portal hypertension	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Portal hypertension	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Fulminant liver failure	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Fulminant liver failure	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Diseases of pancreas, Acute Pancreatitis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Diseases of pancreas, Acute Pancreatitis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Chronic Pancreatitis	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Chronic Pancreatitis	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Space occupying lesions of pancreas	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Space occupying lesions of pancreas	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

Learning Outcome	Enabling outcome	Learning Objectives	Teaching Methods	Assessments	Reading Resources
To diagnose and manage Diseases of Gall bladder and spleen	Proper relevant history and examination Initial investigations and differential diagnosis Provisional diagnosis and initial management Referral	Diseases of Gall bladder and spleen	Lectures Audio Visuals Ward Teaching OPD Teaching Emergency Bed-side Teaching	Class Tests Ward tests Assignments MCQ's SEQ's OSCES	Davidson Principles and Practice of Medicine 23 rd Edition Harrison's Principles of Internal Medicine 20 th Edition Kumar and Clark Clinical Medicine 9 th Edition Current Medical Diagnosis and Treatment 2020

PSYCHIATRY

- Introduction to Psychiatry
- Clinical approach to the patient with a psychiatric disorder
- The Psychiatric History
- The mental state examination
- The relevant physical examination
- Summary or formulation
- Epidemiology of Psychiatric Disorders
- Classification of Psychiatric Disorders
- Aetiology of Psychiatric disorders
- Diagnosing Psychiatric Disorders
- Psychiatric aspects of physical diseases
- The sick role and illness behavior
- Psychiatric Disorders
- Depressive Disorders
- Mania, Hypomania and Bipolar Disorder
- Functional somatic syndromes
- Somatoform disorders
- Dissociative/ Conversion Disorders
- Sleep Difficulties

- Mood (affective) disorders
- Suicide and self-harm
- Anxiety disorders
- Alcohol misuse and dependence
- Drug misuse and dependence
- Schizophrenia
- Organic mental disorders
- Eating Disorders
- Sexual disorders
- Personality Disorders
- Psychiatry & Law
- Involuntary detention or commitment
- Mental Capacity Act.
- Treating Psychiatric Disorders
- Biological Treatments
- Psychological Treatments
- Social interventions

Depression:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 1. Depression	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Depression Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage depression Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Schizophrenia .

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 2. Schizophrenia	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Schizophrenia Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage depression Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Bipolar Disorder:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 3. Bipolar Disorder	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Bipolar Disorder (Mania & Depression) Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage a case of Bipolar Disorder Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Obsessive Compulsive Disorder:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 4. Obsessive Compulsive Disorder	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Obsessive Compulsive Disorder Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage Obsessive Compulsive Disorder Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Anxiety Disorders:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 5. Anxiety Disorders	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Anxiety Disorders Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage Anxiety Disorders Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Suicide & Self harm:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 6. Suicide & Self harm	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Suicide & Self harm Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage Suicide & Self harm Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Drug Abuse:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 7. Drug Abuse	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Drug Abuse Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage Drug Abuse Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

Eating & Sleeping Disorders:

Exit Outcomes	Enabling outcomes	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Psychiatric disorder. 8. Eating & Sleeping Disorders	History taking, physical and mental state examination, relevant investigations, making a treatment plan.	Define Eating & Sleeping Disorders Psychopathology Etiology Classification Enlist the clinical presentations Investigate physically & using psychometric tests Manage Eating & Sleeping Disorders Went to refer	Case Presentation Small group discussion Class room Bed side OPD /IPD Practical etc. Methodology by which the objectives will be achieved	MCQs SAQs OSPE Viva etc.	Recommended books: Kumar Clarks Clinical Medicine Oxford Textbook of Psychiatry (For Reference) Davidson's Principles & Practice of Medicine http://www.jpps.com.pk

OBJECTIVES:

Knowledge:

- By the end of 02 month Psychiatry Rotation, PG should have theoretical knowledge of following topics:-
- Distinguish normality from abnormality from a medical social and psychological perspective.
- Relate biological factors with psychosocial factors in health and disease.
- Learn the use principles of behavioral sciences in clinical interview assessments and management plans.
- Request and justify not only laboratory, radiology, and electrophysiological investigation but also make social and psychological inquiries.
- Use pharmacological as well as non-pharmacological interventions.
- Apply evidence-based research finding to clinical situations.

Skills:

- By the end of 02 month Psychiatry Rotation, PG is expected to attain following practical skills:-
- Written communication skills:
- Demonstrate competence in medical writing
- Write comprehensive history of the patient
- Update medical records clearly and accurately.
- Write management plans, discharge/transfer summaries and referral notes.

Verbal communication skills:

- Establish professional relationship with patients and their caregivers to obtain a history, physical examination and make an appropriate management plan
- Demonstrate uses of appropriate language in bedside sessions, outpatients, E-communication, seminars.
- Demonstrate the ability to communicate clearly and sensitively with patients, relatives, other health professionals and the public.
- Demonstrate competence in presentation skills.
- Provide informational care and counsel patients.
- Use principals of effective communication (section A) in all his/her clinical interactions.

Patient management skills:

- Interpret the history and examination findings and arrive at an appropriate differential diagnosis and final diagnosis.
- Demonstrate competence in clinical problem identification, analysis and management of the problem using appropriate resources.
- Priorities clinical problems for interventions.
- Use evidence-based pharmacological and psychosocial interventions.
- Independently undertake counseling and informational care sessions.

Skills in research:

- Undertake relevant literature searches and collect evidence case guideline for use in clinical practice.

- Interpret and use results of peer reviewed standard articles to improve clinical practice (and learn to not rely on data published by groups with a vested interest).
- Organize and actively participate in educational, training and research activities.

Cardiology

Introduction

- The general internist should be able to provide primary and Secondary preventive care and initially manage the full range of cardiovascular disorders.
- The need for additional competencies in cardiovascular disease will depend on the availability of a cardiologist in the primary practice setting.
- In some communities, the general internist may be responsible for management of more complex cardiovascular disorders that require intensive hemodynamic monitoring (for example, balloon-tipped pulmonary artery catheters) in the intensive care unit.

CARDIOLOGY

Introduction

- The general internist should be able to provide primary and secondary preventive care and initially manage the full range of cardiovascular disorders.
- The need for additional competencies in cardiovascular disease will depend on the availability of a cardiologist in the primary practice setting.
- In some communities, the general internist may be responsible for management of more complex cardiovascular disorders that require intensive hemodynamic monitoring (for example, balloon-tipped pulmonary artery catheters) in the intensive care unit.

Common Clinical Disorders

- Coronary Artery Diseases Chronic stable angina.
- Unstable angina.
- Care of post-CABG and post-PTCA patients.
- Myocardial infarction (covered mainly in the coronary care unit rotation).
- Care of post myocardial infarction patients. Congestive heart failure:
- Chronic heart failure.
- Systolic heart failure from various etiologies (ischemic/ non ischemic). o Diastolic heart failure.
- Pulmonary edema.
- Valvular heart disease. Infective endocarditis. Arrhythmias
- Atrial fibrillation, atrial flutter and other common supraventricular arrhythmias.

- Ventricular arrhythmias, sudden cardiac death and indications for AICD implantation.
- Bradyarrhythmias and major indication of temporary and permanent pacing.
- Basic understanding of pacemaker function.
- Indication and value of electrophysiologic testing. Adult congenital heart disease.
- Cardiomyopathies and myocarditis. Preoperative evaluation:
 - Assessing cardiac risk in patients undergoing non-cardiac surgeries. o Interventions to minimize cardiac risk in patients undergoing non-cardiac procedures.
 - Hypertension:
 - Hypertensive urgencies and emergencies.
 - Management of chronic hypertension, especially patients with difficult to control hypertension.
 - Secondary hypertension.
 - Aortic disease (aortic aneurysm).
 - Venous thromboembolic disease / pulmonary embolism, pulmonary vascular disease, and chronic venous stasis.
- Arterial insufficiency Pericardial disease Dyslipidemia
- Common Clinical Presentations

- Abnormal heart sounds or murmurs Chest pain
- Dyspnea
- Effort intolerance, fatigue Hypertension
- Intermittent claudication Leg swelling
- Peripheral vascular disease Risk factor modification
- Shock, cardiovascular collapse Syncope, lightheadedness
- Procedure Skills
- Advanced cardiac life support
- Insertion of balloon-tipped pulmonary artery catheter (optional) Insertion of temporary pacemaker (optional)
- Primary Interpretation of Tests
- Stress electrocardiography (optional)
- Ordering and Understanding Tests
- Ambulatory ECG monitoring
- Echocardiography
- Electrophysiology testing
- Left ventricular catheterization and coronary angiography Nuclear scan¹¹
- wall motion study
- Right ventricular catheterization (including flotation catheter)

- Stress electrocardiography and thallium myocardial perfusion scan Tilt
- table physiology study Psychiatry

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	Define Myocardial Infarction (MI). Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in Myocardial Infarction Investigate. Manage Myocardial Infarction. When to Refer	Small Group Discussion, Bed side Teaching in Ward, IPD, Emergency	Ward Test OSCE Short and long Cases	<p>“Davidson’s Principles and Practice of Medicine-23rd Edition”.</p> <p>“Kumar and Clarks Clinical Medicine-9th Edition”.</p> <p>“Current Medical Diagnosis and Treatment 2020”</p> <p>“Harrison Principles of Internal Medicine-20th Edition”.</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Stable & Unstable Angina.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the Causes of Stable & Unstable Angina</p> <p>Enlist Clinical Presentation of Stable & Unstable Angina.</p> <p>Investigate if needed.</p> <p>Briefly discuss the steps of Management in Stable & Unstable Angina</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in Ward, IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of Internal Medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	Define Congestive Cardiac Failure. Discuss Pathophysiology. Enlist the Causes. Classify Congestive Cardiac Failure. Enumerate Steps of Management of Different types of Congestive Cardiac Failure. When to Refer	Small Group Discussion, Bed side Teaching in Ward, IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of Internal Medicine-20th Edition". https://www.medscape.org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Valvular Heart Disease, Stenosis & Mitral Regurgitation.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the Causes.</p> <p>Enumerate the Clinical Features.</p> <p>Investigate Mitral Stenosis & Mitral Regurgitation.</p> <p>Enlist Steps of Management in Mitral Stenosis & Mitral Regurgitation.</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in Ward, IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of Internal Medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Valvular Heart Disease, Aortic Stenosis & Aortic Regurgitation.</p> <p>Enlist Causes of AS, AR</p> <p>Enumerate Clinical features.</p> <p>Investigate Aortic Stenosis & Aortic Regurgitation.</p> <p>Discuss Steps of Management in Aortic Stenosis & Aortic Regurgitation.</p> <p>Enumerate Clinical Features of Aortic Stenosis & Aortic Regurgitation</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD, IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>“Davidson’s Principles and Practice of Medicine-23rdEdition”.</p> <p>“Kumar and Clarks Clinical Medicine-9thEdition”.</p> <p>“Current Medical Diagnosis and Treatment 2020”</p> <p>“Harrison Principles of internal medicine-20thEdition”.</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Tricuspid Stenosis & Tricuspid Regurgitation.</p> <p>Enumerate Clinical Features of Tricuspid Stenosis & Tricuspid Regurgitation</p> <p>Investigate Tricuspid Stenosis & Tricuspid Regurgitation</p> <p>Discuss Steps of Management in Tricuspid Stenosis & Tricuspid Regurgitation</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side in Teaching OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define infective Endocarditis</p> <p>Discuss Pathophysiology.</p> <p>Enlist the Causes of infective Endocarditis.</p> <p>Enlist Clinical Presentation of Infective Endocarditis</p> <p>Investigate Biochemically and radiologically if needed.</p> <p>Briefly discuss the steps of Management in infective Endocarditis</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rdEdition".</p> <p>"Kumar and Clarks Clinical Medicine-9thEdition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20thEdition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Rheumatic Fever.</p> <p>Discuss Pathophysiology.</p> <p>Enlist Differential Diagnosis of Rheumatic Fever.</p> <p>Enumerate the Clinical Features of Rheumatic Fever.</p> <p>Investigate the criteria of Rheumatic Fever.</p> <p>Enlist steps of management in Rheumatic Fever.</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	Define Cardiomyopat. Enlist Causes of Cardiomyopathy. Classify Cardiomyopathy. Enumerate Clinical Features of Cardiomyopathy. Enlist sequence of Investigations in suspected spontaneous Cardiomyopathy. Discuss steps of Management in different types of Cardiomyopathy. When to Refer	Small Group Discussion, Bed side Teaching in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rdEdition". "Kumar and Clarks Clinical Medicine-9thEdition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20thEdition". https://www.medscape.org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	Define Myocarditis. Discuss Myocarditis. Enlist the Causes. Classify Myocarditis\ Enlist Clinical Presentation Investigate Myocarditis if needed. Manage the Myocarditis. When to Refer	Small Group Discussion, Bed side Teaching in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rdEdition". "Kumar and Clarks Clinical Medicine-9thEdition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	Define Pericarditis. Discuss Pericarditis. Enlist the Causes of Pericarditis. Enumerate the Clinical Features. Investigate Pericarditis. if needed. Briefly discuss the steps of Management of Different Types of Pericarditis. When to Refer	Small Group Discussion, Bed side Teaching in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rdEdition". "Kumar and Clarks Clinical Medicine-9thEdition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Pericardial Effusion.</p> <p>Discuss Pericardial Effusion.</p> <p>Enlist the Causes of Pericardial Effusion.</p> <p>Enumerate the Clinical Features.</p> <p>Investigate Pericarditis. if needed.</p> <p>Briefly Discuss the steps of Management of Different Types of Pericardial Effusion.</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rdEdition".</p> <p>"Kumar and Clarks Clinical Medicine-9thEdition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Arrhythmias (Tachy Arrhythmias & Brady Arrhythmias)</p> <p>Discuss Pathophysiology.</p> <p>Enumerate the Clinical Features.</p> <p>Investigate Arrhythmias (Tachy Arrhythmias & Brady Arrhythmias).</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD, IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	<p>Define Tachy Arrhythmias (Sinus Tachycardia & Supra ventricular Tachycardia).</p> <p>Discuss Pathophysiology of Tachy Arrhythmias (Sinus Tachycardia & Supra ventricular Tachycardia).</p> <p>Enlist Different Types of Tachy Arrhythmias</p> <p>Enlist Clinical Presentation of Common type of Tachy Arrhythmias (Sinus Tachycardia & Supra ventricular Tachycardia).</p> <p>Enumerate the Clinical Features of Tachy Arrhythmias</p> <p>Manage investigate When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side in Teaching OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rdEdition".</p> <p>"Kumar and Clarks Clinical Medicine-9thEdition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	Define Arrhythmias (Atrial Fibrillation). Causes of Atrial Fibrillation. Investigate Atrial Fibrillation. Manage Atrial Fibrillation. When to Refer	Tachy (Atrial Fibrillation) Small Group Discussion, Bed side Teaching in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rdEdition". "Kumar and Clarks Clinical Medicine-9thEdition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape .org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	<p>Define Brady Arrhythmias (Heart Block).</p> <p>Enumerate Brady Arrhythmias</p> <p>Enlist Clinical Features of Brady Arrhythmias</p> <p>Investigate Brady Arrhythmias (Heart Block).</p> <p>Manage major indications of temporary & permanent pacing</p> <p>Basics understanding of pacemaker function.</p> <p>When to Refer</p>	<p>Small Group Discussion,</p> <p>Bed side Teaching in OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>“Davidson’s Principles and Practice of Medicine-23rd Edition”.</p> <p>“Kumar and Clarks Clinical Medicine-9th Edition”.</p> <p>“Current Medical Diagnosis and Treatment 2020”</p> <p>“Harrison Principles of internal medicine-20th Edition”.</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	Define Aortic Aneurysm Enumerate the Clinical Features. Enlist Causes of Aortic Aneurysm Investigate Aortic Aneurysm Manage a case of Aortic Aneurysm 7.When to Refer	Small Group Discussion, Bed side in Teaching in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations , Treatment Plan	Define Aortic Dissection. Enumerate the Clinical Features. Enlist Causes of Aortic Dissection. Investigate Aortic Dissection.. Manage a case of Aortic Dissection. When to Refer	Small Group Discussion, Bed side in OPD,IPD, Emergency	Ward Test OSCE Long and Short Cases	"Davidson's Principles and Practice of Medicine-23rd Edition". "Kumar and Clarks Clinical Medicine-9th Edition". "Current Medical Diagnosis and Treatment 2020" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ Recent AHA Guideline

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Cardiology	Proper History Taking, Examination, Lab and Investigations, Treatment Plan	<p>Define Cardiogenic Shock</p> <p>Enumerate the Clinical Features.</p> <p>Enlist Causes of Cardiogenic Shock</p> <p>Investigate Cardiogenic Shock.</p> <p>Manage Cardiogenic Shock</p> <p>When to Refer</p>	<p>Small Group Discussion</p> <p>Bed side in</p> <p>Teaching in OPD,IPD, Emergency</p>	<p>Ward Test</p> <p>OSCE</p> <p>Long and Short Cases</p>	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>Recent AHA Guideline</p>

NOTE:

- Complete interpretation of ECG.
- Procedure Skills
- Advance Cardiac Life Support
- Insertion of balloon-tipped pulmonary artery catheter
- (optional) Insertion of temporary pacemaker (optional)
- Primary Interpretation of Tests
- Stress electrocardiography (optional)
- Ordering and Understanding Tests
- Ambulatory ECG Monitoring
- Echocardiography
- Electrophysiology testing
- Left ventricular catheterization and coronary angiography Nuclear scan wall motion study
- Right ventricular catheterization (including flotation catheter)
- Stress electrocardiography and thallium myocardial
- Perfusion scan Tilt-table physiology study Psychiatry

Pulmonology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Definition of ARDS Pathophysiology Etiologies and predisposing factors. Clinical features Diagnostic evaluation Differential Diagnosis Complications of ARDS Supportive Care Management of hypoxemia Management of underlying cause.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SE Qs, Class test, Ward test, and OSCE.	Current medical diagnosis and treatment_2020 Davidson principles and practice of medicine Kumar and clark clinical medicine Fishmans pulmonary diseases and disorder_5th edition Uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, lab and radiological examination, Treatment plan.	Introduction of Bronchiectasis Etiologies Describe Clinical features of Bronchiectasis Diagnostic Evaluation by Lab testing, Chest radiograph, computed tomography, Lung function tests and other tests. Treatment of acute exacerbation. Prevention of exacerbation. Pulmonary Rehabilitation Surgical intervention.	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Emergency Practicals.	MCQs, SEQs, Class tests, Ward tests and OSCE.	Current medical diagnosis and treatment_2020 Davidson principles and practice of medicine Kumar and clark clinical medicine Fishmans pulmonary diseases and disorder_5th edition Uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history Examination Lab investigations Radiological investigation Spirometry Inhaler technique Treatment plan	Asthma overview Enumerate risk factors Clinical features with triggering factors Asthma diagnosis by spirometry testing, challenge testing and some additional testing Management of asthma with pharmacological treatment Monitoring of patients Controlling triggers and contributing conditions Asthma action plan When to refer	Lectures, small group discussion, bedside teaching in OPD and IPD, emergency and practicals	Mcqs , seq, ward test and OSCE	Current medical diagnosis and treatment_2020 Davidson principles and practice of medicine Kumar and clark clinical medicine Fishmans pulmonary diseases and disorder_5th edition Uptodate

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination Lab investigations, Radiological investigations, Treatment plan.	Definition of COPD Clinical features of COPD. Evaluation by Lab test, Pulmonary function tests and imaging. Diagnosis Staging by GOLD system, BODE index, COPD foundation system. Risk factors for COPD exacerbations. Home management of COPD exacerbations Hospital management of COPD exacerbations. Mechanical ventilation Preventions of exacerbations	Lectures, Small group discussion, Bedside teaching in OPD, IPD, emergency and Practicals.	MCQs, SEQs, Class test, Ward test and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of interstitial lung disease Classification Clinical presentation History about age and gender, onset of symptoms ,past medical history, smoking history, family history ,prior medication use and irradiation, occupation and environmental exposure and symptoms Physical examination in terms of lung examination, cardiac examination , and extra pulmonary findings of systemic disease. Lab tests Imaging Pulmonary function testing Role of bronchoalveolar lavage Role of lung biopsy Treatment of respective lung disease.	Lectures, Small group discussion s, Bedside teaching in OPD,IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Drug induced Lung Disease. Common presentations of drug induced lung disease and Example of causative drugs Drugs cause ILD, Pneumonitis, Fibrosis Drugs cause Airway disease Drugs cause Pleural changes Drugs cause Vascular changes Drugs cause Mediastinal changes Drugs cause Pulmonary edema and Pulmonary haemorrhage Treatment plans.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SE Qs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Lung Disease related to Radiation Pathogenesis Risk Factors related to radiation induced lung injury. Clinical manifestations Diagnostic Evaluation in terms of laboratory studies, imaging studies , Pulmonary function tests, Bronchoscopy Differential diagnosis Treatment options.	Lectures, Small group discussion s, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Lung Cancer Risk factors related to lung cancer Screening Types of lung cancer Clinical manifestations in terms of intrathoracic effects of the cancer, Extrathoracic metastasis and Paraneoplastic phenomena. Diagnosis by clinical, Lab, radiographic and lung biopsy TNM staging system of lung cancer Treatment plans. Treatment plans.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Pleural Effusion Indications for thoracentesis Conditions diagnosed by thoracentesis Pleural fluid analysis by gross appearance, chemical and biochemical analysis, cytology, cancer related biomarkers, nucleated cells. Conventional radiography, computed tomography, ultrasonography, Magnetic resonance imaging, FDG-PET scanning. Transudative and Exudative pleural effusion. Treatment plans.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTO DATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
<p>Manage the case of Pulmonary Disorder</p>	<p>Proper history taking, Examination, Lab and radiological investigations Treatment plans.</p>	<p>Overview of disease Occupational Lung Disease. Epidemiology of Lung cancer investigations Management Plan</p>	<p>Lectures, Small group discussions, Bedside teaching in OPD,IPD, Emergency and practicals.</p>	<p>MCQs,SE Qs, Class test, Ward test, and OSCE.</p>	<p>CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Community acquired pneumonia Enlist the Risk factors. Clinical evaluation Defining severity Microbiology of CAP Diagnostic testing for microbial etiology Value of Procalcitonin and CRP Treatment by outpatient antibiotic therapy, inpatient antibiotic therapy and immunocompromised patient. Describe Hospital acquired pneumonia Ventilator associated pneumonia Complications of pneumonia and prognosis.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SE Qs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans	Overview of Pneumoconiosis. Causative minerals and dusts Types of mineral dust exposure Coal worker pneumoconiosis Pathology Clinical features Lab investigations Management plan Silicosis Pathology Types of silicosis Management Berylliosis Clinical features Investigations Management	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Pneumothorax. Primary spontaneous pneumothorax Definition Pathogenesis and risk factors Secondary spontaneous pneumothorax Definition Causes Traumatic pneumothorax Clinical Presentation Diagnostic Imaging Treatment of primary spontaneous pneumothorax Treatment of secondary spontaneous pneumothorax	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	<p>INTRODUCTION of Aspergillosis</p> <p>Definitions of Aspergilloma, Aspergillus nodule, chronic cavitary pulmonary aspergillosis, chronic fibrosing pulmonary aspergillosis, subacute invasive pulmonary aspergillosis</p> <p>Pathophysiology</p> <p>Clinical Features</p> <p>Radiographic features</p> <p>Lab findings</p> <p>Pulmonary function tests</p> <p>Diagnostic evaluation</p> <p>Approach to treatment</p> <p>Antifungal therapy</p> <p>Management of hemoptysis</p> <p>Supportive care.</p>	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	<p>CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020</p> <p>DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE</p> <p>KUMAR AND CLARK CLINICAL MEDICINE</p> <p>FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION</p> <p>UPTODATE</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of Pulmonary Embolism. Definition and Nomenclature Pathogenesis, Risk factors, source, pathophysiological response to PE Clinical presentation Diagnostic evaluation Treatment plans Monitoring and Follow up.	Lectures, Small group discussion Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Definition of Pulmonary Hypertension. Pathophysiology Presenting features Physical Examination Classification of Pulmonary hypertension Investigations by Chest radiograph, ECG, ABGs, Pulmonary Function Tests, HRCT, V/Q Scanning, and CTPA, Echocardiography, Cardiac MRI, Abdominal USS, Right heart catheterization, 6MWT, CPET, Blood tests. Primary therapy for pulmonary hypertension Agents used for Treatment Transplantation.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction of pulmonary TB Microbiology Clinical manifestation by describing natural history, Primary tuberculosis, Reactivation tuberculosis, other manifestation and HIV infected patients. Complications of pulmonary tuberculosis. Diagnosis of Pulmonary TB Diagnostic tools of radiographic imaging, microbiologic testing, molecular testing, urine antigen test in HIV infection. Antituberculous therapy and complication of treatment. Define Drug resistant TB.	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	Introduction to unusual lung diseases Alveolar microlithiasis Amyloidosis with pathophysiology and lung involvement Hereditary haemorrhagic telangiectasia Idiopathic pulmonary haemosiderosis Langerhans cell histiocytosis Lymphangioleiomyomatosis with clinical features with diagnosis and management Primary ciliary dyskinesia Pulmonary alveolar proteinosis with pathophysiology, clinical features and management.	Lectures, Small group discussion, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMAN'S PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination, Lab and radiological investigations, Treatment plans.	<p>Definition of pulmonary eosinophilia</p> <p>Enlist the causes</p> <p>Clinical features of Pulmonary eosinophilia</p> <p>Diagnostic approach in terms of history and physical examination, blood eosinophilia, serologic and other lab tests, imaging, Flexible bronchoscopy, Lung biopsy.</p> <p>Management of infectious causes, noninfectious cause and pulmonary eosinophilia of undetermined cause.</p>	Lectures, Small group discussions, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	<p>CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020</p> <p>DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE</p> <p>KUMAR AND CLARK CLINICAL MEDICINE</p> <p>FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION</p> <p>UPTODATE</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination and Lab and radiological investigations, Treatment plans	Definition of Obstructive Sleep Apnoea Pathophysiology and associated conditions of OSA. Clinical features of OSA Examination and Investigations Sleep studies with types of sleep studies Management plan. Definition of Central Sleep Apnea and Nocturnal Hypoventilation Pathophysiology Causes and clinical features Investigation and Management Obesity related Respiratory Problems Mangement	Lectures, Small group discussions, Bedside teaching in OPD,IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage the case of Pulmonary Disorder	Proper history taking, Examination and Lab and radiological investigations, Treatment plans.	Introduction Initial presentation as incidental finding on imaging and symptoms Clinical diagnosis by history and physical examination Lab studies and imaging Tissue Diagnosis by biopsy and surgical resection Differential Diagnosis Treatment of underlying cause.	Lectures, Small group discussion, Bedside teaching in OPD, IPD, Emergency and practicals.	MCQs, SEQs, Class test, Ward test, and OSCE.	CURRENT MEDICAL DIAGNOSIS AND TREATMENT_2020 DAVIDSON PRINCIPLES AND PRACTICE OF MEDICINE KUMAR AND CLARK CLINICAL MEDICINE FISHMANs PULMONARY DISEASES AND DISORDER_5TH EDITION UPTODATE

NOTE:

- In 1st year of MD programme, PG should have core basic knowledge of every topic as mentioned in contents of Pulmonology curriculum.
- In 1st year of MD programme, PG should be able to manage pulmonology Emergencies like tension pneumothoracic.ARDS.asthma exacerbation,.copd exacerbation.
- In 2nd year of MD programme, PG should learn approach to patient with Pulmonology diseases, be able to make Differential Diagnosis and be able to do basic management of these diseases.
- In 3rd year and 4th year of MD Programme, PG should be able to have grip on Differential Diagnosis and be able to manage all the Pulmonology Diseases and their complications.
- In 3rd year and 4th year of MD Programme, PG must be able to interpret biochemical investigations and imaging modalities relevant to Pulmonology Diseases.
- In 3rd 4th year of MD Programme, PG must be have updates about recent Pulmonology guidelines as mentioned in column of Learning Resource.
- Pulmonology Procedures to be performed in first 2 years are as follows:
 - Pulmonary function tests to assess respiratory mechanics and gas exchange, including spirometry, flow volume studies, lung volumes, diffusing capacity, arterial blood gas analysis, and exercise studies
 - Administer medical gases, humidification and aerosol medications⁵⁷
 - Perform postural drainage and maintain bronchopulmonary hygiene
 - Endotracheal intubation and maintaining artificial airways

- Perform cardiopulmonary resuscitation
- Pleural aspiration
- The examination and interpretation of sputum, bronchopulmonary secretions, pleural fluid Chest tubes and drainage systems
- Nutritional support
- The examination and interpretation of lung tissue for infectious agents, cytology, and histopathology
- Imaging techniques commonly employed in the evaluation of patients with critical illness and/or pulmonary disorders
- Pulmonology Procedures to be performed in Last 2 years are as follows:
 - Pleural Biopsies
 - Flexible fiberoptic bronchoscopy procedures
 - Management of mechanically ventilated patients
 - Non Invasive ventilation.

Neurology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Parkinson's disease</p> <p>Enlist the Causes.</p> <p>Enumerate the Clinical Features.</p> <p>Discuss Differential Diagnosis of Parkinson's disease</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Differences in idiopathic and drug induced Parkinson's disease</p> <p>Management of Parkinson's disease</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Class Test, Ward Test and OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org > Professionals Portal</p>

Learning Resources	Assessment	Method	Learning Objectives	Enabling Outcome	Exit Outcome
<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org › Professionals Portal</p>	<p>MCQ's, SEQ's, Bedside long and short cases OSCE</p>	<p>Lectures, Small Group Discussion , Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>Define Parkinson's disease.</p> <p>Enlist the Causes.</p> <p>Enumerate the Clinical Features.</p> <p>Discuss Differential Diagnosis of Parkinson's disease.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Differences in idiopathic and drug induced Parkinson's disease</p> <p>Management of Parkinson's disease.</p> <p>When to Refer</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Manage case of Neurology</p>

Learning Resources	Assessment	Method	Learning Objectives	Enabling Outcome	Exit Outcome
"Davidson's Principles and Practice of Medicine-23 rd Edition". "Adams and Victor's Principles of Neurology 10th Edition". "Current Neurology Second Edition" "Harrison Principles of internal medicine-20 th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/update https://www.thyroid.org › Professionals Portal	MCQ's, SEQ's, Bedside long and short cases OSCE	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's	Define Multiple Sclerosis. Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in Multiple Sclerosis Investigate Biochemically and Radiologically if needed. What is the MacDonald's criteria for the diagnosis of Multiple Sclerosis Management of Multiple sclerosis. When to Refer	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Manage case of Neurology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Flaccid Paralysis.</p> <p>Enlist the Causes.</p> <p>Enumerate the Clinical Features.</p> <p>Discuss Differential Diagnosis of Flaccid Paralysis</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Differences in Spastic and Flaccid paralysis</p> <p>Management of Flaccid Paralysis</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org/Professionals Portal</p>
Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources

<p>Manage case of Neurology</p>	<p>Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan</p>	<p>Define Migraine . Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis of Migraine Investigate Biochemically and Radiologically, if needed. Management of Migraine When to Refer</p>	<p>Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.</p>	<p>MCQ's, SEQ's, Bedside long and short cases OSCE</p>	<p>“Davidson’s Principles and Practice of Medicine-23rd Edition”. “Adams and Victor’s Principles of Neurology 10th Edition”. “Current Neurology Second Edition” “Harrison Principles of internal medicine-20th Edition”. https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.thyroid.org > Professionals Portal</p>
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Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Subacahrnoid hemorrhage.</p> <p>Enlist the Causes of Subacahrnoid hemorrhage..</p> <p>Enumerate the Clinical Features of Subacahrnoid hemorrhage ..</p> <p>Discuss Differential Diagnosis of Subacahrnoid hemorrhage..</p> <p>Investigate Biochemically and Radiologically, if needed.</p> <p>Management of Subacahrnoid hemorrhage..</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org > Professionals Portal</p>
Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Stroke</p> <p>Enlist the Causes of Stroke</p> <p>How will you differentiate between hemorrhage and infarctive stroke</p> <p>Enumerate the Clinical Features of Stroke</p> <p>Discuss Differential Diagnosis of Stroke</p> <p>Investigate Biochemically and Radiologically, if needed.</p> <p>Management of Stroke</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org > Professionals Portal</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define spastic paraplegia.</p> <p>Enlist the Causes.</p> <p>Enumerate the Clinical Features.</p> <p>Discuss Differential Diagnosis in spastic paraplegia.</p> <p>Investigate Biochemically and Radiologically if needed.</p> <p>Management spastic paraplegia.</p> <p>When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org/professionals/portal</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define myasthenia gravis. Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in myasthenia gravis. Investigate Biochemically and Radiologically if needed. Management myasthenia Gravis.. When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	"Davidson's Principles and Practice of Medicine-23 rd Edition". "Adams and Victor's Principles of Neurology 10th Edition". "Current Neurology Second Edition" "Harrison Principles of internal medicine-20 th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate Professionals Portal">https://www.thyroid.org > Professionals Portal

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define CVST. Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in CVST.. Investigate Biochemically and Radiologically if needed. Management CVST. When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	"Davidson's Principles and Practice of Medicine-23 rd Edition". "Adams and Victor's Principles of Neurology 10th Edition". "Current Neurology Second Edition" "Harrison Principles of internal medicine-20 th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate Professionals Portal">https://www.thyroid.org > Professionals Portal

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations , Treatment Plan	Define Myopathy. Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in Myopathy. Investigate Biochemically and Radiologically if needed. Management Myopathy. When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/up-to-date</p> <p>https://www.thyroid.org › Professionals Portal</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define meningitis Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in meningitis Investigate Biochemically and Radiologically if needed. Management meningitis When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Adams and Victor's Principles of Neurology 10th Edition".</p> <p>"Current Neurology Second Edition"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p> <p>https://www.thyroid.org > Professionals Portal</p>

Exit Outcome	Enabling outcome	Learning Objective	Method	Assessment	Learniearning Resources
Manage case of Neurology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	Define Encephalitis Enlist the Causes. Enumerate the Clinical Features. Discuss Differential Diagnosis in Encephalitis Investigate Biochemically and Radiologically if needed. Management Encephalitis When to Refer	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, SEQ's, Bedside long and short cases OSCE	"Davidson's Principles and Practice of Medicine-23rd Edition". "Adams and Victor's Principles of Neurology 10th Edition". "Current Neurology Second Edition" "Harrison Principles of internal medicine-20th Edition". https://www.medscape.org/ https://www.globalhealthdelivery.org/uptodate https://www.thyroid.org › Professionals Portal

NOTE:

- In 1st year of MD programme, PG should have core basic knowledge of every topic as mentioned in contents of Neurology curriculum.
- In 1st year of MD programme, PG should be able to manage Neurological Emergencies like acute stroke, acute flaccid paralysis.
- In 2nd year of MD programme, PG should learn approach to patient with Neurological diseases, be able to make Differential Diagnosis and be able to do basic management of these diseases.
- In 3rd year and 4th year of MD Programme, PG should be able to have grip on Differential Diagnosis and be able to manage all the Neurological Diseases and their complications.

- In 3rd year and 4th year of MD Programme, PG must be able to interpret biochemical investigations and imaging modalities relevant to Neurological Diseases.
- In 3 4th year of MD Programme, PG must have updates about recent Neurological guidelines as mentioned in column of Learning Resource.
- Neurological Procedures to be performed in first 2 years are as follows:
 - Lumbar puncture and its interpretations.
 - Stigma test.
 - Carpel tunnel steroid injections.
 - Palsmapherisis and its indications
- Neurological Procedures to be performed in Last 2 years are as follows:
 - EEG basics waveforms and its abnormalities
 - Basics of Nerve conduction studies and Electromyography.
 - Repetitive Nerve Stimulation test.

Nephrology

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Disorders of Nephrology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<ol style="list-style-type: none"> 1. Define Nephrotic Syndrome 2. Discuss Pathophysiology. 3. Enlist the Causes. 4. Classify Nephrotic Syndrome Enlist Clinical Presentation 5. Enumerate the Clinical Features. 6. Investigate Biochemically and Radiologically if needed. <p>Manage the Nephrotic Syndrome When to Refer</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Long and short cases, Class Test, Ward Test And OSCE	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020"</p> <p>"Harrison Principles of internal medicine-20th Edition".</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage a case of Disorder of Nephrology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Urinary Tract Infection.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the causes.</p> <p>Classify Urinary Tract Infection.</p> <p>Enlist clinical presentation.</p> <p>Enumerate the clinical features.</p> <p>Investigate biochemically and Radiologically if needed.</p> <p>Manage the Urinary Tract Infection with special emphasis on its causes. When to refer.</p>	Lectures, Small Group Discussion, Bedside Teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Long and short cases, Class Test, Ward Test and OSCE	<p>“Davidson’s principles and practice of medicine 23rd Edition.</p> <p>Kumar and Clarks clinical medicine 9th edition</p> <p>Current medical diagnosis and treatment 2020</p> <p>Harrison’s principles of internal medicine 20th Edition</p> <p>https://www.medcsape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcom	Enabling Outcome	Learning Objectives	Method	Assess ment	Learning Resources
Manage case of Disorders of Nephrology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Nephritic Syndrome</p> <p>Discuss Pathophysiology.</p> <p>Enlist the causes.</p> <p>Classify Nephritic Syndrome.</p> <p>Enlist clinical presentation.</p> <p>Enumerate the clinical features.</p> <p>Investigate biochemically And radiologically if needed.</p> <p>Manage the Nephritic Syndrome with special emphasis on its emergencies. When to refer.</p>	Lectures, Small group Discussion, Bed side teaching in OPD, IPD, Emergency and Practical's.	MCQ's, Long and short cases, Class Test, Ward Test and OSCE.	<p>Davidson's principles and practice of medicine 23rd Edition.</p> <p>Kumar and Clarks clinical medicine 9th edition</p> <p>Current medical diagnosis and treatment 2020</p> <p>Harrison's principles of internal medicine 20th Edition</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcom	Enabling Outcome	Learning Objectives	Method	Assess ment	Learning Resources
Manage Case of Disorders of Nephrology	Examination, Lab and radiological investigations and treatments plan	<p>Define acute kidney injury</p> <p>Discuss pathophysiology</p> <p>Enlist the causes</p> <p>Classify the Acute kidney injury</p> <p>Enlist clinical Presentation</p> <p>Enumerate the Clinical features</p> <p>Investigate Biochemically And radiologically if needed</p> <p>Manage the Acute kidney Injury</p>	<p>Lectures , Small group discussion, bedside Teaching in OPD, IPD, Emergency and practicals.</p>	<p>MCQs, Long and short cases, Class Tests, ward tests and OSCE</p>	<p>Davidson's principles and practice of medicine 23rd Edition.</p> <p>Kumar and Clarks clinical medicine 9th edition</p> <p>Current medical diagnosis and treatment 2020</p> <p>Harrison's principles of internal medicine 20th Edition</p> <p>https://www.medcsape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Disorder of Nephrology	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define Chronic Kidney Disease.</p> <p>Discuss Pathophysiology.</p> <p>Enlist the causes.</p> <p>Classify Chronic Kidney Disease.</p> <p>Enlist clinical presentation.</p> <p>Enumerate the clinical features.</p> <p>Investigate biochemically and radiologically if needed.</p> <p>Manage the Chronic Kidney Disease with Special emphasis on its stages.</p> <p>When to refer.</p>	Lectures, Small group Discussion, Bedside teaching in OPD, IPD, Emergency and Practicals.	MCQ's, Long and short cases, Class Test, Ward Test and OSCE.	<p>"Davidson's Principles and Practice of Medicine-23rd Edition".</p> <p>"Kumar and Clark's Clinical Medicine-9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020".</p> <p>"Harrison Principles of Internal Medicine 20th Edition".</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resources
Manage case of Hypertension	Proper History Taking, Examination, Lab and Radiological Investigations, Treatment Plan	<p>Define hyper tension. Discuss Pathophysiology. Enlist the causes. Classify hypertension. Enlist clinical presentation. Enumerate the clinical features. Investigate biochemically and Radiologically if needed. Manage the hypertensive disease with special emphasis on hypertensive emergencies. When to refer.</p>	Lectures, Small group Discussion Beside Teaching in OPD, IPD, Emergency	MCQ's, Long and short cases, Class Test, Ward Test and OSCE.	<p>"Davidson's Principles and Practice of Medicine- 23rd Edition".</p> <p>"Kumar and Clarks Clinical Medicine- 9th Edition".</p> <p>"Current Medical Diagnosis and Treatment 2020".</p> <p>"Harrison Principles of Internal Medicine 20th Edition"</p> <p>https://www.medscape.org/</p> <p>https://www.globalhealthdelivery.org/uptodate</p>

Additional Notes:

During the 2 months compulsory nephrology rotation, PGRs shall be guided about:

Acute kidney injury,

Chronic Kidney Disease

Pregnancy related Acute kidney injury

Serum Electrolytes

Acid Base disorders

PGRs on rotation shall also perform the following procedures under supervision/ independently

Double lumen catheterization

Renal biopsy procedure.

DERMATOLOGY

Exit outcome	Enabling outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, Examination under proper light and exposure, Relevant investigations	Fundamentals of dermatology Structure and function of skin Morphology of basic lesions Clinical examination and diagnostic procedures Basic histopathological reactions	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine- 23 rd Edition". "Harrison Principles of internal medicine- 20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

<p>Manage a case of Dermatological Disorder</p>	<p>Proper history taking, examination under proper light and exposure, relevant investigations like scraping, skin biopsy, patch testing, Treatment plan Counselling</p>	<p>Define eczema Classification of eczema Atopic and seborrheic dermatitis Etiopathogenesis Clinical features Complications Investigations Treatment When to refer</p>	<p>Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical</p>	<p>Short and long case</p>	<p>Davidson's Principles and Practice of Medicine-23rd Edition". "Harrison Principles of internal medicine-20th Edition". Rook's textbook of Dermatology 9th edition ABC of dermatology 5th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9th edition http://dermnetnz.org https://www.medscape.org</p>
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Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, Examination under proper light and exposure, Workup including Labs, radiological and specific investigations like skin biopsy Treatment plan	Define psoriasis Etiopathogenesis Types of psoriasis Clinical features Associations Investigations Differential diagnosis Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org
Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs and specific investigations like skin biopsy, , Treatment plan	Lichen planus and lichenoid disorders Etiopathogenesis Clinical features Associations Investigations Differential diagnosis Treatment, prognosis and follow up	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org
Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources

Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including radiological and investigations like Tzanck smear, skin biopsy, immunofluorescence, Labs specific like Tzanck biopsy, Treatment plan	Immunobullous disorders Classification Etiopathogenesis Clinical features Complications Associations Investigations Treatment and follow up When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org
Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including labs and investigations like skin biopsy, Treatment plan	Define urticaria (acute and chronic)and angioedema Etiopathogenesis Clinical features Associations Differential diagnosis Investigations Treatment	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Learning outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs, radiological and other relevant investigations like ENA Profile, skin biopsy, Treatment plan	Connective tissue disease (SLE, Systemic sclerosis, Dermatomyositis, MCTD) Etiopathogenesis Diagnostic criterias Clinical features Associations Investigations Treatment, prognosis and follow up When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including Labs and relevant investigations porphyrin studies, skin biopsy treatment plan	Porphyrias Classification Etiopathogenesis Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including labs and radiological investigations , Treatment plan	Acne vulgaris Etiopathogenesis Clinical features Associations Differential diagnosis Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

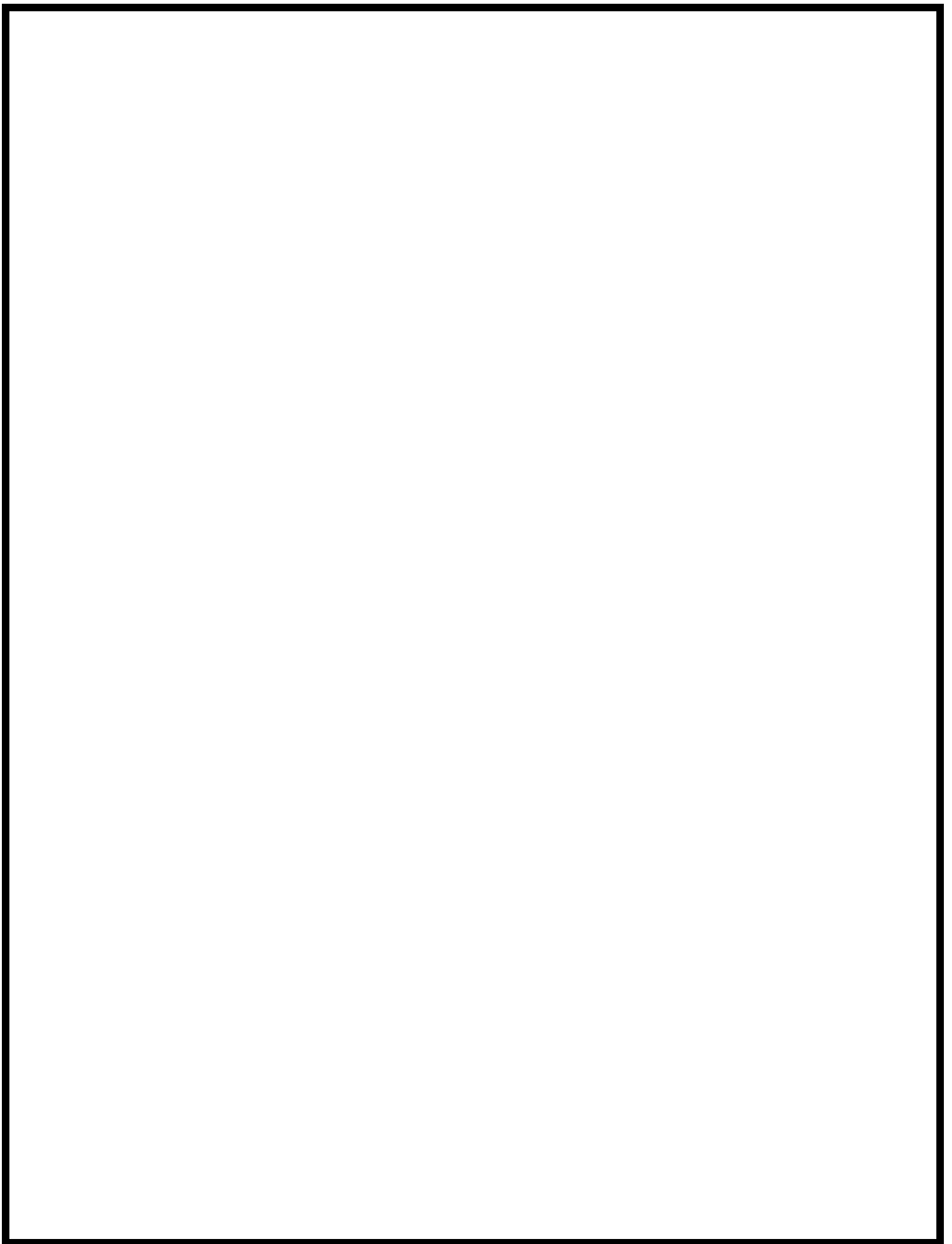
Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, relevant investigations Treatment plan	Rosacea Etiopathogenesis Types Clinical features Investigations Treatment	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including labs and relevant investigations like Tzanck smear Treatment plan	Herpes simplex and varicella zoster viral infections Clinical features Complications Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs, and relevant investigations like skin biopsy, Treatment plan	Warts Types Mode of transmission and risk factors Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Methods	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including Labs and relevant investigations like gram staining and, culture and sensitivity Treatment plan	Superficial bacterial infections Cellulitis and erysipelas Bacterial infections with toxin production Etiopathogenesis Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Methods	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, relevant investigation treatment plan.	Patterns of drug reactions Etiopathogenesis Clinical features Investigations Management When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org



Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including labs and relevant investigations like scraping for fungus treatment plan	Fungal infections (Dermatophytosis Onychomycosis and candidiasis) Etiology Risk factors and mode of transmission Types Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, relevant investigations like scraping for scabies mite, skin biopsy Treatment plan	Scabies Etiopathogenesis Mode of transmission and risk factors Types Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Methods	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs and relevant investigations like scraping, skin biopsy treatment plan	Define alopecia Classification and causes of alopecia Clinical features Investigations Treatment Define Hirsutism Causes Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs and relevant investigations like biopsy, dermoscopy Treatment plan	Nails normal variants Nail in systemic diseases and common skin diseases Clinical features Investigations Treatment When to refer	Lectures, Small group discussion Bedside teaching in OPD, IPD and Practical	Short and long cases	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, work up including radiological and relevant investigations Like dermoscopy and biopsy Treatment plan	Define NMSC Types of NMSC Pathophysiology and risk factors for BCC and SCC Clinical features Investigations for the diagnosis and staging Treatment plan with counselling and follow up When to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Methods	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including labs, radiological and other relevant investigations like biopsy, dermoscopy Treatment plan	Define melanoma Types Pathophysiology and risk factors Clinical features investigations for the diagnosis and staging Treatment plan with counselling and follow up When to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, relevant investigations like biopsy, dermoscopy and radiological, treatment plan	Leg ulcers Etiopathogenesis Clinical features Differential diagnosis Investigations Treatment	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, Workup including Labs and relevant investigations like biopsy, KOH smear for mite treatment plan	Pruritus Causes (primary and secondary) Clinical assessment Investigations Treatment When to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assesment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs, radiological and other relevant investigations like biopsy, Treatment plan	Vasculitis Classification Etiopathogenesis Clinical features Investigations Treatment, prognosis and follow up When to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learnng resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs and relevant investigations like wood's lamp examination biopsy, treatment plan	Pigmentation disorders Causes of hypo/hyper/and depigmentation Clinical features Associations and omplications Investigations treatment when to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

Exit outcome	Enable outcome	Learning Objectives	Method	Assessment	Learning resources
Manage a case of Dermatological Disorder	Proper history taking, examination under proper light and exposure, workup including Labs and relevant investigations like skin biopsy, Treatment plan	Define erythroderma Causes Clinical features Complications Investigations Treatment When to refer	Lectures, Small group discussion, Bedside teaching in OPD, IPD and Practical	Short and long case	Davidson's Principles and Practice of Medicine-23 rd Edition". "Harrison Principles of internal medicine-20 th Edition". Rook's textbook of Dermatology 9 th edition ABC of dermatology 5 th edition Color atlas & synopsis of clinical dermatology by Fitz Patrick 9 th edition http://dermnetnz.org https://www.medscape.org

NOTES

At the end of 1st year PG trainee should have an ample knowledge of fundamentals of dermatology.

At the end of 2nd year PG trainee Should be able to manage common skin conditions like eczemas ,fungal infections, bacterial infections and acute emergencies like SJS,TEN and erythroderma.

At the end of 3rd year PG trainee should be able to make differential diagnosis of cutaneous lesions and order specific investigations.

At the end of 4th year PG trainee should be able to interpret specific investigation like skin biopsy findings, immunofluorescence and manage the cases with appropriate referral where needed.

Medical Oncology

Lymphoma

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer	Detailed history Physical examination Investigations Treatment	Define Lymphoma Classification Etiological Factors Pathophysiology of NHL & H.L Prognostic Factors & Outcome Treatment Surveillance	Lectures Case Presentation/Small group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidson Principles & precaution of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMTD 2021 Harrison Principles of Internal Medicine 20 th Edition

Leukemia

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer	Detailed history Physical examination Investigations Treatment	Define Leukemia Types of Leukemia Classification Etiological Factors Pathophysiology of ALL, AML, CML, CLL Prognostic Outcome Treatment Surveillance	Lectures Case Presentation/ Small group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidsons Principles & practice of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMDT 2021 Harrison Principles of internal Medicine 20 th Edition

Hepatocellular Carcinoma (HCC)

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer	Detailed history Physical examination Investigations Treatment	Hepatocellular Carcinoma (HCC) Child Pugh source Etiological Function Meu source Barcelona staging system Prognostic Outcome Treatment Surveillance	Lectures Case Presentation/ Small group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidson Principles & precaution of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMDT 2021 Harrison Principles of Internal Medicine 20 th Edition

Lung Carcinoma

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer	Detailed history Physical examination Investigations Treatment	Lung Carcinoma Types of Lung Ca Etiological Factors TNM Staging Prognostic Outcome Treatment Surveillance	Lectures Case Presentation /Small group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidson Principles & precaution of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMDT 2021 Harrison Principles of Internal Medicine 20 th Edition

Spinal Cord Compression

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer Associated Complication	Detailed history Physical examination Investigations Treatment	Spinal Cord Compression Risk Factors Prognostic Factors & Outcome Treatment Surveillance	Lectures Case Presentation/ Small group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidson Principles & precaution of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMDT 2021 Harrison Principles of Internal Medicine 20 th Edition

Tumor Lysis Syndrome

Exit Outcome	Enabling Outcome	Learning Objectives	Method	Assessment	Learning Resource
Manage case of malignancy / Cancer associated Complications	Detailed history Physical examination Investigations Treatment	Tumor Lysis Syndrome Risk Factors Treatment Surveillance	Lectures Case Presentation/S mall group Discussions Bed side teaching in OPD & IPD	MCQs & SEQs Ward test OSCE	Davidson Principles & precaution of Medicine 23 rd Edition Kumar & Clarks Clinical Medicine CMDT 2021 Harrison Principles of Internal Medicine 20 th Edition

Section D:

PROGRAMME FORMAT

SCHEME OF THE COURSE OF MD/MS PROGRAMME

Programme duration	Course contents
Application	
Entry examinations	
Admissions	
<p>Stage 1</p> <p>At the end of 6th Months programme</p>	<p>Revision of core MBBS component including basic and clinical components.</p> <p>Basic knowledge and Acquiring skills related to the specialty according to the objectives made.</p> <p>Workshops as described in course outline.</p> <p>Synopsis submission.</p>
<p>Stage 2</p> <p>At the end of 7th to 24th month programme</p>	<p>Advanced training of clinical knowledge and skill in specialty according to the objectives made.</p> <p>Clinical Training with compulsory/ optional rotation in different specialties as required by the programme.</p> <p>Workshops as described in course outline.</p>
Intermediate examination	

<p>Stage 3 At the end of 3rd and 4th year of program.</p>	<p>Advanced level of training within specialty with emphasis on acquiring high level skills and competence in complex procedure as decide by the objectives.</p> <p>Thesis submission and evaluation OR 2 Papers published or in line of publication in a standard medical journal.</p> <p>Advanced clinical training with compulsory/optional rotations in different departments as required by the program.</p> <p>Training to act as an individual while managing patient or performing any task as defined by the objectives.</p> <p>Training to act as a teacher, researcher, leader, and a player in a team.</p> <p>Overall development of a health care professional with all the set competencies of the program.</p> <p>Workshops as described in course outline.</p>
<p>Research and Thesis writing</p>	
<p>Final Examination</p>	
<p>Award of Diploma</p>	

Rotations:

Sr No.	Rotation	Duration	Placement
1.	Cardiology	2 months	Cardiology department
2.	Nephrology	2 months	Nephrology
3.	Elective	2 months	Respective Department
4.	Elective	2 months	Respective Department
5.	Elective	2 months	Respective Department

Electives/Rotations

A duration of two months will be given to each clinical rotation during the residency. Two clinical rotations i.e., cardiology and nephrology will be compulsory for each resident. He has to choose three more optional clinical rotations out of all the rest mentioned below. The purpose of these clinical rotations is to give concentrated knowledge of the different areas of the medical field to enhance their knowledge of the respective field. The purpose of optional rotations is to give the flexibility to the resident to have experience in his area of interest or to pursue a subspecialty of interest. We remain friendly and open-hearted with our residents to create a professional experience and guidance toward their career interests. The following is a brief overview of some of the available electives:

Cardiology

The residents will work in the cardiology department to evaluate the patients with different cardiovascular disorders, including acute and chronic manifestations of coronary artery disease, congestive heart failure, valvular disorders, arrhythmias and pericardial diseases. He will be enabled to handle cardiac emergencies. The resident are supposed to observe the insertion of three pacemakers during the clinical rotation.

Nephrology

The resident will learn about the pathogenesis, clinical presentation and management modalities and prognosis of different kidney diseases including acute and chronic renal failure, tubulointerstitial diseases and glomerulonephriti des. The resident will also observe and assist the process of heamodialysis and has to assist at least three renal biopsies.

Neurology

The residents will have the opportunity to have a detailed history and neurological examination to identify various practically common neurological disorders. The resident will have the opportunity to manage an unconscious patient, hemiplegia, paraplegia, epilepsy and acute and chronic motor and sensory disorders. He will be enable to handle different neurological emergencies and will be able to guide the patients about the short and long term squeal of various neurological disorders. Each resident will be able to perform lumber puncture and read the CT Scan and MRI Brain and spine. The resident is supposed to observe at least two NCS, EMG and EEG each.

Gastroenterology/Hepatology

This rotation exposes residents to the common problems encountered in diagnosing and managing diseases in the field of gastroenterology and hepatology. He will able to manage cases of upper and lower GIT bleeding, acute and chronic hepatitis, acute liver failure and different

emergencies in gastroenterology and hepatology. Resident will not be required to perform procedures, but will be encouraged to observe procedures i.e upper GI endoscopy, colonoscopy and liver biopsies.

Pulmonology

In this clinical rotation resident will deal with patients who have common lung diseases. Resident will learn to perform physical examinations and take orderly histories focused on the signs and symptoms of lung diseases, including extra pulmonary signs and symptoms, and resident will plan and provide treatment for inpatients with a wide variety of lung diseases. The residents are supposed to observe at least two Bronchoscopies.

Intensive Care Unit

In this rotation the residents will learn how to deal the patients who require intensive care and who are on assisted ventilatory support. They will be taught to pass Endotracheal tubes in different patients and will be guided about the ventilatory support in critically ill patients.

Neuro/Psychiatry

Residents will learn to diagnose and treat a variety of primary psychiatric disorders, as well as the psychiatric manifestations of medical disorders. They will also be able to cope with different type of behavioral disorders and will have the opportunity to deal with drugs abusers also.

Oncology

The residents will be able to diagnose, and deal with few of the common malignancies i.e lymphoma and leukemias. They will be able to break the bad news and counsel the patient and family.

Dermatology

This clinical rotation will enable the residents to diagnose and treat common dermatological disorder.

Rotations Detail

Rotations of Two Months in any three of the following disciplines before Intermediate Module

Gastroenterology		
	Level	Cases
Lower GI Endoscopy	2	10
Upper GI Endoscopy	2	10
Peritoneal aspiration	4	20
Liver Biopsy	1	6

Neurology		
	Level	Cases
CT scan interpretation	1	5
EEG interpretation	1	4
EMG/NCS Interpretation	1	3
MRI Interpretation	1	4

Pulmonology		
	Level	Cases
ABG's Interpretation	4	10
Bronchoscopy	1	2
Chest Intubation	1	4
Pleural aspiration	4	10
Pleural biopsy	1	4
Pulmonary Function Test	1	4

Nephrology		
	Level	Case
Insertion of double lumen catheter	2	5
Hemodialysis	2	4
Renal Biopsy	2	2

Rotations of Two Months in any three of the following disciplines after Intermediate Module

Intensive care unit (Mandatory)		
	Level	Cases
ETT	4	5
Insertion of CVP line	3	5
Arterial Puncture	4	10

Dermatology
Residents are required to see cases of following diseases
Erythema Nodosum
Fixed drug eruption
HS purpura
Psoriasis
Scabies

Psychiatry

Residents are required to see cases of following diseases:
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Anxiety

Depression

Drug Addiction

Psychosis

Medical Oncology		
	Level	Cases
Chemotherapy	2	4
Radiotherapy	1	2

Section E:

Assessment Plan:

Program duration	Course contents	Assessment method
At the end of 2 nd year of program	<ol style="list-style-type: none">1. Revision of core MBBS component including basic and clinical components.2. Basic knowledge and Acquiring skill related to the specialty according to the objectives made.<ol style="list-style-type: none">1. First 2 mandatory Workshops as described in course outline.3. Submission of synopsis	<p>Intermediate Examination: to be taken by university. It will include:</p> <ol style="list-style-type: none">a) Written=300b) TOACS/ OSCE /LONG CASE/ SHORT CASE=300 <p>Total Marks =600</p>
At the end of 4 th /5 year	<ol style="list-style-type: none">1. Training to act as an individual while managing patient or performing any task as defined by the objectives.	<p>Final Examination to be conducted by university.</p> <p>It will include:</p>

	<p>2. Training to act as a teacher, researcher, leader and a player in a team.</p> <p>3. Overall development of a health care professional with all the set competencies of the Program.</p> <p>4. All the mandatory and specialty-oriented workshops to be completed as mentioned in the curriculum</p> <p>5. Rotations as described in the curriculum completed</p> <p>6. Thesis completion and submission</p>	<p>a) Written=300</p> <p>b) TOACS/OSCE/LONG CASE/SHORT CASE=300</p> <p>c)Continuous internal assessment=100</p> <p>Thesis evaluation =300</p> <p>Total marks=600+100+300=</p> <p>1000</p>
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Components of – Intermediate Examination

- Written: Total Marks =300
- Clinical, TOACS/OSCE = 300

Total = 600

Components of Final Examination:

- Written: 300 Marks
- Clinical, TOACS/OSCE = 300 Marks

- Continuous internal assessment =100
- Thesis Evaluation = 300 Marks

Total = 1000 Marks

Intermediate Examinations:

Intermediate examination would be conducted for the candidate getting training, at the end of 2nd calendar year of the program.

Eligibility Criteria:

1. Candidate remained on institution roll during the period approved for appearing in examination.
2. Certificate of completion of mandatory workshops.
3. Completion of Log book signed by supervisor/concerned Head of Department.
4. Certificate of submission of Ethical Review Committee approved synopsis to the university if required as per rules of synopsis submission.
5. Evidence of payment of examination fee as prescribed by the University from time to time.
6. Certificates submitted through Principal/Dean/Head of academic institution shall be accepted as valid towards the candidature of an applicant.
7. submission of application for the examination and the conduct of examination.

Intermediate Examination Schedule and Fee:

- a) Intermediate Examination at completion of two years training, will be held twice a year.
- b) There will be a minimum period of 30 days between submission of application for the examination and the conduction of examination.
- c) Examination fee will be determined periodically by the University.
- d) The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
- e) The Controller of Examinations will issue Roll Number Slips on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of examination fee.

Written Examination:

The written examination will consist of 100 single best answer type Multiple Choice Questions. Each correct answer in the multiple-choice question paper will carry 02 marks. The short essay question will be clinical scenario or practice based, and each question will carry 10 marks.

The marks of written exam will be divided as follows:

- MCQs (single best type) = 200 Marks
- SEQ (10 marks) =100

Declaration of Results

The candidates scoring 60% marks in the written examination will be considered pass and will then be eligible to appear in the clinical and oral examination.

Clinical, TOACS/OSCE:

The clinical and TOAC/OSCE & Oral examination will evaluate patient care competencies in detail,

The examination will be of 300 total marks consisting of the following components

Clinical, TOACS/OSCE = Total Marks 300

- a) 2 short Cases (50 each) = 100 marks
- b) 1 Long Case = 100 marks
- c) TOACS/OSCE & ORAL =100 marks (10 stations with 10 marks each)
 - Each short case will be of 10 minutes duration, 05 minutes will be for examining the patient and 05 minutes for discussion.
 - The long case and oral examination will each be of 30 minutes duration.

Declaration of Results

- A student scoring 60% in long case, 60% in short cases and 60% in TOACS/OSCE will be considered pass in the examination.
- A maximum total of four consecutive attempts (availed or un availed) will be allowed in the Intermediate Examination during which the candidate will be allowed to continue his training program. If the candidate fails to pass his Intermediate Examination within the above-mentioned limit of four attempts, candidate shall have to take entire Intermediate examination including written examination again

Final Examination

(at the end of 4th Calendar year of the program)

Eligibility Criteria:

To appear in the Final Examination the candidate shall be required:

1. Result card showing that the candidate has passed intermediate Examination.
2. Certificate of completion of 4/5 Years training duly signed by Supervisor, Head of parent Department and that of the Head of Department where rotations were done (if prescribed in the curriculum).
3. Evidence of thesis submission to Department of Examination of the University.
4. Evidence of payment of examination fee as prescribed by the university from time to time.
5. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
6. Candidate remained on institution roll during the period required for appearing in examination.
7. Only those certificates, submitted through Principal/Dean/Head of academic institution shall be accepted.

Final Examination Schedule and Fee:

- a) Final examination will be held twice a year i.e. at least six months apart.
- b) Examination fee will be determined and varied at periodic intervals by the University.
- c) The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.

- d) The Controller of Examinations will issue an Admittance Card with a photograph of the candidate on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of examination fee. This card will also show the Roll Number, date / time and venue of examination.

Written Part of Final Examination

a) The written examination will consist of 100 single best answer type Multiple Choice Questions (MCQs) and 10 Short Essay Questions (SEQs). Each correct answer in the Multiple-Choice Question paper will carry 02 marks. Each Short Essay Question will carry 10 marks.

b) The Total Marks of the Written Examination will be 300 and to be divided as follows:

- Multiple Choice Question paper Total Marks = 200
- Short Essay Question paper Total Marks = 100

Total=300

Paper 1

- MCQs 100 (2marks each)

Paper 2

- SEQs 10 (10 marks each)
 - a. Paper 1 shall comprise of hundred (100) "single best answer" type Multiple Choice Questions. Each Question shall carry 02 marks.
 - b. Paper 2 shall comprise of ten (10) Short Essay Questions, each carrying 10 marks.

Declaration of Results

- c. The candidates scoring 60% marks in aggregate of Paper 1 and Paper 2 of the written examination will be declared pass and will become eligible to appear in the Clinical Examination.

Clinical, TOACS/OSCE:

a) The Clinical Examination will consist of 04 short cases, 01 long case and TOACs/OSCE with 01 station for a pair of Internal and External Examiner. Each short case will be of 10 minutes duration, 05 minutes will be for examining the patient and 05 minutes for discussion.

b) The Total Marks of Clinical and TOACs/OSCE & Oral will be 300 and to be divided as follows:

- 4 Short Cases (25 each) Total Marks = 100
- 1 Long Case Total Marks = 100
- TOACS/OSCE & ORAL Total Marks = 100

Total= 300

Declaration of Results

- A student scoring 60% in long case, 60% in short cases and 60% in TOACS/OSCE will be considered pass in the examination.
- Candidate, who passes written examination, shall be allowed a maximum of Three available attempts within two years to pass Clinical/Oral examination. However, in case of failure to pass Clinical examination within stipulated attempts the credit of passing the written examination

shall stand withdrawn and candidate shall have to take entire examination including written examination, afresh.

- Candidate who has completed his/her training along with all the requirements mentioned in the curriculum, shall have to appear in the written of final examination at least once within a period of 7 years (from the time of induction in the training). Failure to comply with this, the matter will be referred to the competent authority through proper channel for final decision.

Synopsis and Thesis Writing:

Thesis writing must be completed and thesis be submitted at least 6 months before the end of final year of the program.

Thesis evaluation & defense will be carried out at the end of 4th/5th calendar year of MD.

Submission / Evaluation of Synopsis

- a) The candidates shall prepare their synopsis as per guidelines provided by the Advanced Studies & Research Board, available on the university website.
- b) The research topic in clinical subject should have 30% component related to basic sciences and 70% component related to applied clinical sciences. The research topic must consist of a reasonable sample size and sufficient numbers of variables to give training to the candidate to conduct research, to collect & analyze the data.
- c) Synopsis of research project shall be got approved by the end of the 1st year of MS/MD program. The synopsis after review by an Institutional Review Committee, shall be submitted to the University for consideration by the Advanced Studies & Research Board, through the Principal / Dean /Head of the institution.

Submission and evaluation of Thesis Evaluation (300 Marks)

1. The Thesis shall be submitted to the Controller of Examination through Head of Institute, duly signed by the Supervisor, Co-Supervisor(s) and Head of the Department.
2. Submission of Thesis is a prerequisite for taking Final Theory Examination.
3. Examiners shall be appointed by the Vice chancellor on recommendation of Controller of Examination from a panel approved by Advance Studies & Research Board for evaluation of thesis.
4. All MD/MS/MDS thesis shall be evaluated by two examiners, one internal and one external (The supervisor must not be the evaluator)
5. Thesis defense shall be held after approval of evaluation reports by Advanced Studies & Research Board.
6. Thesis defense shall be conducted by the examiners who evaluated Thesis of the candidate.
7. The candidate scoring 60% marks in Thesis defense examination will be declared as pass in the examination.

Continuous Internal assessment

It will consist of professional growth oriented student-centered integrated assessment with an additional component of formative assessment and measurement-based summative assessment

Attendance

- Students joining postgraduate training program shall work as full-time residents during the duration of training and maximum 2 leaves are allowed in one month, and should take full responsibility and participation

in all facets of the educational process. The period of training for obtaining degrees shall be four completed years

Presentations

- In addition to the conventional teaching methodologies interactive strategies will also be introduced to improve both clinical and communication skills in the upcoming consultants. Presentations must be conducted regularly as scheduled and attended by all available faculty and residents. As a policy, active participation of the postgraduate resident will be encouraged. Proper written feedback will be given for these presentations and that will be a part of Resident's Portfolio as well. Reflection of the events to be written by the residents as well and must be included in their portfolios.

Task evaluation

- This competency will be learned from journal clubs, review of literature, policies and guidelines, audit projects, medical error investigations, root cause analysis and awareness of healthcare facilities. Active participation and ability to fulfill given tasks will be encouraged. Written feedback must be given and documented to be included in portfolio

Continuous Internal Assessment format (100 Marks)

1. The award of continuous internal assessment shall be submitted confidentially in a sealed envelope.
2. The supervisor shall submit cumulative score of internal assessment of all training years to be added together to provide a final cumulative score of Continuous Internal Assessments of all the trainees to the Head of the Department/ Dean of Post Graduate studies.

3. The Head of Department/ Dean shall submit the continuous internal assessment score through the Principal/ Registrar office to the Examination Department of the University. Score of continuous internal assessment once submitted shall be final and cannot be changed subsequently under any circumstances.
4. The weightage of internal assessment in the final examination will be 10%.
5. Continuous Internal Workplace Based Assessments will be done by the supervisors, that may be based on but not limited to:
 - a. Generic and Specialty Specific Competency Assessments
 - b. Multisource Feedback Evaluations
 - c. Assessment of Candidates' Training Portfolio

TOOLS OF ASSESSMENT FOR THE COURSE:

TOOL USED:	DOMAIN TESTED:
MCQs	Knowledge
SEQs	Knowledge
TOACS/OSCE	Knowledge. Skill Attitude

PRESENTATIONS (wards, seminars, conferences, journal clubs)	Knowledge. Skill Attitude
Portfolios and log books.	Skill Attitude
Short cases.	Knowledge Skill Attitude
Long cases	Knowledge Skill Attitude
Continuous internal assessment	Skill Attitude

Feedback from department where rotation is being conducted.	Knowledge Skill Attitude
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Section F

Award of MD Medicine Degree

A candidate having declared successful in all the components of examination i.e. ***Theory, Clinical and Thesis*** shall be declared pass and shall be conferred Degree in Medicine

Section G:

Log Book

As per format approved by the university

Section H:

Portfolio:

As per format approved by the university

Section I:

Intermediate Examination

Written:

Table of
Specifications
(TOS)

Sr.#	Topics /Sub- Topics	No. of MCQs	No. of SEQs
1.	Pulmonary Medicine		
	<i>Common and / or Important Respiratory Problems:</i>		
➤	COPD	01	02
➤	Asthma		
➤	Pneumonia	01	
➤	Pleural disease: Pneumothorax, pleural effusion,mesothelioma	01	
➤	Lung Cancer	01	
➤	Respiratory failure and methods of respiratory support	01	
➤	Pulmonary embolism and DVT		
➤	Tuberculosis	01	
➤	Interstitial lung disease	01	
➤	Bronchiectasis		
➤	Respiratory failure and cor-pulmonale	01	
➤	Pulmonary hypertension	01	
	<i>Clinical Science:</i>		
➤	Principles of lung function measurement	01	
➤	Pharmacology of major drug classes: bronchodilators, inhaled corticosteroids, leukotriene receptor antagonists, immunosuppressants		
2.	Cardiovascular Illness		
	<i>Common and / or important Cardiac Problems:</i>		
➤	Arrhythmias	01	

➤	Ischaemic Heart Disease: acute coronary syndromes, stable angina, atherosclerosis	01	01
➤	Heart Failure		
➤	Hypertension – including investigation and management of accelerated hypertension	01	
➤	Valvular Heart Disease	01	
➤	Endocarditis	01	
➤	Aortic dissection	01	
➤	Syncope	01	
➤	Dyslipidaemia	01	
	<i>Clinical Science:</i>		
➤	Physiological principles of cardiac cycle and cardiac conduction	01	
➤	Pharmacology of major drug classes: beta blockers, alpha blockers, ACE inhibitors, Angiotensin receptor blockers (ARBs), anti-platelet agents, thrombolysis, inotropes, calcium channel antagonists, potassium channel activators, diuretics, anti-arrhythmics, anticoagulants, lipid modifying drugs, nitrates, centrally acting anti-hypertensives	01	

s	Endocrinology and Metabolism		01
	<i>Common and / or Important Diabetes Problems:</i>		
➤	Diabetic ketoacidosis	01	
➤	Non-acidotic hyperosmolar coma / severe hyperglycaemia		
➤	Hypoglycaemia	01	
➤	Care of the acutely ill diabetic	01	
➤	Peri-operative diabetes care		
	<i>Common or Important Endocrine Problems:</i>		
➤	Hyper/Hypocalcaemia	01	
➤	Adrenocortical insufficiency	01	
➤	Hyper/Hyponatraemia		
➤	Thyroid dysfunction	01	
➤	Dyslipidaemia	01	
➤	Endocrine emergencies: myxoedemic coma, thyrotoxic crisis, Addisonian crisis, hypopituitary coma, pheochromocytoma crisis	01	
	<i>Clinical Science:</i>		

➤	Outline the function, receptors, action, secondary messengers and feedback of hormones	01	
➤	Pharmacology of major drug classes: insulin, oral antidiabetics, thyroxine, anti-thyroid drugs, corticosteroids, sex hormones, drugs affecting bone metabolism	01	
4.	Clinical Pharmacology		
	<i>Common and / or Important problems:</i>		
➤	Corticosteroid treatment: short and long-term complications, bone protection, safe withdrawal of corticosteroids, patient counselling regarding avoid adrenal crises	01	
➤	Specific treatment of poisoning with:		
<input type="checkbox"/>	Aspirin,		
<input type="checkbox"/>	Paracetamol		
<input type="checkbox"/>	Tricyclic anti-depressants		
<input type="checkbox"/>	Beta-blockers	01	
<input type="checkbox"/>	Carbon monoxide		
<input type="checkbox"/>	Opiates		
➤	✓ Digoxin		
➤	✓ Benzodiazepines		
	<i>Clinical Science:</i>		
➤	Drug actions at receptor and intracellular level		
➤	Principles of absorption, distribution, metabolism and excretion of chemotherapeutic and palliative drugs	01	
➤	Effects of genetics on drug metabolism		
➤	Pharmacological principles of drug interaction		
➤	Outline the effects on drug metabolism of: pregnancy, age, renal and liver impairment		

5.	Allergy and Immunology		
	<i>Common or Important Allergy Problems</i>		
➤	Anaphylaxis		
➤	Recognition of common allergies; introducing occupation associated allergies	01	
➤	Food, drug, latex, insect venom allergies		

➤	Urticaria and angioedema		
	<i>Clinical Science</i>		
➤	Mechanisms of allergic sensitization: primary and secondary prophylaxis	01	01
➤	Natural history of allergic diseases		
➤	Mechanisms of action of anti-allergic drugs and immunotherapy		
➤	Principles and limitations of allergen avoidance		
	<i>Common or Important Immunology related Problems:</i>		
➤	Anaphylaxis (see also 'Allergy')	01	
	<i>Clinical Science:</i>		
➤	Innate and adaptive immune responses	01	
➤	Principles of Hypersensitivity and transplantation		
6.	Infectious Diseases		
	<i>Common and / or Important Problems:</i>		
➤	Fever of Unknown origin	04	
➤	Complications of sepsis: shock, DIC, ARDS		
➤	Common community acquired infection: LRTI, UTI, skin and soft tissue infections, viral exanthema, gastroenteritis		
➤	CNS infection: meningitis, encephalitis, brain abscess		
➤	HIV and AIDS including ethical considerations of testing		
➤	Infections in immuno-compromised host		
➤	Tuberculosis		
➤	Anti-microbial drug monitoring		
➤	Endocarditis		
➤	Common genito-urinary conditions: non-gonococcal urethritis, gonorrhoea, syphilis		
	<i>Clinical Science:</i>		
➤	Principles of vaccination	01	
➤	Pharmacology of major drug classes: penicillins, cephalosporins, tetracyclines, aminoglycosides, macrolides, sulphonamides, quinolones, metronidazole, antituberculous drugs, anti-fungals, anti-malarials, anthelmintics, anti-virals		

6.	Clinical Genetics		
	<i>Common and / or Important problems:</i>		

➤	Down's syndrome	01	
➤	Turner's syndrome		
➤	Huntington's disease		
➤	Haemochromatosis		
➤	Marfan's syndrome		
➤	Klinefelter's syndrome		
➤	Familial cancer syndromes		
➤	Familial cardiovascular disorders		
	<i>Clinical Science:</i>	01	
➤	Structure and function of human cells, chromosomes, DNA, RNA and cellular proteins		
➤	Principles of inheritance: Mendelian, sex-linked, mitochondrial		
➤	Principles of pharmacogenetics		
➤	Principles of mutation, polymorphism, trinucleotide repeat disorders		
➤	Principles of genetic testing including metabolite assays, clinical examination and analysis of nucleic acid (e.g. PCR)		
7.	Cancer and Palliative Care		
	<i>Common or Important Gastroenterology Problems:</i>	01	
➤	Hypercalcaemia		
➤	SVC obstruction		
➤	Spinal cord compression		
➤	Neutropenic sepsis		
➤	Common cancers (presentation, diagnosis, staging, treatment principles): lung, bowel, breast, prostate, stomach, oesophagus, bladder)		
	<i>Common or Important Palliative Care Problems:</i>	02	
➤	Pain: appropriate use, analgesic ladder, side effects, role of radiotherapy		
➤	Constipation		
➤	Breathlessness		
➤	Nausea and vomiting		
➤	Anxiety and depressed mood		
➤	Clinical Science:		
➤	Principles of oncogenesis and metastatic spread		
➤	Apoptosis		

➤	Principles of staging		
➤	Principles of screening		
➤	Pharmacology of major drug classes in palliative care: antiemetics, opioids, NSAIDS, agents for neuropathic pain, bisphosphonates, laxatives, anxiolytics		

8.	Geriatrics and Rehabilitation		
	<i>Common or Important Problems:</i>		
➤	Deterioration in mobility	02	
➤	Acute confusion		
➤	Stroke and transient ischaemic attack		
➤	Falls		
➤	Age related pharmacology		
➤	Hypothermia		
➤	Continence problems		
➤	Dementia		
➤	Movement disorders including Parkinson's disease		
➤	Depression in the elderly		
➤	Osteoporosis		
➤	Malnutrition		
➤	Osteoarthritis		
	<i>Clinical Science:</i>	01	
➤	Effects of ageing on the major organ systems		
➤	Normal laboratory values in older people		

9.	Nephrology		
	<i>Common and / or Important Problems:</i>		
☐	Acute renal failure	01	

<input type="checkbox"/>	Chronic renal failure	01	01
<input type="checkbox"/>	Glomerulonephritis	01	
<input type="checkbox"/>	Nephrotic syndrome	01	
<input type="checkbox"/>	Urinary tract infections	01	
<input type="checkbox"/>	Urinary Calculus	01	
<input type="checkbox"/>	Renal replacement therapy	01	
<input type="checkbox"/>	Disturbances of potassium, acid/base, and fluid balance (and appropriate acute interventions)	01	
	<i>Clinical Science:</i>		
<input type="checkbox"/>	Measurement of renal function	01	
<input type="checkbox"/>	Metabolic perturbations of acute, chronic, and endstage renal failure and associated treatments	01	
10.	Neurology		01
	<i>Common or Important Problems:</i>		
<input type="checkbox"/>	Acute new headache	01	
<input type="checkbox"/>	Stroke and transient ischaemic attack		
<input type="checkbox"/>	Subarachnoid hemorrhage	01	
<input type="checkbox"/>	Coma	01	
<input type="checkbox"/>	Central Nervous System infection: encephalitis, meningitis, brain abscess	01	
<input type="checkbox"/>	Raised intra-cranial pressure	01	
<input type="checkbox"/>	Sudden loss of consciousness including seizure disorders (see also above syncope etc)		
<input type="checkbox"/>	Acute paralysis: Guillian-Barré, myasthenia gravis, spinal cord lesion	01	
<input type="checkbox"/>	Multiple sclerosis	01	
<input type="checkbox"/>	Motor neuron disease	01	
	<i>Clinical Science:</i>		
<input type="checkbox"/>	Pathophysiology of pain, speech and language	01	
<input type="checkbox"/>	Pharmacology of major drug classes: anxiolytics, hypnotics inc. benzodiazepines, antiepileptics, anti-Parkinson's drugs (anti-muscarinics, dopaminergics)	01	

11.	Gastroenterology and Hepatology		
	<i>Common or Important Problems:</i>		
<input type="checkbox"/>	Peptic Ulceration and Gastritis	01	01
<input type="checkbox"/>	Gastroenteritis		
<input type="checkbox"/>	GI malignancy (oesophagus, gastric, hepatic, pancreatic, colonic)		
<input type="checkbox"/>	Inflammatory bowel disease	01	
<input type="checkbox"/>	Iron Deficiency anaemia		
<input type="checkbox"/>	Acute GI bleeding	01	
<input type="checkbox"/>	Acute abdominal pathologies: pancreatitis, cholecystitis, appendicitis, leaking abdominal aortic aneurysm		
<input type="checkbox"/>	Functional disease: irritable bowel syndrome, nonulcer dyspepsia		
<input type="checkbox"/>	Coeliac disease	01	
<input type="checkbox"/>	Alcoholic liver disease		
<input type="checkbox"/>	Alcohol withdrawal syndrome	01	
<input type="checkbox"/>	Acute liver dysfunction: jaundice, ascites, encephalopathy		
<input type="checkbox"/>	Liver cirrhosis	01	
<input type="checkbox"/>	Gastro-oesophageal reflux disease		
<input type="checkbox"/>	Nutrition: indications, contraindications and ethical dilemmas of nasogastric feeding and EG tubes, IV nutrition, re-feeding syndrome		
<input type="checkbox"/>	Gall stones	01	
<input type="checkbox"/>	Viral hepatitis		
<input type="checkbox"/>	Auto-immune liver disease		
<input type="checkbox"/>	Pancreatic cancer		
	<i>Clinical Science:</i>		
<input type="checkbox"/>	Laboratory markers of liver, pancreas and gut dysfunction		

<input type="checkbox"/>	Pharmacology of major drug classes: acid suppressants, anti-spasmodics, laxatives, antidiarrhoea drugs, aminosaliclates, corticosteroids, immunosuppressants, infliximab, pancreatic enzyme supplements	01	
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12.	Haematology and Oncology		01
	<i>Common and / or Important Problems:</i>		
<input type="checkbox"/>	Bone marrow failure: causes and complications	01	
<input type="checkbox"/>	Bleeding disorders: DIC, haemophilia	01	
<input type="checkbox"/>	Thrombocytopenia		
<input type="checkbox"/>	anticoagulation treatment: indications, monitoring, management of over-treatment		
<input type="checkbox"/>	Transfusion reactions	01	
<input type="checkbox"/>	Anaemia: iron deficient, megaloblastic, haemolysis, sickle cell,	01	
<input type="checkbox"/>	Thrombophilia: classification; indications and implications of screening		
<input type="checkbox"/>	Haemolytic disease	01	
<input type="checkbox"/>	Myelodysplastic syndromes	01	
<input type="checkbox"/>	Leukaemia	01	
<input type="checkbox"/>	Lymphoma		
<input type="checkbox"/>	Myeloma		
<input type="checkbox"/>	Myeloproliferative disease	01	
<input type="checkbox"/>	Amyloid		
<input type="checkbox"/>	Inherited disorders of haemoglobin (sickle cell disease, thalassaemias)	01	
	<i>Clinical Science:</i>		
<input type="checkbox"/>	Structure and function of blood, reticuloendothelial system, erythropoietic tissues	01	
13.	Dermatology		
	<i>Common and / or Important Problems:</i>		
<input type="checkbox"/>	Cellulitis		
<input type="checkbox"/>	Cutaneous drug reactions		
<input type="checkbox"/>	Psoriasis and eczema		

<input type="checkbox"/>	Skin failure: e.g. erythroderma, toxic epidermal necrolysis	01	
<input type="checkbox"/>	Urticaria and angio-oedema		
<input type="checkbox"/>	Cutaneous vasculitis		
<input type="checkbox"/>	Herpes zoster and Herpes Simplex infections		
<input type="checkbox"/>	Skin tumours		
<input type="checkbox"/>	Skin infestations		
<input type="checkbox"/>	Dermatomyositis		
<input type="checkbox"/>	Scleroderma		
<input type="checkbox"/>	Lymphoedema		
	<i>Clinical Science:</i>	01	
<input type="checkbox"/>	Pharmacology of major drug classes: topical steroids, immunosuppressants		

14.	Rheumatology		0 1
	<i>Common or Important Problems:</i>		
<input type="checkbox"/>	Septic arthritis	01	
<input type="checkbox"/>	Rheumatoid arthritis	01	
<input type="checkbox"/>	Osteoarthritis	01	
<input type="checkbox"/>	Seronegative arthritides	01	
<input type="checkbox"/>	Crystal arthropathy		
<input type="checkbox"/>	Osteoporosis – risk factors, and primary and secondary prevention of complications of osteoporosis	01	
<input type="checkbox"/>	Polymyalgia and temporal arteritis	01	
<input type="checkbox"/>	Acute connective tissue disease: systemic lupus erythematosus, scleroderma, poly- and dermatomyositis, Sjogren's syndrome, vasculitides		
	<i>Clinical Science:</i>	01	
<input type="checkbox"/>	Pharmacology of major drug classes: NSAIDs, corticosteroids, immunosuppressants, colchicines, allopurinol, bisphosphonates		
15.	Psychiatry		
	<i>Common and/or Important Problems:</i>		

<input type="checkbox"/>	Suicide and parasuicide	01	
<input type="checkbox"/>	Acute psychosis		
<input type="checkbox"/>	Substance dependence		
<input type="checkbox"/>	Depression		
	<i>Clinical Science:</i>		
<input type="checkbox"/>	Principles of substance addiction, and tolerance	01	
<input type="checkbox"/>	Pharmacology of major drug classes: antipsychotics, lithium, tricyclic antidepressants, mono-amine oxidase inhibitors, SSRIs, venlafaxine, donepezil, drugs used in treatment of addiction (bupropion, disulpharam, acamprosate, methadone)		
	Total	100 MCQs	10 SEQs

* for sub-specialty examination, 70% MCQs and SEQs will be taken from TOS of internal medicine, and 30% MCQs and SEQs will be taken from TOS of Neurology.

TOACS/OSCE Stations Distribution:

Short case: 2 = 100 marks (50 marks each)

Long case: 1 = 100marks

OSCE: 100 marks (10 station, 8 static and 2 interactive)

Final Examination

Written paper will comprise of 100 MCQs and 10 SEQs.

Each MCQ will be worth 2 marks and each SEQ will be worth 10 marks.

Content of the topics is described in section E with objectives.

Sr.#	Topics /Sub-Topics	No. of MCQs	No. of SEQs
1.	Endocrinology	9	1
2.	Diabetes Mellitus	5	
3.	Rheumatology	8	1
4.	Infectious Disease	10	1
5.	Gastroenterology	10	1
6.	Psychiatry	5	1
7.	Cardiology	10	1
8.	Pulmonology	10	1
9.	Neurology	10	1
10.	Nephrology	10	1
11.	Dermatology	5	1
12.	Medical Oncology	8	

	Total	100	10
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Clinical Examination:

Short cases: 4 (100 marks)

Long case: 1(100 marks)

OSCE: 100 marks (10 station, 8 static and 2 interactive)

Section J:

Resources and references (books and other resource material)

Recommended Books

1. "Davidson's Principles and Practice of Medicine-23rd Edition".
2. "Kumar and Clarks Clinical Medicine-9th Edition".
3. "Current Medical Diagnosis and Treatment 2020"
4. "Harrison Principles of internal medicine-20th Edition".

Recommended Websites

1. <https://www.medscape.org/>
2. <https://www.globalhealthdelivery.org/uptodate>

Recommended Journals:

1. England Journal of Medicine
2. The Lancet
3. Annals of PMC

Section K:

List of authors and contributors

This document is developed by:

Prof Dr Aamir Shaukat

Dean of Medicine and Allied Specialities

Faisalabad Medical University,

Faisalabad.

Prof. Dr. Ahmed Bilal.

Ex Dean of Medicine and Allied Specialities

Faisalabad Medical University,

Faisalabad.

Dr Muhammad Owais Fazal.

Associate Professor of Medicine

Faisalabad Medical University,

Faisalabad.

Dr Usman Musharaf.

Senior Registrar Medicine

Faisalabad Medical University,

Faisalabad.

Dr Ayesha Ayub.

Medical Educationist

Faisalabad Medical University,

Faisalabad.

Dr Umair Ahmad

Assistant Professor Medicine

Faisalabad Medical University,

Faisalabad.

Dr Zaheer Ahmad

Senior Registrar Medicine

Faisalabad Medical University,

Faisalabad.

Dr Sumaira Ehsan

Medical Educationist

Faisalabad Medical University,

Faisalabad.