

# **GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN MARINE MEDICINE**

## **Preamble**

The specialty of Marine Medicine deals with prevention and treatment of morbidity amongst seafarers, prevention and cure of illnesses due to exposure to environments with elevated ambient pressure, and the therapeutic use of high environmental oxygen pressure. The scope of the specialty emphasizes occupational, environmental, safety, and clinical aspects of maritime health, diving, hyperbaric chamber operations and hyperbaric oxygen therapy.

Presently, post graduate course for Diploma in Marine Medicine (DMM) is recognized by Medical Council of India and is being conducted under the aegis of Maharashtra University of Health Sciences, Nashik at Institute of Naval Medicine, INHS Asvini, Mumbai since 1983.

The ambit of the subject of Marine Medicine has increased manifold due to advances through research and its application in treatment of patient has grown to include a wide spectrum of diseases. The specialty is no longer limited to diseases acquired in marine and marine related environment and needs to integrate closely with other specialties for treating a gamut of diseases treatable by modalities like hyperbaric oxygen therapy.

In view of the above, it is proposed to upgrade the course of Diploma in Marine Medicine to a three year MD course in Marine Medicine.

The practice of Marine Medicine covers three broad areas namely:

- (a) **Maritime Health:** Medical support and certification of fitness of all seafarers including specialist advice on preventive maritime health and safety.
- (b) **Occupational Medicine:** Medical support and certification of fitness of personnel involved in all diving and related activities that expose them to high barometric pressures.
- (c) **Hyperbaric Medicine:** Evaluation and prescription of appropriate hyperbaric oxygen therapy (HBOT) for all medical conditions accepted as amenable to treatment and undertake future research.

### **Special Requirements:**

- (a) Earlier this specialty was only Defence Service oriented and the requirement was being met by doctors undergoing DMM. However, now there is an increasing demand for specialists in diving medicine, shipboard medicine and hyperbaric oxygen therapy in the civil.
- (b) There has been an exponential growth in the field of Diving medicine due to the following:
  - research in diving and exercise physiology,
  - modernization of diving equipment
  - advances in the field of technical diving
- (c) Moreover, the modernization and proposed introduction of newer and technologically advanced submarines has made it imperative that the doctors borne on these platforms be adequately trained and be in possession of an MCI recognized Post Graduate Degree.
- (d) Exponential growth in shipping, Off shore and Under water exploratory activities has necessitated the need for trained Marine medical specialists to deal with problems on aspects of shipboard medicine.
- (e) Great strides have also been made in the field of clinical hyperbaric oxygen Therapy in that HBOT is being increasingly applied in various clinical situations and there has been proliferation of HBOT centers, both in India in both the Government and Private sectors.

## ***SUBJECT SPECIFIC OBJECTIVES***

### **GENERAL**

The post graduate MD course in Marine Medicine is designed to provide medical graduates licensed in India, the opportunity to be educated and trained in the theory and practice of Marine Medicine. The aspects of this speciality include the preventive, promotive and therapeutic aspects of maritime health (dealing with offshore, port health and seafarers), diving, submarining, and hyperbaric oxygen therapy. The aim of this program is to provide any medical practitioner with the Knowledge, Skills and Attitude necessary to contribute effectively towards comprehensive medical care in these fields.

This course shall provide medical graduates with sufficient Knowledge, Skills and Attitude so that they are able to provide competent advice and train personnel on matters pertaining to maritime health. Particular emphasis shall also be laid on health of seafarers, issues of maritime health, survival at sea, medical fitness and management of illnesses for all kinds of maritime activities.

The course shall further provide the medical practitioner with professional expertise to be able to render medical support to recreational, commercial and professional diving and related activities. It also inculcates the necessary Knowledge, Skills and Attitude to render comprehensive medicare to submariners and other maritime workers. This medical support would be in the form of assessment for fitness, health advice, examination and certification of medical fitness and prevention and treatment of hyperbaric illnesses.

The post graduate programme has also been designed to address the Knowledge, Skills and Attitude required to practice safe and evidence based clinical hyperbaric medicine in any hospital attached to a MCI recognized teaching Medical Institution /College in the country. Individuals successfully completing the course will obtain sufficient didactic and practical knowledge to work independently, efficiently and competently in a hyperbaric clinical field and research environment.

In short, the goal is to produce a competent doctor who in the field of marine medicine

- (a) Is aware of contemporary advances and developments in medical science as related to the subject.
- (b) Has acquired the competencies that are required to be practiced in the community and at all levels of the health system to be able to assess, diagnose and treat effectively all illnesses to be seen in these people.
- (c) Recognizes the health needs of the subject and families and carries out professional obligations in keeping with the principles of the National Health Policy and professional ethics.
- (d) Is oriented to principles of research methodology.
- (e) Has acquired the Knowledge, Skills and Attitude in educating medical and paramedical professionals.

- (f) Has acquired the Knowledge, Skills and Attitude in effectively communicating with the person, family and the community.

## ***SUBJECT SPECIFIC COMPETENCIES***

The post graduate training in the discipline of Marine Medicine would be competency based and would be in the following domains:-

### **A. Cognitive Domain**

- Demonstrates the ability to identify and find information relevant to a problem using consultation, texts, archival literature and the electronic media.
- Demonstrates the ability to generate an initial list of differential diagnosis given the chief complaints and patient characteristics.
- Demonstrates the ability to re rank the differential diagnosis based on information gathered from history, physical and investigative studies.
- Demonstrates the ability to explain a mechanism for each aspect of a patient's problem including biological, behavioral and social aspects.
- Demonstrates the ability to evaluate scientific / clinical information and critically analyze conflicting data and hypotheses.
- Demonstrates the ability to analyze the quality and implications of medical literature and apply new knowledge in the delivery of health care.
- Demonstrates an interest and ability to identify future areas of inquiry in medical research.
- Demonstrates the ability to plan, organize and execute a research project independently.
- Demonstrates the ability to collect scientific information from various sources available, analyze critically, interpret and use it for his/her and the benefit of society.
- Demonstrates the ability to compile the data generated from the research project and 'present' it in any conference or write it and get published in a journal.
- Demonstrates the ability to present and analyze published scientific literature in the form of Journal Reading / Reviews / Seminars / Abstract.



- Demonstrates proficiency in the basic methodology of teaching using various audio-visual aids available and conduct of clinical demonstrations for junior trainees and paramedical staff.
- Demonstrates knowledge of accessing data and information systems.
- Develop a knowledge base and clinical skills necessary to adopt an advisory role regarding all diving related activities and be able to provide medical support to recreational and professional diving activities in the form of examination and certification of medical fitness of divers and prevention and treatment of diving illnesses.
- Develop a knowledge base and clinical skills necessary to evaluate and prescribe appropriate hyperbaric oxygen therapy for all the medical conditions accepted as amenable to treatment and to act in a supervisory capacity of a hyperbaric chamber.

## **B. AFFECTIVE DOMAIN**

- Accepts personal responsibility for care of one's patients consistent with good work ethics and empathy.
- Demonstrates appropriate truthfulness and honesty with colleagues.
- Recognizes personal beliefs, prejudices and limitations and ensure that it does not come in the way of providing service.
- Respects patient confidentiality at all times in both verbal and written communication.
- Demonstrated enthusiasm and positive attitude in the educational process and participates fully in educational activities.
- Demonstrates knowledge of or appropriately inquires about family and support systems.
- Demonstrates an effective system for identifying and addressing ethical issues associated with health care delivery.
- Demonstrates knowledge or applies an understanding of psychological, social and economic factors which are pertinent to the delivery of health care.
- Accurately assesses a patient's assumptions in accessing the health care system.
- Effectively engages the patient and / or family in verbal communication.
- Demonstrated the ability to engage the patient's family in diagnosis and therapeutic treatment planning.

## **C. PSYCHOMOTOR DOMAIN**

- Demonstrates ability to obtain a comprehensive history and perform a problem focused physical examination.
- Demonstrates mastery of traditional organization of medical data in oral and written presentation.
- Demonstrates the use and interpretation of diagnostic procedures.
- Demonstrates mastery of adequate medical record keeping.
- Demonstrates the ability to perform a specific set of procedures identified by the faculty.
- Demonstrates the ability to recognize and outline initial treatment for a patient with life threatening emergencies, regardless of etiology.
- Demonstrates knowledge of health care financing and applies it in assisting the patient to access the best possible care.
- Utilizes knowledge of population based and evidence based medicine in making patient management decisions.
- Utilizes knowledge of managed care systems in making patient treatment plans and health care maintenance plans.
- Demonstrates an understanding of the roles and competencies of other health care providers.
- Demonstrated the ability to engage other health care professionals.
- Demonstrates the ability to follow and lead in a team approach to health care delivery.
- Develop requisite academic skills to be an effective teacher and researcher in all aspects of Marine Medicine.

## ***SYLLABUS***

**Course contents:** see Annexure I

### ***TEACHING AND LEARNING METHODS***

The following formal teaching forums shall be availed: -

- (a) **Journal Club.** 1-hour duration – paper presentation / discussion – once per week.
- (b) **Seminar.** One seminar every week of one-hour duration.

- (c) **Lecture /Discussion.** Lectures on newer topics by faculty, in place of seminar as per need.
- (d) **Case Presentation.** Post graduates will present a clinical case for discussion before a faculty and discussion made pertaining to its management and decision to be recorded in case file/log book.
- (e) **X Ray, ECG, PFT and Pure Tone Audiometry Classes.** Held twice weekly in which various typical and interesting features of the respective investigations are discussed.
- (f) **Combined Round.** This exercise is to be done for the hospital once a week or twice a month involving presentation of unusual or difficult cases.
- (g) **Emergency situation.** Casualty duty to be arranged by rotation among the post graduates.
- (h) **Bedside Clinical training for patient care management.**
- (i) **Clinical teaching.** In OPD, ward rounds, emergency, ICU and the operation theatres.
- (j) **Should have attended two conferences / CMEs / Workshops during the tenure.**

The basic clinical training should rest on cases pertaining to the field of Marine Medicine and their management. Common medical problems should be discussed in detail during the various teaching sessions. Each individual should present and discuss the representative case problems related to the specialty of Marine Medicine.

There should be intra- and inter- departmental meetings for discussing uncommon / interesting medical problems.

In addition to the above the following are suggested as some of the activities to impart clinical training and in depth clinical presentation.

- (a) In depth reviews.
- (b) Critical evaluation of journals / research articles.
- (c) Attending and actively contributing in various accredited scientific meetings.
- (d) Attending and actively contributing in various CMEs / symposia / conferences, etc.

### **CLINICAL & FIELD POSTINGS: RECOMMENDED SCHEDULE FOR THE THREE-YEAR TRAINING IN MD MARINE MEDICINE**

The training schedule shall be divided into two phases, namely

- (a) Basic Phase (First 52 weeks)
- (b) Advanced Phase (Subsequent 104 weeks)

**Basic Phase.** The basic phase would be covered over a period of 52 weeks and would include the following:

- **Clinical attachments.** Candidates would undergo **36** weeks of rotational posting in various departments at the end of which they would be assessed in each department. The average of these assessments would contribute towards the overall assessment at the end of the course. The departments for rotational posting are as follows: -

|        |                        |   |           |
|--------|------------------------|---|-----------|
| (i)    | Dept of Medicine       | : | 10 weeks. |
| (ii)   | Dept of Surgery        | : | 10 weeks. |
| (iii)  | Dept of Anesthesia     | : | 08 weeks  |
| (iv)   | Dept of ENT            | : | 02 weeks  |
| (v)    | Dept of Radiology      | : | 03 weeks  |
| (vi)   | Dept of Ophthalmology  | : | 01 week   |
| (vii)  | Dept of Dental Surgery | : | 01 week   |
| (viii) | Dept of Psychiatry     | : | 01 week   |

- **Skills.** Theoretical aspects and practical competencies to be achieved in each of the above specialties, are given in **Annexure II**.
- This phase of Clinical attachment will be undertaken in an Institute under MCI recognized Ancillary Faculty.
- **Field attachments.** In order to expose candidates to actual working conditions, Field attachments of **16** weeks duration will also be carried out during the Basic Phase.
  - (i) For defence in-service candidates – The attachments will include Escape Training School (Visakhapatnam), Diving School (Kochi), INS Nireekshak, INS Abhimanyu, Submarine/Submarine bases, Institute of Aviation Medicine (IAM) (Bangalore) and High Altitude Medical Research Center (HAMRC) (Leh) or any other Institute carrying out similar function and that is duly recognised by the competent authority.
  - (ii) For civilian candidates - The attachments will be to any institution carrying out maritime / offshore operations, diving training / operations, port health authority and an institution rendering hyperbaric oxygen



therapy) or any other Institute carrying out similar function and that is duly recognised by the competent authority. The institution offering this specialty will have to provide certificates demonstrating the details of such attachments.

**Advanced Phase.** The candidates would then proceed for the Advance Phase training, consisting of 104 weeks, during which

- (a) They shall undergo training as full-time residents where all aspects of Marine Medicine will be covered in the form of lectures, seminars, case presentations, and other training modalities. The training shall also include clinical involvement on all aspects of patient care that these candidates are expected to know.
- (b) During this phase, candidates would be subjected to an internal assessment and the grade obtained would contribute towards the overall assessment.

### **SCHEDULE FOR CANDIDATES GRANTED EXEMPTION**

Candidates granted exemptions would undergo the following schedule of training:

12 Months exemption. Basic Phase Clinical attachment for the weeks pertaining to the candidate's specialty will be exempted. Balance of period will be deducted from the duration of advanced phase of 104 weeks.

## **ASSESSMENT**

### **FORMATIVE ASSESSMENT**

Assessment should be comprehensive & objective. It should address the stated competencies of the course. The assessment needs to be spread over the duration of the course.

Assessment during the training would include:

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

#### **General Principles**

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

Quarterly assessment during the MD training should be based on following educational activities:

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

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure IV).

The competencies will be assessed in an integrated, coherent and longitudinal fashion using multiple methods and provision of frequent and constructive feedback. The following would be the various tiers of assessment.

- (a) **Clinical Assessment.** This would be carried out at the end of each attachment in the clinical rotation and would carry a weightage of 15% towards the Overall Assessment.
- (b) **Field Assessment.** This would be carried out at the end of each attachment in the field rotation and would carry a weightage of 15% towards the Overall Assessment.
- (c) **Internal Assessment.** This would be carried out at the end of every 06 months of the Advanced Phase and would carry an average weightage of 20% towards the Overall Assessment.
- (d) **Summative Assessment.** The Summative Assessment would consist of a Final Examination, modalities of which are enumerated subsequently, and would carry a weightage of 50% towards the Overall Assessment.
- (e) **Overall Assessment.** The overall assessment of the candidate would comprise all of the above assessments put together.

The areas that should be assessed are

- (a) Professionalism.
- (b) Patient care.
- (c) Medical knowledge.
- (d) Practice based learning.
- (e) Interpersonal and communication skills.
- (f) Systems based practice.
- (g) Clinical skills.
- (h) Pedagogical skills

## **POST GRADUATE EXAMINATION**

The Final examination shall consist of thesis, theory papers and practical examination including Viva-Voce. Obtaining a minimum of 50% marks in theory as well as practical separately shall be mandatory for passing the whole examination.

**Thesis:**

Every candidate shall carry out work on an assigned project under the guidance of a recognized teacher, the result of which shall be written up and submitted as Thesis/ Dissertation. Work for writing the Thesis/ Dissertation is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. The topic for the thesis shall be submitted to the University for approval within the first 06 months of joining the MD course. The completed Thesis/ Dissertation shall be submitted any time after 06 months but at least 06 months before the final Examination.

**Theory:**

There would be a total of 04 theory papers comprising of MCQ / Short Answer questions and structured essays of 03 hours duration, each of 100 marks. The title of each paper will be as follows

- (a) Paper I: Basic sciences related to Marine Medicine
- (b) Paper II : Systemic Medicine
- (c) Paper III : Recent Advances related to Marine Medicine
- (d) Paper IV : Thematic Depiction

**Practical Examination & Viva voce**

Practical (Clinical and Oral) examination for the subject shall be conducted to assess the knowledge and competencies of the candidate for undertaking independent work as a specialist. The oral examination shall be thorough and shall aim at assessing the candidate's knowledge and competencies on the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which shall form a part of the examination. The following shall be the scheme of practical examinations for the MD in Marine Medicine:-

- (a) Practical: Two hours duration and carrying 100 marks.
- (b) Viva-Voce: Two hours duration based on theory and practical work and carrying 100 marks. Viva would be carried out on the following aspects:-
  - (i) Recompression Chamber: Clinical, Technical & Safety aspects
  - (ii) Diving and Submarine sets of various types: Medical significance
  - (i) Instruments: Critical care monitoring equipments
  - (ii) Radiology, ECG, PFT and Pure Tone Audiometry
- (c) Thesis/Dissertation: Assessed by the Board of Examiners.

**Standard for passing**

To pass the examination for MD in Marine Medicine, a candidate must obtain a minimum of 50 per cent marks in the aggregate of the four theory paper with at least 40% marks in each theory paper and a minimum of 50 per cent of the total marks prescribed for practical, Journal and Thesis / Dissertation taken together and a minimum of 50 per cent of the marks at the Viva-Voce.

### **RECOMMENDED READING**

List of Recommended Reading is placed at Annexure - III





Course Contents:

**THEORY SYLLABUS  
PAPER I**

**BASIC SCIENCES RELATED TO MARINE MEDICINE**

1. Respiratory physiology
  - (a) Structure and Function of the Respiratory System
  - (b) Pulmonary Ventilation
  - (c) Pulmonary Diffusion
  - (d) Pulmonary Blood Flow and Metabolism
  - (e) Ventilation – Perfusion relationship
  - (f) Gas Transport
  - (g) Mechanics of Breathing
  - (h) Regulation of Respiration
  - (i) Respiratory System in High Altitude and High Pressure environments
  - (j) Respiratory adjustments in health and disease
  - (k) Pulmonary Functions Tests
  
2. Cardiovascular Physiology
  - (a) Overview of the Cardiovascular system
  - (b) Characteristics of Cardiac Muscle Cells
  - (c) The Heart as a Pump
  - (d) Electrocardiogram
  - (e) Cardiac Abnormalities
  - (f) Peripheral Vascular System
  - (g) Cardiovascular regulatory mechanism
  - (h) Cardiovascular homeostasis in health and disease
  
3. Central Nervous System Physiology
  - (a) Organization of the nervous system and Synapse
  - (b) Sensory receptors
  - (c) Somatic sensations
  - (d) Physiology of the special senses
  - (e) Thermoregulation and effect of heat and cold on human body.

4. Exercise Physiology
  - (a) Muscular System in exercise
  - (b) Respiratory system during exercise
  - (c) Cardiovascular system during exercise
  - (d) Body heat during exercise
  - (e) Body fluids and electrolytes during exercise
  
5. Pharmacology
  - (a) Pharmacokinetics and Pharmacodynamics
  - (b) Membrane transporters and drug response
  - (c) Interaction of drugs with hyperbaric environments
  
6. Introduction to Bioethics
  - (a) History and Theory
  - (b) Medical consent
  - (c) Ethics related to human research
  - (d) Ethics related to animal research
  - (e) Ethics related to clinical healthcare
  - (f) Data ownership and management
  
7. Principles of Biostatistics
  - (a) Descriptive statistics
  - (b) Normal and sampling distributions
  - (c) Mean
  - (d) Experimental design
  - (e) Paired samples
  - (f) ANOVA

**PAPER II**  
**SYSTEMIC MEDICINE**

**A) DIVING MEDICINE**

1. **Diving Physiology**
  - (a) Biological effects of pressure.

- (b) Ventilation, gas exchange and exercise under pressure.
- (c) ENT aspects/changes during diving.
- (d) Vision and special senses under pressure.
- (e) Thermal considerations in diving.
- (f) Breath-hold diving.
- (g) Women in Diving.

2. **Diving**

- (a) History of diving physiology and medicine.
- (b) Physics of diving.
- (c) Various types of diving – recreational, commercial, military.
- (d) Diving systems and equipment.
- (e) Dive planning and safety procedures.
- (f) Saturation diving.
- (g) High Altitude Diving.
- (h) Gas mixtures.
- (i) Under Sea Habitats/Microclimate.

3. **Dysbaric diseases**

- (a) Barotraumas:
  - (i) Pulmonary barotraumas.
  - (ii) Ear barotraumas.
  - (iii) Sinus barotraumas.
  - (iv) Other barotraumas.
- (b) Decompression sickness:
  - (i) History and physiology.
  - (ii) Pathophysiology.
  - (iii) Clinical effects.
  - (iv) Treatment.
- (c) Dysbaric Osteonecrosis.

4. **Diseases due to abnormal gas pressure:**

- (a) Inert Gas Narcosis.
- (b) Hypoxia.
- (c) O<sub>2</sub> toxicity.

- (d) CO<sub>2</sub> toxicity.
- (e) Breathing gas contamination.
- (f) High Pressure Nervous Syndrome.

5. **Aquatic disorders:**

- (a) Drowning syndromes:
  - (i) Drowning.
  - (ii) Near drowning.
  - (iii) Management of near drowning.
  - (iv) Salt water aspiration syndrome.
  - (v) Factors leading to drowning.
- (b) Sea sickness.
- (c) Thermal problem and solutions.
- (d) Local infections.
- (e) General infections.
- (f) Trauma from marine creatures.

6. **Specific diving diseases:**

- (a) The ear and diving:
  - (i) Investigations including Audiometry.
  - (ii) Hearing loss.
  - (iii) Vertigo and disorientation.
- (b) Cardiac problems and sudden death.
- (c) Neurological disorders of diving.
- (d) Psychological and neuropsychological disorders.
- (e) Miscellaneous disorders.
- (f) Drugs and diving.
- (g) Long term effects of diving.

7. **Diving accidents:**

- (a) Stress responses, panic and fatigue.
- (b) Epidemiology of diving casualty.
- (c) Unconsciousness.
- (d) First aid and emergency treatment.



- (e) Oxygen therapy.
- (f) Investigation of diving accidents.
- (g) Investigation of diving fatality.

**8. Medical standards for diving:**

- (a) Medical standards for snorkel divers.
- (b) Medical standards for recreational divers.
- (c) Medical standards for commercial divers.
- (d) Medical conditions affecting diving.
- (e) Age and diving.
- (f) Diver selection.

**B) MARITIME HEALTH**

**1. Submarine Medicine:**

- (a) Development of submarines and historical aspects.
- (b) Submarine construction.
- (c) Submarine habitability: temperature, humidity, ventilation, and air conditioning.
- (d) Submarine atmosphere, respiratory gases, exhaust gases, battery gases and domestic pollutants.
- (e) Atmospheric regeneration, oxygen replenishment, carbon dioxide absorption, oxygen bank, air bank, chlorate candles, electrolytic oxygen generator, soda lime / lithium hydroxides, monoethanolamine (MEA) scrubbers, ion exchange resins, superoxide systems, molecular sieves.
- (f) Gas monitoring and pollution control.
- (g) Food, drink and other nutritional requirements, emergency rations and clothing.
- (h) Care of sick and wounded on board a submarine.
- (i) Medical evaluation for submarine personnel.
- (j) Submarine escape.
- (k) Submarine rescue.
- (l) Submersibles: manned submersibles, unmanned submersibles and buoyancy devices.

**2. Shipboard Medicine**

- (a) Medical aspects of ship construction and ergonomics.
- (b) Environmental problems on board a ship (heat, light, vibration, ventilation, air-conditioning and sound).

- (c) Food preparation, storage and preservation, nutritional requirements at sea.
- (d) Water - storage, purification and supply (Chlorination and Reverse osmosis).
- (e) Disposal of waste and sewage.
- (f) Sickbays and first aid posts.
- (g) Evacuation of casualties.
- (h) Ship hygiene and sanitation.
- (j) Psychological disorders at sea:
  - (i) Alcohol abuse.
  - (ii) Drug abuse.
  - (iii) Isolation.
  - (iv) Other psychiatric ailments.
- (k) Quarantine regulations.
- (l) Free pratique.
- (m) Pest control measures.
- (n) Ship wreck, abandon ship, life jacket, life raft and survival at sea.
- (o) Crew selection methods, periodical medical examinations and examination of food handlers.
- (p) International health regulations.
- (q) Radio medical advice.
- (r) Death at sea.
- (s) Diseases:
  - (i) Tropical and infectious diseases.
  - (ii) Communicable and non communicable diseases.
  - (iii) Sexually transmitted diseases.

3. **Emergencies and their management:**

- (a) Special aspects of emergency care:
  - (i) Management of mass casualties.
  - (ii) Advanced Trauma Life Support.
  - (iii) Basic and advanced cardiac life support.
  - (iv) Management of compromised airway.
- (b) Trauma management:
  - (i) Head injuries.
  - (ii) Maxillofacial and neck trauma.
  - (iii) Chest trauma.

- (iv) Abdominal trauma.
- (v) Genitourinary trauma.
- (vi) Vertebral column and Spinal cord trauma.
- (vii) Orthopaedic emergencies.
- (c) Non trauma emergencies and their management:
  - (i) ENT and Eye emergencies.
  - (ii) Pulmonary emergencies.
  - (iii) Cardiac emergencies.
  - (iv) GI emergencies.
  - (v) Metabolic and endocrine emergencies.
  - (vi) Psychiatric emergencies.

4. **Emergency clinical techniques:**

- (a) Monitoring / assessment of ventilation and oxygenation:
  - (i) Pulmonary function testing.
  - (ii) Pulse oximetry.
  - (iii) CO<sub>2</sub> monitoring.
  - (iv) Oxygen therapy.
  - (v) Noninvasive pressure support ventilation.
- (b) Respiratory Procedures:
  - (i) Basic airway management.
  - (ii) Tracheal intubation.
  - (iii) Pharmacological adjuncts to intubation.
  - (iv) Mechanical ventilation.
  - (v) Thoracocentesis.
  - (vi) Tube thoracostomy.
- (c) Cardiac procedures:
  - (i) Basic electrocardiographic techniques.
  - (ii) Assessment of implanted pacemakers/AICD devices.
  - (iii) Defibrillation and cardioversion.
  - (iv) Artificial perfusion during cardiac arrest.
- (d) Vascular techniques and volume support:

- (i) Peripheral intravenous access.
- (ii) Central venous catheterization.
- (iii) Venous cutdown.
- (iv) High flow infusion techniques.
- (v) Indwelling vascular devices.
- (e) Anaesthetic and Analgesic techniques:
  - (i) Local and topical anesthesia.
  - (ii) Parenteral analgesia.
- (f) Emergency dental procedures:
  - (i) Dentoalveolar trauma.
  - (ii) Oral haemorrhage.
  - (iii) Mandibular dislocations.
  - (iv) Dentoalveolar infections.
  - (v) Deep space infections of head and neck.
- (g) Hypothermia:
  - (i) Core temperature measurement.
  - (ii) Evaluation and stabilization of hypothermic patient.
  - (iii) Management guidelines.
  - (iv) Pharmacotherapy and monitoring.
  - (v) Frostbite.
  - (vi) Cold water immersion.
- (h) Hyperthermia:
  - (i) Types of hyperthermia.
  - (ii) Cooling techniques.

## **C) HYPERBARIC MEDICINE**

1. **History of Hyperbaric Oxygen Therapy.**
2. **Hyperbaric delivery systems and Chamber Operation:**
  - (a) Guidelines for Hyperbaric facilities.
  - (b) Safety guidelines/requirements.
  - (c) Economic aspects.
  - (d) Monoplace chamber:



- (i) Equipment considerations.
- (ii) Patient considerations.
- (iii) Emergency procedures.
- (iv) Safety procedures.
- (e) Multiplace chamber:
  - (i) Equipment considerations.
  - (ii) Patient considerations.
  - (iii) Emergency procedures.
  - (iv) Safety procedures.
- (f) Quality assessment.

3. **Patient management in Hyperbaric environment:**

- (a) Patient selection criteria.
- (b) Management of critically ill patient in the chamber:
  - (i) Drugs and critical care equipment under pressure.
  - (ii) Nursing considerations.
  - (iii) Resuscitation management.
- (c) Hyperbaric medicine in paediatric practice:
  - (i) Indications for HBO in children.
  - (ii) Special contraindications.
  - (iii) Psychological preparation and support.
- (d) Hyperbaric nursing.
- (e) Use of Drugs in Hyperbaric environment.

4. **General considerations:**

- (a) Physiological effects of HBOT:
  - (i) Wound healing mechanisms of HBOT.
  - (ii) Effect of HBOT in infectious diseases.
- (b) Contraindications of HBOT.
- (c) Complications and side effects.
- (d) Oxygen toxicity.
- (e) Management of complications.

5. **Indications of HBOT:**

- (a) Air or gas embolism.
- (b) Carbon monoxide poisoning/cyanide poisoning.
- (c) Clostridial myonecrosis.
- (d) Acute traumatic ischemia.
- (e) Decompression sickness.
- (f) Arterial Insufficiencies:

Central Retinal Artery Occlusion

Enhancement of Healing In Selected Problem Wounds

- (g) Exceptional blood loss.
- (h) Intracranial Abscess.
- (i) Necrotizing soft tissue infections.
- (j) Refractory osteomyelitis.
- (k) Radiation tissue damage.
- (l) Compromised skin grafts and flaps.
- (m) Thermal burns.
- (o) Idiopathic Sudden Sensorineural Hearing Loss

6. **Current research and advances in HBOT.**

7. **Clinical Medicine:**

- (a) Neurological, Cardiac and Respiratory Evaluation.
- (b) Immediate Emergency Care: BLS, ACLS.
- (c) Clinical Cardiology
- (d) Clinical aspects of Radiation Medicine
- (e) Respiratory Medicine
- (f) ICU Patient – Care and Management.
- (g) Use and Maintenance of Medical Devices in the chamber:
  - (i) I/V fluids & tubing in Multiplace/ Monoplace chambers.
  - (ii) ET tubes.
  - (iii) Ventilators.
- (h) Clinical Procedures with emphasis on those that may be required to be done at the chamber facility such as:
  - (i) Intubation.
  - (ii) Chest tube insertion.
- (i) Medical Emergency Management with specific emphasis on emergencies that can be encountered during hyperbaric therapy.

- (j) Clinical aspects of all medical indications of HBOT.
  - (k) ECG Interpretation.
  - (l) Cath Lab techniques and procedures
8. **Clinical Surgery:**
- (a) Wound Care:
    - (i) Physiology of wound repair.
    - (ii) Assessment / Grading of wounds.
    - (iii) Wound treatment modalities.
    - (iv) Debridement.
    - (v) Wound cleansing.
    - (vi) Newer products in wound care.
  - (b) Problem wounds as indicated for treatment with HBOT:
    - (i) Classification.
    - (ii) Etiology.
    - (iii) Bacteriology.
    - (iv) Diagnosis.
    - (v) Management.
  - (c) Thermal Burns.
  - (d) Crush injuries and Compartment syndrome.
  - (e) Sequelae of Radiation Therapy and their management.
  - (f) Nerve Injuries.

**PAPER III**  
**RECENT ADVANCES IN MARINE MEDICINE**

**A) DIVING MEDICINE**

- 1. **Diving Physiology**
  - (a) Vision and special senses under pressure.
  - (b) Thermal considerations in diving.
  - (c) Current guidelines on Women in Diving.
  
- 2. **Diving**
  - (a) Newer Gas mixtures.
  - (b) Saturation Diving – Recent advances.

3. **Aquatic disorders:**

- (a) Drowning syndromes:
  - (i) Factors leading to drowning.
- (b) Sea sickness.

4. **Specific diving diseases:**

- (a) Newer modalities in diagnosis and management of Diving diseases.
- (b) Long term effects of diving.

5. **Diving accidents:**

- (a) Latest guidelines on Investigation of diving accidents.
- (b) Latest guidelines on Investigation of diving fatality.

6. **Medical standards for diving:**

- (a) Medical standards for snorkel divers.
- (b) Medical standards for recreational divers.
- (c) Medical standards for commercial divers.
- (d) Medical conditions affecting diving.
- (e) Age and diving.
- (f) Diver selection.

B) **MARITIME HEALTH**

1. **Submarine Medicine:**

- (a) Submarine escape.
- (b) Submarine rescue.
- (c) Submersibles: manned submersibles, unmanned submersibles and buoyancy devices.

2. **Shipboard Medicine**

- (a) Medical aspects of ship construction and ergonomics.
- (b) Evacuation of casualties.
- (c) Ship wreck, abandon ship, life jacket, life raft and survival at sea.
- (d) International health regulations.

C) **HYPERBARIC MEDICINE**



1. **Hyperbaric delivery systems and Chamber Operation:**

- (a) Guidelines for Hyperbaric facilities.
- (b) Economic aspects.
- (c) Quality assessment.

3. **Patient management in Hyperbaric environment:**

- (a) Patient selection criteria.
- (b) Latest Treatment Protocols
- (c) Use of Drugs in Hyperbaric environment.

4. **Current research and advances in HBOT.**

5. **Clinical Surgery:**

- (a) Wound Care:
  - (i) Newer products in wound care.

**PAPER IV**  
**THEMATIC DEPICTION IN RELATION TO MARINE MEDICINE**



## ANNEXURE II

## SKILLS TO BE ACQUIRED DURING THE TRAINING PERIOD

| Name of Procedure   | Number of procedures |                    |                                 |
|---|----------------------|--------------------|---------------------------------|
|   | As observer          | As first assistant | Independently under supervision |
| Assisted ventilation, including Endo tracheal intubation          | 02                   | 03                 | 03                              |
| Pulmonary Function Testing  | 02                   | 03                 | 10                              |
| Pulse Oxymetry  | 02                   | 03                 | 05                              |
| Carbon dioxide monitoring   | 02                   | 03                 | 05                              |
| Hyperbaric Oxygen Therapy   | 02                   | 03                 | 10                              |
| ECG Techniques  | 02                   | 03                 | 05                              |
| Local and Topical Anaesthesia                                     | 02                   | 03                 | 05                              |
| Basic Dental Procedures including extractions                     | 03                   | 05                 | 05                              |
| Cardioversion / Defibrillation / External pace making             | 02                   | 03                 | 03                              |
| Emergency I/V cannula insertion and cut down                      | 02                   | 03                 | 03                              |
| Gastric Lavage  | 02                   | 03                 | 03                              |
| Thoraocentesis / Intercostal drainage                             | 02                   | 03                 | 03                              |
| Lumbar puncture   | 02                   | 03                 | 03                              |
| Nasogastric intubation  | 02                   | 03                 | 05                              |
| Use of aerosol nebuliser.   | 02                   | 03                 | 05                              |
| Hyperbaric chamber operation including diagnostics and monitoring | 02                   | 03                 | 10                              |
| Chamber Emergency and Safety procedures                           | 02                   | 03                 | 10                              |
| Wound debridement and cleansing procedures incl burns             | 02                   | 03                 | 05                              |

|                      |    |    |    |
|----------------------|----|----|----|
| Audiometry           | 02 | 03 | 10 |
| Stress Testing (TMT) | 02 | 03 | 10 |



**PRESCRIBED BOOKS AND JOURNALS**

1. **Books**

- (a) Textbook of Medical physiology - Guyton
- (b) Review of Medical Physiology - Ganong
- (c) Diving and Subaquatic Medicine - Lowry and Pennefather (Ed).
- (d) Diving Medicine - Bove and Davis (Ed).
- (e) Clinical Procedures in Emergency Medicine - Roberts and Hedges (Ed).
- (f) Current Diagnosis and Treatment Emergency Medicine - Stone and Humphries.
- (g) Hyperbaric Medicine Practice - Kindwall and Wheelan (Ed)
- (h) A Textbook of Hyperbaric Medicine - KK Jain.
- (i) Hyperbaric Facility Safety - A Practical Guide (Workman).
- (j) Hyperbaric Surgery - Perioperative care, Bakker & Crammer.
- (k) Diabetic Foot - Bowker & Pfeifer.
- (l) Wound care practice - Eugene Worth.
- (m) UHMS guidelines for hyperbaric facility operations.
- (n) Davidson Textbook of Medicine.
- (o) Love and Bailey - Short Practice of Surgery.
- (p) Clinical Methods - Hutchison.
- (q) Clinical Methods - Das.

2. **Journals**

3-5 international journals and two national journals ( all indexed)

## DETAILED WEEKLY TRAINING PROGRAMME

1. **Basic Phase.** The basic phase would be covered over a period of 52 weeks and would include the following: -

- **Clinical attachments.** Candidates would undergo 36 weeks of rotational posting in various departments as follows: -

- (i) Dept of Medicine : 10 weeks.
- (ii) Dept of Surgery : 10 weeks.
- (iii) Dept of Anesthesia : 08 weeks
- (iv) Dept of ENT : 02 weeks
- (v) Dept of Radiology : 03 weeks
- (vi) Dept of Ophthalmology : 01 week
- (vii) Dept of Dental Surgery : 01 week
- (viii) Dept of Psychiatry : 01 week

- **Field attachments.** In order to expose candidates to actual working conditions, Field attachments of 16 weeks duration will also be carried out during the Basic Phase.

A detail of training programme of Basic phase training is as mentioned under: -

### BASIC PHASE

| <u>WEEK 01</u>   |                | <u>ACTIVITY</u>       | <u>REMARKS</u>  |
|--|----------------|-----------------------|---|
| <u>MEDICINE</u>  | 0730 -<br>0830 | Ward rounds           | Introduction to gen<br>medicine; clinical signs and<br>symptoms; clinical methods |
|  | 0830-<br>0930  | ICU / Acute Med visit |   |
|  | 0930 -<br>1300 | Medical OPD           |   |
|  | 1300 -<br>1430 | Theory class          |   |
| <p><b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |                |                       |   |



| <u>WEEK 02</u>   |             | <u>ACTIVITY</u>       | <u>REMARKS</u>  |
|--|-------------|-----------------------|---|
|  | 0730 - 0830 | Ward rounds           | Introduction to gen medicine; clinical signs and symptoms; clinical methods   |
| <u>MEDICINE</u>  | 0830-0930   | ICU / Acute Med visit |   |
|  | 0930 - 1300 | Medical OPD           |   |
|  | 1300 - 1430 | Theory class          |   |
| <b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                       |   |
| <u>WEEK 03</u>   |             | <u>ACTIVITY</u>       | <u>REMARKS</u>  |
|  | 0730 - 0830 | Ward rounds           | Attachment with neurology dept for hands on training in neurological examination & management of neurological emergencies |
| <u>MEDICINE</u>  | 0830-0930   | ICU / Acute Med visit |   |
|  | 0930 - 1300 | Medical OPD           |   |
|  | 1300 - 1430 | Theory class          |   |
| <b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                       |   |
| <u>WEEK 04</u>   |             | <u>ACTIVITY</u>       | <u>REMARKS</u>  |
|  | 0730 - 0830 | Ward rounds           | Attachment with Cardiology dept for hands on trg on CVS exam and management of CVS emergencies                            |
| <u>MEDICINE</u>  | 0830-0930   | ICU / Acute Med visit |   |
|  | 0930 - 1300 | Medical OPD           |   |
|  | 1300 - 1430 | Theory class          |   |
| <b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                       |   |

| <b><u>WEEK 05</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|---|-------------|------------------------|---|
|   | 0730 - 0830 | Ward rounds            | Attachment with Cardiology dept for hands on trg on ECG interpretation, TMT, 2D Echo techniques & ext pacemaker |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |   |
|   | 0930 - 1300 | Medical OPD            |   |
|   | 1300 - 1430 | Theory class           |   |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 06</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Ward rounds            | Attachment with Respiratory dept for hands on trg on Resp exam and management of Resp emergencies               |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |   |
|   | 0930 - 1300 | Medical OPD            |   |
|   | 1300 - 1430 | Theory class           |   |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 07</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Ward rounds            | Attachment with Respiratory dept for hands on trg on PFT, Chest tube insertion, ICD drainage                    |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |   |
|   | 0930 - 1300 | Medical OPD            |   |
|   | 1300 - 1430 | Theory class           |   |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |

| <b><u>WEEK 08</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>  |
|---|-------------|------------------------|--|
|   | 0730 - 0830 | Ward rounds            | Attachment with Acute Med ward for hands on training in managing acute cases |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |  |
|   | 0930 - 1300 | Medical OPD            |  |
|   | 1300 - 1430 | Theory class           |  |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |  |
| <b><u>WEEK 09</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>  |
|   | 0730 - 0830 | Ward rounds            | Attachment with Medical ICU for hands on trg                                 |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |  |
|   | 0930 - 1300 | Medical OPD            |  |
|   | 1300 - 1430 | Theory class           |  |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |  |
| <b><u>WEEK 10</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>  |
|   | 0730 - 0830 | Ward rounds            | Attachment with Medical ICU for hands on trg                                 |
| <b><u>MEDICINE</u></b>  | 0830-0930   | ICU / Acute Med visit  |  |
|   | 0930 - 1300 | Medical OPD            |  |
|   | 1300 - 1430 | Theory class           |  |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |  |

| <u>WEEK 11</u>   |             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|--|-------------|------------------|---|
|  | 0730 - 0830 | Ward rounds      | Introduction to gen surg; clinical signs and symptoms; clinical methods       |
| <u>SURGERY</u>   | 0830-0930   | ICU / Acute Surg |   |
|  | 0930 - 1300 | Surg OPD / OT    |   |
|  | 1300 - 1430 | Theory class     |   |
| <p><b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |             |                  |   |
| <u>WEEK 12</u>   |             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|  | 0730 - 0830 | Ward rounds      | Introduction to gen surg; clinical signs and symptoms; clinical methods       |
| <u>SURGERY</u>   | 0830-0930   | ICU / Acute Surg |   |
|  | 0930 - 1300 | Surg OPD / OT    |   |
|  | 1300 - 1430 | Theory class     |   |
| <p><b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |             |                  |   |
| <u>WEEK 13</u>   |             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|  | 0730 - 0830 | Ward rounds      | Attachment with neurosurg dept for hands on training in Neurosurg emergencies |
| <u>SURGERY</u>   | 0830-0930   | ICU / Acute Surg |   |
|  | 0930 - 1300 | Surg OPD / OT    |   |
|  | 1300 - 1430 | Theory class     |   |
| <p><b>NOTE:</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |             |                  |   |
| <u>WEEK 14</u>   |             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|  | 0730 - 0830 | Ward rounds      | Attachment with Ortho dept for hands on trg                                   |

|  |             |                        |   |
|--|-------------|------------------------|---|
| <b><u>SURGERY</u></b>  | 0830-0930   | ICU / Acute Surg       |   |
|  | 0930 - 1300 | Surg OPD / OT          |   |
|  | 1300 - 1430 | Theory class           |   |
| <b><u>NOTE:</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia  |             |                        |   |
| <b><u>WEEK 15</u></b>  |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                       |
|  | 0730 - 0830 | Ward rounds            | Attachment with Ortho dept for hands on trg |
| <b><u>SURGERY</u></b>  | 0830-0930   | ICU / Acute Surg       |   |
|  | 0930 - 1300 | Surg OPD / OT          |   |
|  | 1300 - 1430 | Theory class           |   |
| <b><u>NOTE :</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |

|  |             |                        |  |
|--|-------------|------------------------|--|
| <b><u>WEEK 16</u></b>  |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                                    |
|  | 0730 - 0830 | Ward rounds            | Attachment with Gen surg for wound management techniques |
| <b><u>SURGERY</u></b>  | 0830-0930   | ICU / Acute Surg       |  |
|  | 0930 - 1300 | Surg OPD / OT          |  |
|  | 1300 - 1430 | Theory class           |  |
| <b><u>NOTE :</u></b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |  |
| <b><u>WEEK 17</u></b>  |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                                    |
|  | 0730 - 0830 | Ward rounds            | Attachment with Gen surg for wound management techniques |
| <b><u>SURGERY</u></b>  | 0830-0930   | ICU / Acute Surg       |  |
|  | 0930 -      | Surg OPD / OT          |  |



|   |             |                        |   |
|---|-------------|------------------------|---|
|   | 1300        |                        |   |
|   | 1300 - 1430 | Theory class           |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 18</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Ward rounds            | Attachment with CTVS for for Chest tube insertion / thoracocentesis etc |
| <b><u>SURGERY</u></b>   | 0830- 0930  | ICU / Acute Surg       |   |
|   | 0930 - 1300 | Surg OPD / OT          |   |
|   | 1300 - 1430 | Theory class           |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |

|   |             |                        |   |
|---|-------------|------------------------|---|
| <b><u>WEEK 19</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Ward rounds            | Attachment with Gen surg for trg on appendicetomy & other surg procedures / emergencies |
| <b><u>SURGERY</u></b>   | 0830- 0930  | ICU / Acute Surg       |   |
|   | 0930 - 1300 | Surg OPD / OT          |   |
|   | 1300 - 1430 | Theory class           |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 20</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Ward rounds            | Attachment with Gen surg for trg on appendicetomy & other surg procedures / emergencies |
| <b><u>SURGERY</u></b>   | 0830- 0930  | ICU / Acute Surg       |   |
|   | 0930 - 1300 | Surg OPD / OT          |   |
|   | 1300 - 1430 | Theory class           |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture

Thur 1600- 1730 h – Seminar / Symposia



| <u>WEEK 21</u>  |                | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|----------------|------------------|--|
|   | 0730 -<br>0830 | ATTACHED WITH OT | Attachment for hands on trg<br>for airway insertion, lumbar<br>puncture, pt monitoring,<br>anesthesia techniques etc |
| <u>ANAESTHESIA</u>  | 0830-<br>0930  |                  |  |
|   | 0930 -<br>1300 |                  |  |
|   | 1300 -<br>1430 |                  |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                  |  |
| <u>WEEK 22</u>  |                | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|   | 0730 -<br>0830 | ATTACHED WITH OT | Attachment for hands on trg<br>for airway insertion, lumbar<br>puncture, pt monitoring,<br>anesthesia techniques etc |
| <u>ANAESTHESIA</u>  | 0830-<br>0930  |                  |  |
|   | 0930 -<br>1300 |                  |  |
|   | 1300 -<br>1430 |                  |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                  |  |
| <u>WEEK 23</u>  |                | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|   | 0730 -<br>0830 | ATTACHED WITH OT | Attachment for hands on trg<br>for airway insertion, lumbar<br>puncture, pt monitoring,<br>anesthesia techniques etc |
| <u>ANAESTHESIA</u>  | 0830-<br>0930  |                  |  |
|   | 0930 -<br>1300 |                  |  |
|   | 1300 -<br>1430 |                  |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                  |  |

| <u>WEEK 24</u> |        | <u>ACTIVITY</u> | <u>REMARKS</u>              |
|----------------|--------|-----------------|-----------------------------|
|                | 0730 - |                 | Attachment for hands on trg |

|                           |             |                  |   |
|---------------------------|-------------|------------------|---|
|                           | 0830        | ATTACHED WITH OT | for airway insertion, lumbar puncture, pt monitoring, anesthesia techniques etc |
| <b><u>ANAESTHESIA</u></b> | 0830-0930   |                  |   |
|                           | 0930 - 1300 |                  |   |
|                           | 1300 - 1430 |                  |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture

Thur 1600- 1730 h – Seminar / Symposia

| <b><u>WEEK 25</u></b>     |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|---------------------------|-------------|------------------------|---|
|                           | 0730 - 0830 | ATTACHED WITH OT       | Attachment for hands on trg for airway insertion, lumbar puncture, pt monitoring, anesthesia techniques etc |
| <b><u>ANAESTHESIA</u></b> | 0830-0930   |                        |   |
|                           | 0930 - 1300 |                        |   |
|                           | 1300 - 1430 |                        |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture

Thur 1600- 1730 h – Seminar / Symposia

| <b><u>WEEK 26</u></b>     |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>  |
|---------------------------|-------------|------------------------|--|
|                           | 0730 - 0830 | ATTACHED WITH ICU      | Attachment for hands on trg for assisted ventilation, cardioversion, defib, pt monitoring and emergency management |
| <b><u>ANAESTHESIA</u></b> | 0830-0930   |                        |  |
|                           | 0930 - 1300 |                        |  |
|                           | 1300 - 1430 |                        |  |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture

Thur 1600- 1730 h – Seminar / Symposia

| <b><u>WEEK 27</u></b>     |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|---------------------------|-------------|------------------------|---|
|                           | 0730 - 0830 | ATTACHED WITH ICU      | Attachment for hands on trg for assisted ventilation, cardioversion, defib, pt monitoring and emergency |
| <b><u>ANAESTHESIA</u></b> | 0830-0930   |                        |   |

|   |                |                        |  |
|---|----------------|------------------------|--|
|   | 0930 -<br>1300 |                        | management   |
|   | 1300 -<br>1430 |                        |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                        |  |
| <b><u>WEEK 28</u></b>   |                | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>  |
|   | 0730 -<br>0830 | ATTACHED WITH<br>ICU   | Attachment for hands on trg<br>for assisted ventilation,<br>cardioversion, defib, pt<br>monitoring and emergency<br>management |
| <b><u>ANAESTHESIA</u></b>   | 0830-<br>0930  |                        |  |
|   | 0930 -<br>1300 |                        |  |
|   | 1300 -<br>1430 |                        |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                        |  |

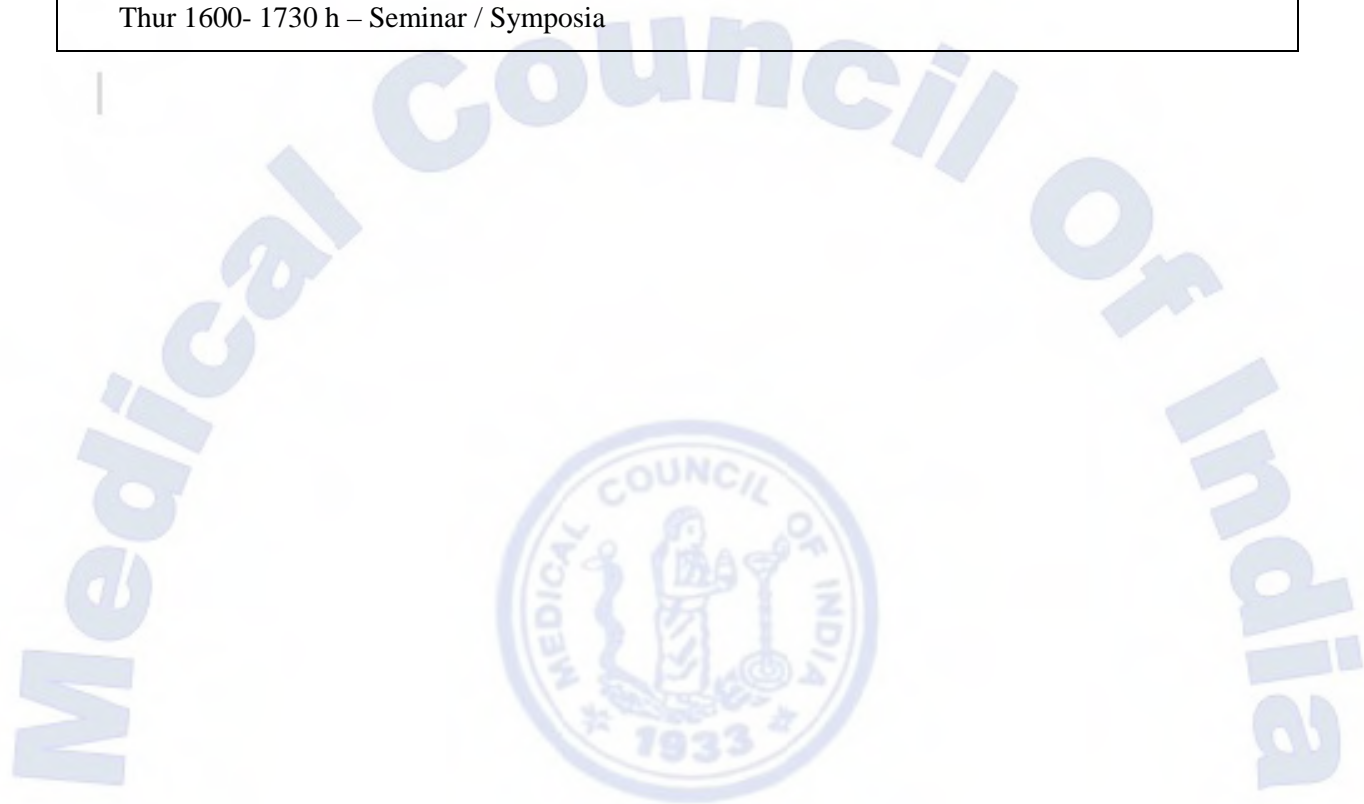
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| <b><u>WEEK 29</u></b>   |                | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 -<br>0830 | Ward rounds            | Basic ENT exam and<br>techniques & management<br>of ENT emergencies |
| <b><u>ENT</u></b>   | 0830-<br>0930  | OPD /OT                |   |
|   | 0930 -<br>1300 | OPD /OT                |   |
|   | 1300 -<br>1430 | Theory class           |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                |                        |   |
| <b><u>WEEK 30</u></b>   |                | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 -<br>0830 | Ward rounds            | Management of ENT<br>emergencies & Audiometry<br>trg                |
| <b><u>ENT</u></b>   | 0830-<br>0930  | OPD /OT                |   |
|   | 0930 -<br>1300 | OPD /OT                |   |
|   | 1300 -<br>1430 | Theory class           |   |



|   |             |                        |   |
|---|-------------|------------------------|---|
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 31</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|   | 0730 - 0830 | Radiology dept         | Interpretation of radiographs with spl emphasis on Chest X-Rays |
| <b><u>RADIOLOGY</u></b>   | 0830-0930   |                        |   |
|   | 0930 - 1300 |                        |   |
|   | 1300 - 1430 |                        |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |

|   |             |                        |   |
|---|-------------|------------------------|---|
| <b><u>WEEK 32</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                                   |
|   | 0730 - 0830 | Radiology dept         | Hands on trg on USG esp abdominal ultrasound            |
| <b><u>RADIOLOGY</u></b>   | 0830-0930   |                        |   |
|   | 0930 - 1300 |                        |   |
|   | 1300 - 1430 |                        |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |
| <b><u>WEEK 33</u></b>   |             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                                   |
|   | 0730 - 0830 | Radiology dept         | Hands on trg on USG esp abdominal ultrasound & CT & MRI |
| <b><u>RADIOLOGY</u></b>   | 0830-0930   |                        |   |
|   | 0930 - 1300 |                        |   |
|   | 1300 - 1430 |                        |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |             |                        |   |

| <b><u>WEEK 34</u></b>   |                | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>                                  |
|---|----------------|------------------------|--|
|   | 0730 -<br>0830 | Ophthalmology dept     | Hands on trg on<br>management of ocular<br>emergencies |
| <b><u>OPHTHAL</u></b>   | 0830-<br>0930  |                        |  |
|   | 0930 -<br>1300 |                        |  |
|   | 1300 -<br>1430 |                        |  |
| <p><b><u>NOTE :</u></b> Mon 1600-1730 h – Faculty / guest lecture<br/> Thur 1600- 1730 h – Seminar / Symposia</p> |                |                        |  |



| <u>WEEK 35</u>  |             | <u>ACTIVITY</u> | <u>REMARKS</u>  |
|---|-------------|-----------------|---|
|   | 0730 - 0830 | Dental dept     | Hands on trg on basic dental procedures including extractions |
| <u>DENTAL</u>   | 0830-0930   |                 |   |
|   | 0930 - 1300 |                 |   |
|   | 1300 - 1430 |                 |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |             |                 |   |

| <u>WEEK 36</u>  |             | <u>ACTIVITY</u> | <u>REMARKS</u>  |
|---|-------------|-----------------|---|
|   | 0730 - 0830 | Psy dept        | Psychological screening tests, Psychometry, management of psy emergencies |
| <u>PSYCHIATRY</u>   | 0830-0930   |                 |   |
|   | 0930 - 1300 |                 |   |
|   | 1300 - 1430 |                 |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |             |                 |   |

| <u>WEEK 37 TO WEEK 44 :</u>  |
|--|
| Field attachment with Indian Naval Diving School, Kochi & INS Nireekshak (for Naval students) / any other institution carrying diving trg / operations (for civilian candidates). This will expose trainees to diving eqpt, diving trg, diving techniques, diving emergencies etc. |

| <u>WEEK 45 TO WEEK 52 :</u>  |
|--|
| Field attachment with Recompression chamber Complex, INM / other institutions rendering Hyperbaric oxygen therapy(HBOT). To expose trainees on chamber operating and maintenance techniques. Trainees will get hands on experience on various aspects of HBOT including patient selection, assessment and management of emergencies arising thereof. |

### ADVANCED PHASE TRG OF MD MARINE MEDICINE

The Advance Phase of training consisting of 104 weeks would be carried out at the Institute of Naval Medicine, INHS Asvini, Mumbai. The candidates shall undergo training as full time residents where theoretical aspects shall be covered in the form of lectures, seminars, case presentations, and other training modalities. The training shall also include clinical involvement in all aspects of patient care that these candidates are expected to know.

The routine during the advanced phase training would be as follows:

**WEEK 53:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Respiratory physiology</b><br>(a) Structure and Function of the Respiratory System<br>(b) Pulmonary Ventilation<br>(c) Pulmonary Diffusion<br><br><b>History of Hyperbaric Oxygen Therapy.</b> |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu –Seminar<br>Tue –Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 54:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|-------------|--|---|
| 0800-0900   | Faculty lecture  | <b>Respiratory physiology</b><br>(d) Pulmonary Blood Flow and Metabolism<br>(e) Ventilation – Perfusion relationship<br>(f) Gas Transport<br>(g) Mechanics of Breathing<br>(h) Regulation of Respiration<br><br><b>Hyperbaric delivery systems and Chamber Operation:</b><br>(a) Guidelines for Hyperbaric facilities.<br>(b) Safety guidelines/requirements. |
| 0900 - 1300 | OPD /HBOT clinic   |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture  
 Thur 1600- 1730 h – Seminar / Symposia

**WEEK 55:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>   |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Respiratory physiology</b><br>(j)Respiratory System in High Altitude and High Pressure environments<br>(k) Respiratory adjustments in health and disease<br>(l) Pulmonary Functions Tests<br><b>Hyperbaric delivery systems and Chamber Operation:</b><br>(c) Economic aspects.<br>(d) Historical aspects. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 56:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>  |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Cardiovascular physiology</b><br>(a) Overview of the Cardiovascular system<br>(b) Characteristics of Cardiac Muscle Cells<br>(c) The Heart as a Pump<br><br><b>Monoplace chamber:</b><br>(i) Equipment considerations.<br>(ii) Patient considerations.<br>(iii) Emergency procedures.<br>(iv) Safety procedures |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 57:**



|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Cardiovascular physiology</b><br>(d) Electrocardiogram<br>(e) Cardiac Abnormalities<br>(f) Peripheral Vascular System<br>(g) Cardiovascular regulatory mechanism<br>(h) Cardiovascular homeostasis in health and disease<br><b>Multiplace chamber:</b><br>(i) Equipment considerations.<br>(ii) Patient considerations.<br>(iii) Emergency procedures.<br>(iv) Safety procedures |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 58:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>CNS physiology</b><br>(a) Organization of the nervous system and Synapse<br>(b) Sensory receptors<br>(c) Somatic sensations<br><b>Patient management in Hyperbaric environment:</b><br>(a) Patient selection criteria. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 59:**

|           | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|-----------|------------------|--|
| 0800-0900 | Faculty lecture  | <b>CNS physiology</b><br>(d) Physiology of the special senses<br>(e) Thermoregulation and effect of heat |
| 0900 -    | OPD /HBOT clinic |  |

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|---|--|--|
| 1300  |  | and cold on human body.  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work | <b>Patient management in Hyperbaric environment:</b><br>(b) Management of critically ill patient in the chamber:<br>(i) Drugs and critical care equipment under pressure.<br>(ii) Nursing considerations.<br>(iii) Resuscitation management. |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 60:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Exercise physiology</b><br>(a) Muscular System in exercise<br>(b) Respiratory system during exercise<br>(c) Cardiovascular system during exercise<br><br><b>Patient management in Hyperbaric environment:</b><br>(c) Hyperbaric medicine in paediatric practice:<br>(i) Indications for HBO in children.<br>(ii) Special contraindications.<br>(iii) Psychological preparation and support. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 61:**

|             | <u>ACTIVITY</u>     | <u>REMARKS</u>   |
|-------------|---------------------|--|
| 0800-0900   | Faculty lecture     | <b>Exercise physiology</b><br>(d) Body heat during exercise<br>(e) Body fluids and electrolytes during exercise<br><br><b>Patient management in Hyperbaric</b> |
| 0900 - 1300 | OPD /HBOT clinic    |  |
| 1300 -      | Mon & Thu – Seminar |  |

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|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work | <b>environment:</b><br>(d) Hyperbaric nursing. |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |   |  |

**WEEK 62:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Pharmacology</b><br>(a) Pharmacokinetics and Pharmacodynamics<br>(b) Membrane transporters and drug response<br>(c) Interaction of drugs with hyperbaric environments |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 63:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Introduction to Bioethics</b><br>(a) History and Theory<br>(b) Medical consent<br>(c) Ethics related to human research |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 64:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Introduction to Bioethics</b><br>(d) Ethics related to animal research<br>(e) Ethics related to clinical healthcare<br>(f) Data ownership and management |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 65:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Principles of Biostatistics</b><br>(a) Descriptive statistics<br>(b) Normal and sampling distributions<br>(c) Mean |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 66:**

|             | <u>ACTIVITY</u>                                | <u>REMARKS</u>   |
|-------------|--|--|
| 0800-0900   | Faculty lecture                                | <b>Principles of Biostatistics</b><br>(d) Experimental design<br>(e) Paired samples<br>(f) ANOVA |
| 0900 - 1300 | OPD /HBOT clinic                               |  |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation |  |

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|---|--|--|
|   | Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 67:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diving Physiology</b><br>(a) Biological effects of pressure.<br>(b) Ventilation, gas exchange and exercise under pressure.<br><br><b>HBOT</b><br>(a) Physiological basis & effect |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 68:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Diving Physiology</b><br>(c) ENT aspects/changes during diving.<br>(d) Vision and special senses under pressure.<br><br><b>HBOT</b><br>(b) Indications & contraindications |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 69:**

|  | <u>ACTIVITY</u> | <u>REMARKS</u> |
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|--|-----------------|----------------|



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|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Diving Physiology</b><br>(e) Thermal considerations in diving.<br>(f) Breath-hold diving.<br>(g) Women in Diving.<br><b>HBOT</b><br>(c) Complications & side effects |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 70:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>  |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diving Medicine</b><br>(a) History of diving physiology and medicine.<br>(b) Physics of diving.<br><b>HBOT</b><br>(d) Management of complications |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 71:**

|             | <b><u>ACTIVITY</u></b>  | <b><u>REMARKS</u></b>  |
|-------------|---|--|
| 0800-0900   | Faculty lecture   | <b>Diving Medicine</b><br>(c) Various types of diving – recreational, commercial, military.<br>(d) Diving systems and equipment. |
| 0900 - 1300 | OPD /HBOT clinic  |  |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture |  |

|   |                   |  |
|---|-------------------|--|
|   | Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |                   |  |

**WEEK 72:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Dividing Medicine</b><br>(e) Dive planning and safety procedures.<br>(f) Saturation diving. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 73:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Dividing Medicine</b><br>(g) High Altitude Diving.<br>(h) Gas mixtures. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 74:**

|           | <u>ACTIVITY</u> | <u>REMARKS</u>           |
|-----------|-----------------|--------------------------|
| 0800-0900 | Faculty lecture | <b>Dividing Medicine</b> |

|   |  |                                  |
|---|--|----------------------------------|
| 0900 -<br>1300  | OPD /HBOT clinic   | Under Sea Habitats/Microclimate. |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                                  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |                                  |

**WEEK 75:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-<br>0900   | Faculty lecture  | <p><b>Dysbaric diseases</b></p> <p>(a) Barotraumas:</p> <p>(i) Pulmonary barotraumas.</p> <p>(ii) Ear barotraumas.</p> <p>(iii) Sinus barotraumas.</p> <p>(iv) Other barotraumas.</p> |
| 0900 -<br>1300  | OPD /HBOT clinic   |   |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |   |

**WEEK 76:**

|  | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|--|--|--|
| 0800-<br>0900  | Faculty lecture  | <p>(b) <b>Decompression sickness:</b></p> <p>(i) History and physiology.</p> |
| 0900 -<br>1300   | OPD /HBOT clinic   |  |
| 1300 -<br>1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture</p> |  |  |

Thur 1600- 1730 h – Seminar / Symposia

**WEEK 77:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | (b) <b>Decompression sickness:</b><br>(ii) Pathophysiology. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |   |

**WEEK 78:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | (b) <b>Decompression sickness:</b><br>(iii) Classification & manifestation |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |  |

**WEEK 79:**

|             | <u>ACTIVITY</u>     | <u>REMARKS</u>  |
|-------------|---------------------|---|
| 0800-0900   | Faculty lecture     | (b) <b>Decompression sickness:</b><br>(iii) Clinical effects. |
| 0900 - 1300 | OPD /HBOT clinic    |   |
| 1300 -      | Mon & Thu – Seminar |   |

|   |   |  |
|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |   |  |

**WEEK 80:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | (b) <b>Decompression sickness:</b><br>(iv) Treatment. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 81:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | (c) Dysbaric Osteonecrosis.<br>(d) Other medical problems associated with diving |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 82:**



|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diseases due to abnormal gas pressure:</b><br>(a) Inert Gas Narcosis.<br>(b) Hypoxia. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 83:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diseases due to abnormal gas pressure:</b><br>(c) O <sub>2</sub> toxicity.<br>(d) CO <sub>2</sub> toxicity. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 84:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|-------------|--|--|
| 0800-0900   | Faculty lecture  | <b>Diseases due to abnormal gas pressure:</b><br>(e) Breathing gas contamination.<br>(f) High Pressure Nervous Syndrome. |
| 0900 - 1300 | OPD /HBOT clinic   |  |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club |  |

|   |  |  |
|---|--|--|
|   | Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 85:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Aquatic disorders:</b><br>(a) Drowning syndromes:<br>(i) Drowning.<br>(ii) Near drowning.<br>(iii) Management of near drowning.<br>(iv) Salt water aspiration syndrome.<br>(v) Factors leading to drowning. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 86:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Aquatic disorders:</b><br>(b) Sea sickness.<br>(c) Thermal problem and solutions.<br>(d) infections. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 87:**

|       | <u>ACTIVITY</u> | <u>REMARKS</u>            |
|-------|-----------------|---------------------------|
| 0800- | Faculty lecture | <b>Aquatic disorders:</b> |

|   |  |                 |
|---|--|-----------------|
| 0900  |  | Survival at sea |
| 0900 - 1300   | OPD /HBOT clinic   |                 |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                 |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |                 |

**WEEK 88:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <p><b>Aquatic disorders:</b><br/>(a) Marine Creatures</p> |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |   |

**WEEK 89:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|-------------|--|---|
| 0800-0900   | Faculty lecture  | <p><b>Specific diving diseases:</b><br/>(a) The ear and diving:<br/>(i) Investigations including Audiometry.<br/>(ii) Hearing loss.<br/>(iii) Vertigo and disorientation.</p> |
| 0900 - 1300 | OPD /HBOT clinic   |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture  
 Thur 1600- 1730 h – Seminar / Symposia

**WEEK 90:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>  |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Specific diving diseases:</b><br><br>(b) Cardiac problems and sudden death. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 91:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>   |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Specific diving diseases:</b><br><br>(c) Neurological disorders of diving. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 92:**

|             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>   |
|-------------|------------------------|---|
| 0800-0900   | Faculty lecture        | <b>Specific diving diseases:</b><br><br>(d) Psychological and neuropsychological disorders. |
| 0900 - 1300 | OPD /HBOT clinic       |   |

|   |  |                              |
|---|--|------------------------------|
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work | (e) Miscellaneous disorders. |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                              |

**WEEK 93:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>   |
|---|--|---|
| 0800-<br>0900   | Faculty lecture  | <b>Specific diving diseases:</b><br><br>(f) Drugs and diving.<br><br>(g) Long term effects of diving. |
| 0900 -<br>1300  | OPD /HBOT clinic   |   |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 94:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>  |
|---|--|--|
| 0800-<br>0900   | Faculty lecture  | <b>Diving accidents:</b><br><br>(a) Stress responses, panic and fatigue.<br><br>(b) Epidemiology of diving casualty. |
| 0900 -<br>1300  | OPD /HBOT clinic   |  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |



**WEEK 95:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diving accidents:</b><br>(c) Unconsciousness.<br>(d) First aid and emergency treatment. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 96:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                                 |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Diving accidents:</b><br>(e) Oxygen therapy |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 97:**

|             | <u>ACTIVITY</u>   | <u>REMARKS</u>  |
|-------------|---|---|
| 0800-0900   | Faculty lecture   | <b>Diving accidents:</b><br>(f) Investigation of diving accidents.<br>(g) Investigation of diving fatality. |
| 0900 - 1300 | OPD /HBOT clinic  |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture |   |

|  |                   |  |
|--|-------------------|--|
|  | Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/> Thur 1600- 1730 h – Seminar / Symposia</p> |                   |  |

**EEK 98:**

|  | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|--|--|--|
| 0800-0900  | Faculty lecture  | <p><b>Medical standards for diving:</b></p> <p>(a) Medical standards for snorkel divers.</p> <p>(b) Medical standards for recreational divers.</p> |
| 0900 - 1300  | OPD /HBOT clinic   |  |
| 1300 - 1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/> Thur 1600- 1730 h – Seminar / Symposia</p> |  |  |



**WEEK 99:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Medical standards for diving:</b><br>(c) Medical standards for commercial divers.<br>(d) Medical conditions affecting diving. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 100:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Medical standards for diving:</b><br>(e) Age and diving.<br>(f) Diver selection. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 101:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|-------------|--|---|
| 0800-0900   | Faculty lecture  | <b>1. Submarine Medicine:</b><br>(a) Development of submarines and historical aspects.<br>(b) Submarine construction. |
| 0900 - 1300 | OPD /HBOT clinic   |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture

Thur 1600- 1730 h – Seminar / Symposia

**WEEK 102:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>   |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>1. Submarine Medicine:</b><br><br>(c) Submarine habitability: temperature, humidity, ventilation, and air conditioning.<br><br>(d) Submarine atmosphere, respiratory gases, exhaust gases, battery gases and domestic pollutants |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 103:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>   |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>1. Submarine Medicine:</b><br><br>(e) Submarine microclimate monitoring & control<br><br>(f) Submarine food , rations and clothing<br><br>(g) Care of sick onboard |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 104:**

|             | <b><u>ACTIVITY</u></b>  | <b><u>REMARKS</u></b>                                     |
|-------------|---|---|
| 0800-0900   | Faculty lecture   | <b>1. Submarine Medicine:</b><br><br>(h) Submarine escape |
| 0900 - 1300 | OPD /HBOT clinic  |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture |   |

|   |                   |  |
|---|-------------------|--|
|   | Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture |                   |  |
| Thur 1600- 1730 h – Seminar / Symposia                  |                   |  |

**WEEK 105:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | 1. <b>Submarine Medicine:</b><br>(h) Submarine rescue |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture |  |   |
| Thur 1600- 1730 h – Seminar / Symposia                  |  |   |

**WEEK 106:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | 1. <b>Submarine Medicine:</b><br>(j) medical evaluation of submarine personnel<br>(k) Submersibles: manned submersibles, unmanned submersibles and buoyancy devices. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture |  |  |
| Thur 1600- 1730 h – Seminar / Symposia                  |  |  |

**WEEK 107:**

|           | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|-----------|------------------|---|
| 0800-0900 | Faculty lecture  | <b>Shipboard Medicine</b><br>(a) Medical aspects of ship construction and ergonomics. |
| 0900 -    | OPD /HBOT clinic |   |



|   |  |   |
|---|--|---|
| 1300  |  | (b) Environmental problems on board a ship (heat, light, vibration, ventilation, air-conditioning and sound). |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 108:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br><br>(c) Food preparation, storage and preservation, nutritional requirements at sea.<br>(d) Water - storage, purification and supply (Chlorination and Reverse osmosis). |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 109:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br><br>(e) Disposal of waste and sewage.<br>(f) Sickbays and first aid posts.<br>(g) Ship hygiene & sanitation |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 110:**

|  | <u>ACTIVITY</u> | <u>REMARKS</u> |
|--|-----------------|----------------|
|  |                 |                |

|   |  |  |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br>(h) Evacuation of casualties<br>(j) Sickbay & first aid posts |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 111:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br>(j) Psychological disorders at sea:<br>(i) Alcohol abuse.<br>(ii) Drug abuse.<br>(iii) Isolation.<br>(iv) Other psychiatric ailments. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 112:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br>(k) Quarantine regulations.<br>(l) Free pratique. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 113:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br>(m) Pest control measures |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 114:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br>(n) Ship wreck, abandon ship, life jacket, life raft and survival at sea.<br>Crew selection methods, periodical medical examinations and examination of food handlers. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 115:**

|             | <u>ACTIVITY</u>     | <u>REMARKS</u>  |
|-------------|---------------------|---|
| 0800-0900   | Faculty lecture     | <b>Shipboard Medicine</b><br>(p) International health regulations.<br>Diseases:<br>Tropical and infectious diseases.<br>Communicable and non communicable |
| 0900 - 1300 | OPD /HBOT clinic    |   |
| 1300 -      | Mon & Thu – Seminar |   |

|   |   |  |
|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work | diseases.<br><br>Sexually transmitted diseases |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |   |  |

**WEEK 116:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Shipboard Medicine</b><br><br>(q) Radio medical advice.<br>(r) Death at sea. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 117:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Indications of HBOT:</b><br><br>(a) Air or gas embolism.<br>(b) Carbon monoxide poisoning/cyanide poisoning. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 118:**

|             | <u>ACTIVITY</u>     | <u>REMARKS</u>  |
|-------------|---------------------|---|
| 0800-0900   | Faculty lecture     | <b>Indications of HBOT:</b><br><br>(a) Air or gas embolism.<br>(b) Carbon monoxide poisoning/cyanide poisoning. |
| 0900 - 1300 | OPD /HBOT clinic    |   |
| 1300 -      | Mon & Thu – Seminar |   |

|   |   |  |
|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |   |  |

**WEEK 119:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <p><b>Indications of HBOT:</b></p> <p>(c) Clostridial myonecrosis.<br/>(d) Acute traumatic ischemia.</p> |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |  |



**WEEK 120:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Indications of HBOT:</b><br>(e) Decompression sickness.<br>(f) Enhancement of healing in selected problem wounds |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 121:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Indications of HBOT:</b><br>(g) Exceptional blood loss.<br>(h) Intracranial Abscess.<br>(i) Necrotizing soft tissue infections. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 122:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Indications of HBOT:</b><br>(j) Refractory osteomyelitis.<br>(k) Radiation tissue damage. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture |  |  |



Thur 1600- 1730 h – Seminar / Symposia

**WEEK 123:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Indications of HBOT:</b><br>(l) Compromised skin grafts and flaps.<br>(m) Thermal burns.<br>(o) Sudden Sensorineural Hearing Loss |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 124:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                                |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Current research and advances in HBOT.</b> |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 125:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>                                |
|-------------|------------------|---|
| 0800-0900   | Faculty lecture  | <b>Current research and advances in HBOT.</b> |
| 0900 - 1300 | OPD /HBOT clinic |   |

|   |  |  |
|---|--|--|
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 126:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-<br>0900   | Faculty lecture  | <b>Emergencies and their management:</b><br><br>(a) Special aspects of emergency care:<br><br>(i) Management of mass casualties.<br>(ii) Advanced Trauma Life Support.<br>(iii) Basic and advanced cardiac life support.<br>(iv) Management of compromised airway. |
| 0900 -<br>1300  | OPD /HBOT clinic   |  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 127:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-<br>0900   | Faculty lecture  | <b>Emergencies and their management:</b><br><br>(b) Trauma management:<br><br>(i) Head injuries.<br>(ii) Maxillofacial and neck trauma.<br>(iii) Chest trauma.<br>(iv) Abdominal trauma. |
| 0900 -<br>1300  | OPD /HBOT clinic   |  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 128:**

|               | <u>ACTIVITY</u> | <u>REMARKS</u>                           |
|---------------|-----------------|--|
| 0800-<br>0900 | Faculty lecture | <b>Emergencies and their management:</b> |

|   |  |  |
|---|--|--|
| 0900 -<br>1300  | OPD /HBOT clinic   | (c) Genitourinary trauma.  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work | (d) Vertebral column and Spinal cord trauma.<br><br>(e) Orthopaedic emergencies. |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 129:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-<br>0900   | Faculty lecture  | <b>Emergencies and their management:</b><br><br>(a) Non trauma emergencies and their management:<br><br>(i) ENT and Eye emergencies.<br><br>(ii) Pulmonary emergencies. |
| 0900 -<br>1300  | OPD /HBOT clinic   |   |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 130:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-<br>0900   | Faculty lecture  | <b>Emergencies and their management:</b><br><br>(a) Non trauma emergencies and their management:<br><br>(iii) Cardiac emergencies.<br><br>(iv) GI emergencies. |
| 0900 -<br>1300  | OPD /HBOT clinic   |  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 131:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Emergencies and their management:</b><br>(a) Non trauma emergencies and their management:<br>(v) Metabolic and endocrine emergencies.<br>(vi) Psychiatric emergencies. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 132:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Medicine:</b><br>(a) Neurological, Cardiac and Respiratory Evaluation.<br>(b) Immediate Emergency Care: BLS, ACLS. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 133:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|-------------|--|---|
| 0800-0900   | Faculty lecture  | <b>Clinical Medicine:</b><br>(c) ICU Patient – Care and Management.<br>(d) Use and Maintenance of Medical Devices in the chamber:<br>(i) I/V fluids & tubing in Multiplace/ Monoplace chambers.<br>(ii) ET tubes. |
| 0900 - 1300 | OPD /HBOT clinic   |   |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |

|   |  |                    |
|---|--|--------------------|
|   |  | (iii) Ventilators. |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                    |

**WEEK 134:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Clinical Medicine:</b><br>(e) Clinical Procedures with emphasis on those that may be required to be done at the chamber facility such as:<br>(i) Intubation.<br>(ii) Chest tube insertion. |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 135:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Medicine:</b><br>(f) Medical Emergency Management with specific emphasis on emergencies that can be encountered during hyperbaric therapy. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 136:**

|             | <u>ACTIVITY</u>     | <u>REMARKS</u>  |
|-------------|---------------------|---|
| 0800-0900   | Faculty lecture     | <b>Clinical Medicine:</b><br>(g) Clinical aspects of all medical indications of HBOT. |
| 0900 - 1300 | OPD /HBOT clinic    |   |
| 1300 -      | Mon & Thu – Seminar |   |



|   |   |  |
|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |   |  |

**WEEK 137:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                                       |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Medicine:</b><br>(h) ECG Interpretation. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 138:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Surgery:</b><br>(a) Wound Care:<br>(i) Physiology of wound repair.<br>(ii) Assessment / Grading of wounds.<br>(iii) Wound treatment modalities.<br>(iv) Debridement.<br>(v) Wound cleansing.<br>(vi) Newer products in wound care. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 139:**

|  | <u>ACTIVITY</u> | <u>REMARKS</u> |
|--|-----------------|----------------|
|--|-----------------|----------------|



|   |  |  |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Surgery:</b><br>(b) Problem wounds as indicated for treatment with HBOT:<br>(i) Classification.<br>(ii) Etiology.<br>(iii) Bacteriology.<br>(iv) Diagnosis.<br>(v) Management. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 140:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Surgery:</b><br>(c) Thermal Burns.<br>(d) Crush injuries and Compartment syndrome. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 141:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>   |
|---|--|--|
| 0800-0900   | Faculty lecture  | <b>Clinical Surgery:</b><br>(e) Sequelae of Radiation Therapy and their management.<br>(f) Nerve Injuries. |
| 0900 - 1300   | OPD /HBOT clinic   |  |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |  |

**WEEK 142:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                      |
|---|--|-------------------------------------|
| 0800-0900   | Faculty lecture  | <b>Dissertation work / Seminars</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                                     |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                                     |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                                     |

**WEEK 143:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                      |
|---|--|-------------------------------------|
| 0800-0900   | Faculty lecture  | <b>Dissertation work / Seminars</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                                     |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                                     |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                                     |

**WEEK 144:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                      |
|---|--|-------------------------------------|
| 0800-0900   | Faculty lecture  | <b>Dissertation work / Seminars</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                                     |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                                     |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                                     |

**WEEK 145:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                      |
|---|--|-------------------------------------|
| 0800-0900   | Faculty lecture  | <b>Dissertation work / Seminars</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                                     |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                                     |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |                                     |

**WEEK 146:**

|             | <u>ACTIVITY</u>  | <u>REMARKS</u>            |
|-------------|--|---------------------------|
| 0800-0900   | Faculty lecture  | <b>Case presentations</b> |
| 0900 - 1300 | OPD /HBOT clinic   |                           |
| 1300 - 1430 | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                           |

**NOTE :** Mon 1600-1730 h – Faculty / guest lecture  
 Thur 1600- 1730 h – Seminar / Symposia

**WEEK 147:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>     |
|---|--|---------------------------|
| 0800-0900   | Faculty lecture  | <b>Case presentations</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                           |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                           |
| <p><b><u>NOTE :</u></b> Mon 1600-1730 h – Faculty / guest lecture<br/>         Thur 1600- 1730 h – Seminar / Symposia</p> |  |                           |

**WEEK 148:**

|   | <b><u>ACTIVITY</u></b>   | <b><u>REMARKS</u></b>     |
|---|--|---------------------------|
| 0800-0900   | Faculty lecture  | <b>Case presentations</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                           |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                           |
| <p><b><u>NOTE :</u></b> Mon 1600-1730 h – Faculty / guest lecture<br/>         Thur 1600- 1730 h – Seminar / Symposia</p> |  |                           |

**WEEK 149:**

|             | <b><u>ACTIVITY</u></b> | <b><u>REMARKS</u></b>     |
|-------------|------------------------|---------------------------|
| 0800-0900   | Faculty lecture        | <b>Case presentations</b> |
| 0900 - 1300 | OPD /HBOT clinic       |                           |
| 1300 -      | Mon & Thu – Seminar    |                           |

|   |   |  |
|---|---|--|
| 1430  | Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |   |  |

**WEEK 150:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                            |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Seminars/ Supervised HBOT training</b> |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 151:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                            |
|---|--|---|
| 0800-0900   | Faculty lecture  | <b>Seminars/ Supervised HBOT training</b> |
| 0900 - 1300   | OPD /HBOT clinic   |   |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br>Thur 1600- 1730 h – Seminar / Symposia |  |   |

**WEEK 152:**

|       | <u>ACTIVITY</u> | <u>REMARKS</u>                            |
|-------|-----------------|---|
| 0800- | Faculty lecture | <b>Seminars/ Supervised HBOT training</b> |

|   |  |  |
|---|--|--|
| 0900  |  |  |
| 0900 -<br>1300  | OPD /HBOT clinic   |  |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |  |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |  |

**WEEK 153:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                            |
|---|--|---|
| 0800-<br>0900   | Faculty lecture  | <b>Seminars/ Supervised HBOT training</b> |
| 0900 -<br>1300  | OPD /HBOT clinic   |   |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |   |

**WEEK 154:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>                            |
|---|--|---|
| 0800-<br>0900   | Faculty lecture  | <b>Seminars/ Supervised HBOT training</b> |
| 0900 -<br>1300  | OPD /HBOT clinic   |   |
| 1300 -<br>1430  | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |   |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |   |



**WEEK 155:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|-----------------|
| 0800-0900   | Faculty lecture  | <b>Revision</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                 |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                 |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |                 |

**WEEK 156:**

|   | <u>ACTIVITY</u>  | <u>REMARKS</u>  |
|---|--|-----------------|
| 0800-0900   | Faculty lecture  | <b>Revision</b> |
| 0900 - 1300   | OPD /HBOT clinic   |                 |
| 1300 - 1430   | Mon & Thu – Seminar<br>Tue – Case Presentation<br>Wed – Journal Club<br>Fri – Faculty Lecture<br>Sat – Thesis work |                 |
| <p><b>NOTE :</b> Mon 1600-1730 h – Faculty / guest lecture<br/>Thur 1600- 1730 h – Seminar / Symposia</p> |  |                 |

**Postgraduate Student Appraisal Form**

Name of the Department/Unit :

Name of the PG Student :

Period of Training : FROM.....TO.....

| Sr. No. | PARTICULARS  | Not Satisfactory |   |   | Satisfactory |   |   | More Than Satisfactory |   |   | Remarks |
|---------|--|------------------|---|---|--------------|---|---|------------------------|---|---|---------|
|         |  | 1                | 2 | 3 | 4            | 5 | 6 | 7                      | 8 | 9 |         |
| 1.      | Journal based / recent advances learning             |                  |   |   |              |   |   |                        |   |   |         |
| 2.      | Patient based /Laboratory or Skill based learning    |                  |   |   |              |   |   |                        |   |   |         |
| 3.      | Self directed learning and teaching                  |                  |   |   |              |   |   |                        |   |   |         |
| 4.      | Departmental and interdepartmental learning activity |                  |   |   |              |   |   |                        |   |   |         |
| 5.      | External and Outreach Activities / CMEs              |                  |   |   |              |   |   |                        |   |   |         |
| 6.      | Research work  |                  |   |   |              |   |   |                        |   |   |         |
| 7.      | Log Book Maintenance                                 |                  |   |   |              |   |   |                        |   |   |         |

Publications

Yes/ No

Remarks\*

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\*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD