Guidelines

For

Competency Based Training Programme

In

# DNB- Plastic Surgery

# (Direct 6 Years Course)


## NATIONAL BOARD OF EXAMINATIONS

Medical Enclave, Ansari Nagar, New Delhi-110029, INDIA
Email: mail@natboard.edu.in Phone: 011 45593000

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## PROGRAMME GOAL

The goal of DNB in Plastic Surgery (Direct 6 years course) course is to produce a competent surgeon who:

- Recognizes the health needs of adults and carries out professional obligations in keeping with principles of National Health Policy and professional ethics;
- Has acquired the competencies pertaining to Plastic Surgery (Direct 6 years course) that are required to be practiced in the community and at all levels of health care system;
- Has acquired skills in effectively communicating with the patients, family and the
- community;
- Is aware of the contemporary advances and developments in medical sciences.
- Acquires a spirit of scientific enquiry and is oriented to principles of research
- methodology; and
- Has acquired skills in educating medical and paramedical professionals**.**

## PROGRAMME OBJECTIVES

At the end of the DNB Plastic Surgery (Direct 6 years course), the student should be able to:

- Recognize the key importance of medical problems in the context of the health priority of the country
- Practice the specialty of Plastic Surgery in keeping with the principles of professional ethics;
- Identify social, economic, environmental, biological and emotional determinants of Plastic Surgery and know the therapeutic, rehabilitative, preventive and promotion
- Measures to provide holistic care to all patients;
- Take detailed history, perform full physical examination and make a clinical diagnosis;
- Perform and interpret relevant investigations (Imaging and Laboratory);
- Perform and interpret important diagnostic procedures;
- Diagnose illnesses in adults based on the analysis of history, physical examination and investigative work up;
- Plan and deliver comprehensive treatment for illness in adults using principles of

rational drug therapy;

- Plan and advise measures for the prevention of diseases;
- Plan rehabilitation of adults suffering from chronic illness, and those with special needs;
- Manage emergencies efficiently;
- Demonstrate skills in documentation of case details, and of morbidity and mortality data
- Relevant to the assigned situation;
- Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities;
- Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities.
- Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based medicine;
- Demonstrate competence in basic concepts of research methodology and epidemiology;
- Facilitate learning of medical/nursing students, practicing surgeons , para-medical health workers and other providers as a teacher-trainer;
- Play the assigned role in the implementation of national health programs, effectively and responsibly;
- Organize and supervise the desired managerial and leadership skills;
- Function as a productive member of a team engaged in health care, research and education.

# ELIGIBILITY CRITERIA FOR ADMISSIONS TO THE PROGRAMME

### (A) DNB Plastic Surgery (Direct 6 years course) Course:

1. Any medical graduate with MBBS qualification, who has qualified the ***Entrance Examination*** conducted by NBE and fulfill the eligibility criteria for admission to DNB ***Super Speciality*** courses at various NBE accredited Medical Colleges/ institutions/Hospitals in India is eligible to participate in the Centralized counseling for allocation of DNB Plastic Surgery (Direct 6 years course) seats purely on merit cum choice basis.

2. Admission to Direct 6 years DNB Plastic Surgery course is only through ***Entrance Examination*** conducted by NBE and Centralized Merit Based Counseling conducted by National Board of Examination as per prescribed guidelines.

## Duration of Course: 6 Years

Every candidate admitted to the training programme shall pursue a regular course of study (on whole time basis) in the concerned recognized institution under the guidance of recognized post graduate teacher for assigned period of the course.

## TEACHING AND TRAINING ACTIVITIES

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Grand round presentation (by rotation departments and subspecialties)- once a week
5. Faculty lecture teaching- once a month
6. Clinical Audit-Once a Month
7. A poster and have one oral presentation at least once during their training period in a recognized conference.
8. Attendance of one National conference of Association of Plastic Surgeons of India and one speciality conference / regional conference is a must (specialty conference means Cleft lip and palate conference, Hand , Microsurgery, Burns or Aesthetic surgery.. Regional means State or Zonal meetings)
9. One paper publication – preferably peer reviewed.

**Microsurgery Lab Course:** All trainees must undergo a week long microsurgery lab course. Trainees must become proficient in using loupes and microscope. This is mandatory as trainees who are not proficient in microsurgery when they pass out are at a disadvantage.

**Fracture Fixation Course:** Recommended to attend the AO course on fracture fixation for Cranio Maxilla Facial and Hand.

The rounds should include bedside sessions, file rounds & documentation of case history and examination, progress notes, round discussions, investigations and management plan) interesting and difficult case unit discussions.

The training program would focus on knowledge, skills and attitudes (behavior), all essential components of education. It is being divided into theoretical, clinical and practical in all aspects of the delivery of the rehabilitative care, including methodology of research and teaching.

**Theoretical:** The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent

advances through discussions in journal clubs. These are considered necessary in view of an inadequate exposure to the subject in the undergraduate curriculum.

**Symposia:** Trainees would be required to present a minimum of 30 topics based on the curriculum in a period of six years to the combined class of teachers and students. A free discussion would be encouraged in these symposia. The topics of the symposia would be given to the trainees with the dates for presentation.

**Clinical:** The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management in rehabilitation practice.

**Bedside:** The trainee would work up cases, learn management of cases by discussion with faculty of the department.

**Journal Clubs:** This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

**Research:** The student would carry out the research project and write a thesis/ dissertation in accordance with NBE guidelines. The trainee would also be given exposure to partake in the research projects going on in the departments to learn their planning, methodology and execution so as to learn various aspects of research.

# SYLLABUS

## Theory

### Principles, Techniques, and Basic Sciences

- Techniques and principles in Plastic Surgery
- Wound Healing: Normal and Abnormal
- Wound care
- The Blood Supply of the Skin
- Muscle flaps and their Blood supply
- Transplant Biology and Applications to Plastic Surgery (Direct 6 years course)
- Implant Materials and biomaterials
- Principles of Microsurgery
- Microsurgical Repair of Peripheral Nerves and Nerve Grafts
- Tissue Expansion

### Plastic Surgery and innovation in medicine

- History of reconstructive and aesthetic surgery
- Psychological aspects of Plastic Surgery
- The role of ethics in Plastic Surgery
- Business principles for plastic surgeons
- Medico-legal issues in Plastic Surgery
- Photography in Plastic Surgery
- Patient safety in Plastic Surgery
- Local anesthetics in Plastic Surgery
- Evidence-based medicine and health services research in Plastic Surgery
- Genetics and prenatal diagnosis
- Principles of cancer management
- Stem cells and regenerative medicine

### Aesthetic

- Managing the cosmetic patient
- Aesthetic Surgery of the Face
- Nonsurgical skin care and rejuvenation
- Botulinum toxin (BoNT-A)

- Soft-tissue fillers
- Facial skin resurfacing
- Anatomy of the aging face
- Forehead rejuvenation
- Blepharoplasty
- Secondary blepharoplasty:
- Asian facial cosmetic surgery
- Cutaneous Resurfacing: Chemical Peeling, Dermabrasion and laser resurfacing
- Filler Materials
- Botulinum Toxin
- Structural Fat grafting
- Blepharoplasty
- Rhinoplasty
- Liposuction
- Abdominoplasty and Lower Truncal Circumferential Body Contouring
- Facial Skeletal Augmentation with Implants
- Osseous Genioplasty
- Hair Transplantation
- Facelift
- Neck rejuvenation
- Structural fat grafting
- Skeletal augmentation
- Anthropometry, cephalometry, and orthognathic surgery
- Hair restoration: A comprehensive review of techniques and safety
- Abdominoplasty procedures
- Lipoabdominoplasty
- Lower bodylifts
- Buttock augmentation
- Upper limb contouring
- Post-bariatric reconstruction
- Aesthetic genital surgery

**Breast**

- Anatomy of the breast
- Breast augmentation
- Current concepts in revisionary breast surgery
- Mastopexy
- Breast Reduction
- Gynecomastia
- Breast Reconstruction: Prosthetic Techniques
- Latissimus Dorsi Flap Breast Reconstruction
- Breast Reconstruction: Tram Flap Techiniques
- Breast Reconstruction- Free Flap Techniques
- Nipple Reconstruction
- Breast cancer: Diagnosis therapy and oncoplastic techniques
  The oncoplastic approach to partial breast reconstruction
- Patient-centered health communication
- Imaging in reconstructive breast surgery
- Congenital anomalies of the breast
- Poland syndrome
- Fat grafting to the breast

**Principles of Craniofacial distraction**

**Skin and Soft Tissue**

- Dermatology for Plastic Surgeons
- Mohs Micrographic Surgery
- Congenital Melanocytic Nevi
- Malignant Melanoma
- Thermal, Chemical and Electric Injuries
- Principles of Burn Reconstruction
- Radiation and Radiation Injuries
- Lasers in Plastic Surgery (Direct 6 years course)

**Congenital Anomalies and Pediatric Plastic Surgery**

- Embryology of the Head and Neck

- Vascular Anomalies
- Cleft Lip and Palate
- Non syndromic Craniosynostosis and Deformational Plagiocephaly
- Craniosynostosis syndrome
- Craniofacial Microsomia
- Orthognathic Surgery
- Craniofacial Clefts and Hypertelorbitism
- Miscellaneous Craniofacial Conditions
- Otoplasty and Ear Reconstruction

## Head and Neck

- Soft tissue and Skeletal injuries of the Face
- Head and Neck Cancer and Salivary Gland Tumors
- Skull Base Surgery
- Craniofacial and Maxillofacial Prosthetics
- Reconstruction of the Scalp, Calvarium and Forehead
- Reconstruction of the Lips
- Reconstruction of the Cheeks
- Nasal Reconstruction
- Reconstruction of the Eyelids, Correction of Ptosis and Canthoplasty
- Facial Paralysis Reconstruction
- Mandible Reconstruction
- Reconstruction of Defects of the Maxilla and Skull Base
- Reconstruction of the Oral Cavity, Pharynx and Esophagus
- Tumors of Head & Neck

## Cleft Lip and Palate and Craniofacial Anomalies

- Embryology of head and neck (excluding central nervous system).
- Regional anatomy of head and neck.
- Embryogenesis of cleft lip and palate.
- Cleft lip and palate, alveolar clefts.
- Velopharyngeal incompetence.
- Orthodontics, speech therapy in cleft lip and palate.
- Principles of craniofacial surgery.
- Rare craniofacial clefts, Tessier’s clefts.

- Craniosynostosis, hypertelorism, craniofacial microsomia

## Trunk and Lower Extremity

- Thoracic Reconstruction
- Abdominal Wall Reconstruction
- Lower- Extremity Reconstruction
- Foot and Ankle Reconstruction
- Reconstruction of the Perineum
- Lymphedema
- Pressure Sores
- Reconstruction of the Penis
- Diabetic Foot Care

## Hand

- Development of Hand Surgery
- Principles of Upper Limb Surgery
- Radiologic Imaging of the Hand and Wrist
- Soft- tissue Reconstruction of the Hand
- Fractures and Ligamentous Injuries of the Wrist
- Fractures, Dislocations, and Ligamentous Injuries of the Hand
- Tendon Healing and Flexor Tendon Injury
- Repair of the Extensor Tendon System
- Infections of the Upper Limb
- Tenosynovitis
- Compression Neuropathies in the Upper Limb and Electrophysiologic Studies
- Thumb Reconstruction
- Tendon Transfers
- Congenital Hand Anomalies
- Duputyren's Disease
- Replantation in the Upper Extremity
- Upper Limb Arthritis
- Upper Limb Amputation and Prosthesis
- Management of Spastic Hands
- Basic principles of Wrist Surgery

## Burns

- Thermal burns.
- Electrical burns.
- Chemical burns.
- Radiation burn.
- Pathophysiology of burn shock.
- Nutrition in burns.
- Facial burns.
- Tangenital excision and sequential excision.
- Reconstruction of burn hand and upper extremity.
- Post burn contractures –treatment of sequelae.
- Burn wound infection, sepsis.
- Principles of planning in event of burn disaster.
- Organization of Burns Unit
- Principles of Skin Banking

## General Principles

- History of Plastic Surgery (Direct 6 years course) and its broad scope at the present time.
- Anatomy and functions of skin.
- Split skin grafts and full thickness skin grafts, their take and
- Subsequent behaviour.
- Local skin flaps.
- Pedicled skin flaps and tubs.
- Unstable scar and scar contracture.
- Care of wounds, dressing, techniques and splints.
- Wound healing.
- Grafts – fat, fascia, tendon, nerve, cartilage, bone.
- Infective skin gangrene.
- Hospital infections.
- Suture instruments.
- Surgical instruments.

- Implant materials used in Plastic Surgery (Direct 6 years course).
- Principles of genetics and general approach to the management of congenital malformations.
- Flaps-Fasciocutaneous muscle, musculocutaneous, congenital malformations.
- Local anaesthesia, nerve blocks, regional anaesthesia.
- Principles of anaesthesia for infants, adults, hypothermia, hypotensive anaesthesia.
- Tissue expansion.
- Keloid, hypertrophic scans.
- Endoscopy in Plastic Surgery

**Management of and relationships with the Plastic Surgery (Direct 6 years course) outpatient and inpatient**

- Principles of Reconstructive Surgery
- Principles of Aesthetic Surgery
- Management of Acute Trauma
- Malignant Skin Tumours
- Benign Skin Conditions
- Administration
- Basic sub-specialty training in:

i. Burns
ii. Paediatric Plastic Surgery
iii. Head & Neck Tumours
iv. Hand Surgery
v. Burn
vi. Head and Neck Tumours
vii. Cleft Lip and Palate
viii. Reconstruction of Genitalia
ix. Oculoplastic Surgery
x. Limb Trauma
xi. Aesthetic Surgery
xii. Acute and Chronic Wound care with special emphasis on Diabetic Foot Care
xiii. Oncoplastic Breast Surgery

- **Biostatistics, Research Methodology and Clinical Epidemiology**
- **Ethics**
- **Medico legal aspects relevant to the discipline**
- **Health Policy issues as may be applicable to the discipline**

## Competencies

- Acquisition of basic surgical skills in instrument and tissue handling.
- Incision of skin and subcutaneous tissue: Ability to incise superficial tissues accurately with suitable instruments.
- Closure of skin and subcutaneous tissue: Ability to close superficial tissues accurately.
- Knot tying: Ability to tie secure knots.
- Haemostasis: Ability to achieve haemostasis of superficial vessels.
- Tissue retraction: Use of suitable methods of retraction.
- Use of drains: Knowledge of when to use a drain and which to choose.
- Tissue handling: Ability to handle tissues gently with appropriate instruments.
- Skill as assistant: Ability to assist helpfully, even when the operation is not familiar
- The DNB resident should do the dressings of the patient that have been operated/assisted by them and of patients in Burns ICU.
- The DNB resident should note down the History and examination of admitted patients and should daily put progress notes in files.
- The normal working hours will be from 8.00 AM to 8.00 PM. When on emergency duty, the resident is supposed to stay overnight in the resident room.
- The DNB resident is to get one day off every week

**Knowledge & Clinical Skills**

1. Incision of skin and subcutaneous tissue:

- Langer's lines
- Healing mechanism
- Choice of instrument
- Safe practice
- Basic Surgical Skills course
- Closure of skin and subcutaneous tissue:
- Options for closure
- Suture and needle choice
- Safe practice
- Ability to use scalpel, diathermy and scissors
- Closure of skin and subcutaneous tissue:
- Accurate and tension free apposition of wound edges

2. Knot tying

- Single handed
- Double handed
- Superficial
- Deep
- Instrument

3. Choice of material

4. Haemostasis:

- Techniques
- Tissue retraction:
- Choice of instruments
- Use of drains:
- Indications
- Types
- Management/removal
- Tissue handling
- Choice of instruments
- Control of bleeding vessel (superficial)
- Diathermy
- Suture ligation
- Tie ligation
- Clip application
- Tissue retraction:
- Tissue forceps
- Placement of wound retractors
- Use of drains:
- Insertion
- Fixation
- Removal

**Clinical Skills**

- An understanding of burns assessment and resuscitation

- An understanding of burn wound excision and grafting
- An understanding of burn wound dressings
- An awareness of the roles of nursing staff, physiotherapists and occupational therapists in rehabilitation
- Wound care – both acute and chronic and techniques for cover.
- Basics of Skeletal fixation of fractures. (needed for both facial fractures and hand fractures)
- Ability to assess major trauma
- Ability to debride an infected wound or a dirty wound
- Ability to plan and execute soft tissue cover for defects got due to trauma, infection and cancer

## Practical

**History, examination and writing of records:**

- History taking should include the back ground information, presenting complaints and history of present illness, history of previous illness, family history, social and occupational history and treatment history.
- Detailed physical examination should include general examination and systemic examination (Chest, Cardio-vascular system, Abdomen, Central nervous system,locomotor system and joints), with detailed examination of the abdomen.
- Skills in writing up notes, maintaining problem oriented records, progress notes, and presentation of cases during ward rounds, planning investigations and making a treatment plan should be taught.

**Bedside procedures & Investigations**

- Therapeutic skills: Venepuncture and establishment of vascular access,
- Administration of fluids, blood, blood components and parenteral nutrition,
- Nasogastric feeding, Urethral catheterization, Administration of oxygen,
- Cardiopulmonary resuscitation, Endotracheal intubation.

**Clinical Teaching**

- General, Physical and specific examinations of Maxillofacial & Hand Injuries should be mastered. The resident should able to analyse history and correlate it with clinical findings. He should be well versed with all radiological procedures like CT Angio, CT Face with 3D Reconstruction and X-Ray of face. He should present his daily admissions in morning report and try to improve management skills, fluid balance, and choice of drugs. He should clinically analyse the patient & decide for pertinent Investigations required for specific patient.

**Teaching Programme**

- General Principles
- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skills oriented.
- Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

**Teaching Sessions**

- The teaching methodology consists of bedside discussions, ward rounds, case presentations, clinical grand rounds, statistical meetings, journal club, lectures and seminars. Along with these activities, trainees should take part in inter-departmental meetings i.e clinico-pathological and clinico-radiological meetings that are organized regularly.
- Trainees are expected to be fully conversant with the use of computers and be able to use databases like the Medline, Pubmed etc.
- They should be familiar with concept of evidence based medicine and the use of guidelines available for managing various diseases.

## Teaching Schedule

- Following is the suggested weekly teaching programme in the Department of Plastic Surgery (Direct 6 years course):
  1. Seminar once a week
  2. Journal club once a week
  3. Case Presentation once a week
  4. File Audit/Stat Meet once month
  5. Grand Round/Interdepartmental Meet once a month
- Each unit should have regular teaching rounds for residents posted in that unit.
- Then rounds should include bedside case discussions, file rounds (documentation of case history and examination, progress notes, round discussions, investigations and management plan), interesting and difficult case unit discussions.

- Central hospital teaching sessions will be conducted regularly and MCh residents would present interesting cases, seminars and take part in clinico-pathological case discussions.

**Conferences and Papers**

- A resident must attend at least one conference per year.
- One paper must be presented in at least 3 years**.**

## POSTING

**1st year** (12 + 3 months)

- First 3 months to be spent in the parent Plastic surgical unit to know the basics of plastic surgery
- Next 12 months to be spent in General Surgery to learn the basics of surgery

**2nd year (9 months)**

- To undergo Peripheral superspeciality postings
- 1 month in Surgical oncology
- 1 month in Paediatric surgery
- 1 month in Neurosurgery
- 1 month in Gastro Intestinal Surgery
- 1 month in Vascular Surgery
- 1 month in Cardiothoracic Surgery
- 1 month in Anaesthesiology & Intensive Care
- 1 month in Orthopaedics
- 1 month in Dermatology

**3rd year (Back to parent plastic surgical unit)**

- Basics / Basic Plastic Surgery theory, assisting in major plastic surgery procedures with assistants

**4th Year**

- To do Basic Plastic Surgery Procedures independently and assist major Plastic surgical procedures

**5th Year**

- To go to peripheral postings (To other plastic Surgical units in India or abroad. Two or 3 months as agreed by the parent unit academic supervisor)
- To assist major plastic surgical procedures and do basic procedures

**6th year**

- To do major Plastic Surgical procedures under supervision

**Schedule of Posting**

- OPD: Twice a week
- OT: Twice a week
- Emergency: Twice a week

## Rotation of DNB Candidates in Other institutions

No single unit in the country can boast to be good in all aspects of the wide gamut of Plastic Surgery (Direct 6 years course) as the branch of Plastic Surgery is very wide. In addition it is beneficial to observe the working patterns and learn different techniques used by various stalwarts of this speciality. Hence DNB candidates must be rotated in other units in the country/abroad. The DNB candidate should get a letter from his/her DNB supervisor permitting them to visit the institutions of their choice. The DNB candidates must maintain a log book regarding what they learnt and observed in the institutions that they visit. At the end of the visit to each centre, they should get their logbooks attested by the head of the plastic surgical programme that they visit.

Period: 2 months mandatory, and 3 months upper limit.

Location:

- It can be to institutions having an approved DNB/MCh Plastic surgical programme in India.
- Under exceptional circumstances a non teaching institution in India can be accepted provided the DNB supervisor agrees and vouches for the quality of work of the chosen institution.
- DNB candidates can observe and train under surgeons/institutions abroad provided the DNB supervisor agrees and vouches for the quality of work of the chosen institution

**Job Responsibilities**

**Outdoor Patient (OPD) Responsibilities**

- The working of the residents in the OPD should be fully supervised.
- They should evaluate each patient and write the observations on the OPD card with date and signature.
- Investigations should be ordered as and when necessary using prescribed forms.
- Residents should discuss all the cases with the consultant and formulate a management plan.
- Patient requiring admission according to resident's assessment should be shown to the consultant on duty.
- Patient requiring immediate medical attention should be sent to the casualty services with details of the clinical problem clearly written on the card.

- Patient should be clearly explained as to the nature of the illness, the treatment advice and the investigations to be done.
- Resident should specify the date and time when the patient has to return for follow up.

**In-Patient Responsibilities**

- Each resident should be responsible and accountable for all the patients admitted under his care. The following are the general guidelines for the functioning of the residents in the ward:
- Detailed work up of the case and case sheet maintenance:
- The trainee should record a proper history and document the various symptoms.
- Perform a proper patient examination using standard methodology.
- He should develop skills to ensure patient comfort/consent for examination. Based on the above evaluation the trainee should be able to formulate a differential diagnosis and prepare a management plan.
- Should develop skills for recording of medical notes, investigations and be able to properly document the consultant round notes.
- To organize his/her investigations and ensure collection of reports.
- Bedside procedures for therapeutic or diagnostic purpose.
- Presentation of a precise and comprehensive overview of the patient in clinical rounds to facilitate discussion with senior residents and consultants.
- To evaluate the patient twice daily (and more frequently if necessary) and maintain a progress report in the case file.
- To establish rapport with the patient for communication regarding the nature of illness and further plan management.
- To write instructions about patient's treatment clearly in the instruction book along with time, date and the bed number with legible signature of the resident.
- All treatment alterations should be done by the residents with the advice of the concerned consultants and senior residents of the unit.
- **Admission day**
- Following guidelines should be observed by the resident during admission day.
- Resident should work up the patient in detail and be ready with the preliminary necessary investigations reports for the evening discussion with the consultant on duty.
- After the evening round the resident should make changes in the treatment and plan out the investigations for the next day in advance.

- **Doctor on Duty**
- Duty days for each Resident should be allotted according to the duty roster.
- The resident on duty for the day should know about all sick patients in the wards and relevant problems of all other patients, so that he could face an emergency situation effectively.
- In the morning, detailed over (written and verbal) should be given to the next resident on duty. This practice should be rigidly observed.
- If a patient is critically ill, discussion about management should be done with the consultant at any time.
- The doctor on duty should be available in the ward through out the duty hours.

## Care of Sick Patients

- Care of sick patients in the ward should have precedence over all other routine work for the doctor on duty.
- Patients in critical condition should be meticulously monitored and records maintained. If patient merits ICU care then it must be discussed with the senior residents and consultants for transfer to ICU.
- Resuscitation skills
- At the time of joining the residency programme, the resuscitation skills should be demonstrated to the residents and practical training provided at various work stations.
- Residents should be fully competent in providing basic and advanced cardiac life support.
- They should be fully aware of all advanced cardiac support algorithms and be aware of the use of common resuscitative drugs and equipment like defibrillators and external cardiac pacemakers.
- The resident should be able to lead a cardiac arrest management team.
- Discharge of the Patient
- Patient should be informed about his/her discharge one day in advance and discharge cards should be prepared 1 day prior to the planned discharge.
- The discharge card should include the salient points in history and examination, complete diagnosis, important management decisions, hospital course and procedures done during hospital stay and the final advice to the patient.
- Consultants and DM Residents should check the particulars of the discharge card and counter sign it.
- Patient should be briefed regarding the date, time and location of OPD for the follow up visit.

**In Case of Death**

- In case it is anticipated that a particular patient is in a serious condition, relatives should be informed about the critical condition of the patient beforehand.
- Residents should be expected to develop appropriate skills for breaking bad news and bereavements.
- Follow up death summary should be written in the file and face sheet notes must be filled up and the sister in charge should be requested to send the body to the mortuary with respect and dignity from where the patient's relatives can handed over the body.
- In case of a medico legal case, death certificate has to be prepared in triplicate and the body handed over to the mortuary and the local police authorities should be informed.
- Autopsy should be attempted for all patients who have died in the hospital especially if the patient died of an undiagnosed illness.

**Bedside Procedures**

- The following guidelines should be observed strictly:
- Be aware of the indications and contraindications for the procedure and record it in the case sheet. Rule out contraindications like low platelet count, prolonged prothrombin time, etc.
- Plan the procedure during routine working hours, unless it is an emergency.
- Explain the procedure with its complications to the patient and his/her relative and obtain written informed consent on a proper form. Perform the procedure under strict aseptic precautions using standard techniques. Emergency tray should be ready during the procedure.
- Make a brief note on the case sheet with the date, time, nature of the procedure and immediate complications, if any.
- Monitor the patient and watch for complications(s).

**OT responsibilities**

- The 1st year resident observes the general layout and working of the OT, understands the importance of maintaining sanctity of the OT, scrubbing, working and sterilization of all the OT Instruments. The trainee is to assist seniors while operating as well as work as a junior surgical trainee in general surgery.
- The 2nd year DNB resident is posted in various super specialities and he should observe their work and assist the senior surgeons. The trainee should also actively take part in the academic activities of the respective departments
- The 3rd year DNB resident is to assist his/ her seniors for plastic surgical procedures
- The 4th year DNB resident should be able to do minor plastic surgical procedures independently and assist seniors for major surgeries.
- The 5th year DNB resident should be able to do minor plastic surgical procedures and some major surgical procedures with the assistance of his/her seniors
- The final year resident should be able to perform minor/medium/major surgeries independently and assist in medium/major/extra major surgeries. The trainee should be able to handle all emergencies and post op complications independently and is responsible for supervision and guidance of his/her juniors.

**Medico-Legal Responsibilities of the Residents**

- All the residents are given education regarding medico-legal responsibilities at the time of admission in a short workshop.
- They must be aware of the formalities and steps involved in making the correct death certificates, mortuary slips, medico-legal entries, requisition for autopsy
- They should be fully aware of the ethical angle of their responsibilities and should learn how to take legally valid consent for different hospital procedures & therapies.
- They should ensure confidentiality at every stage

Research shall form an integral part of the education programme of all candidates registered for DNB degrees of NBE. The basic aim of requiring the candidates to write a thesis protocol & thesis/dissertation is to familiarize him/her with research methodology. The members of the faculty guiding the thesis/dissertation work for the candidate shall ensure that the subject matter selected for the thesis/dissertation is feasible, economical and original.

The candidates are required to submit thesis during their training as prescribed by NBE.

## Guidelines for Thesis Protocol

The protocol for a research proposal (including thesis) is a study plan, designed to describe the background, research question, aim and objectives, and detailed methodology of the study. In other words, the protocol is the 'operating manual' to refer to while conducting a particular study.

The candidate should refer to the NBE guidelines for preparation and submission of Thesis Protocol before the writing phase commences. The minimum writing requirements are that the language should be clear, concise, precise and consistent without excessive adjectives or adverbs and long sentences. There should not be any redundancy in the presentation.

The development or preparation of the Thesis Protocol by the candidate will help her/him in understanding the ongoing activities in the proposed area of research. Further it helps in creating practical exposure to research and hence it bridges the connectivity between clinical practice and biomedical research. Such research exposure will be helpful in improving problem solving capacity, getting updated with ongoing research and implementing these findings in clinical practice.

Research Ethics: Ethical conduct during the conduct and publication of research is an essential requirement for all candidates and guides, with the primary responsibility of ensuring such conduct being on the thesis guide. Issues like Plagiarism, not maintaining the confidentiality of data, or any other distortion of the research process will be viewed seriously. The readers may refer to standard documents for the purpose.

## PROTOCOL REQUIREMENTS

1. The thesis protocol should be restricted to the following word limits:

    - Title : 120 characters (with spacing)
    - Synopsis [structured] : 250-300
    - Introduction : 300-500
    - Review of literature : 800-1000
    - Aim and Objectives : Up to 200
    - Material and Methods : 1200-1600
    - 10-25 References [ICMJE style]

2. It is mandatory to have ethics committee and scientific research committee approval before initiation of the research work.

3. The concerned NBE accredited hospital shall be required to evaluate the thesis protocol at its own level through Institutional Ethics Committee (IEC) and Scientific Research Committee (SRC) and approve the thesis protocol for carrying out the research work. The constitution of IEC & SRC has to be in accordance with the guidelines prescribed by NBE.

4. After the thesis protocol has been assessed and evaluated by IEC & SRC and has been approved for carrying out the research work, the same has to be submitted to NBE within 3 months of joining of DNB candidate in the concerned hospital for DNB training.

## Guidelines for Thesis

1. The proposed study must be approved by the institutional ethics committee and scientific research committee.

2. The thesis should be restricted to the size of 80 pages (maximum). This includes the text, figures, references, annexures, and certificates etc. It should be printed on both sides of the paper; and every page has to be numbered. Do not leave any page blank. To achieve this, following points may be kept in view:

    a. The thesis should be typed in 1.5 space using Times New Roman/Arial/ Garamond size 12 font, 1" margins should be left on all four sides. Major sections viz., Introduction, Review of Literature, Aim & Objectives, Material and Methods, Results, Discussion, References, and Appendices should start from a new page. Study proforma (Case record form), informed consent form, and patient information sheet may be printed in single space.

    b. Only contemporary and relevant literature may be reviewed. Restrict the introduction to 2 pages, Review of literature to 10-12 pages, and Discussion to 8-10 pages.
    c. The techniques may not be described in detail unless any modification/innovations of the standard techniques are used and reference(s) may be given.
    d. Illustrative material may be restricted. It should be printed on paper only. There is no need to paste photographs separately.

3. Since most of the difficulties faced by the residents relate to the work in clinical subject or clinically-oriented laboratory subjects, the following steps are suggested:

    a. The number of cases should be such that adequate material, judged from the hospital attendance/records, will be available and the candidate will be able to collect case material within the period of data collection, i.e., around 6-12 months so that he/she is in a position to complete the work within the stipulated time.
    b. The aim and objectives of the study should be well defined.
    c. As far as possible, only clinical/laboratory data of investigations of patients or such other material easily accessible in the existing facilities should be used for the study.
    d. Technical assistance, wherever necessary, may be provided by the department concerned. The resident of one specialty taking up some problem related to some other specialty should have some basic knowledge about the subject and he/she should be able to perform the investigations independently, wherever some specialized laboratory investigations are required a co-guide may be co-opted from the concerned investigative department, the quantum of laboratory work to be carried out by the candidate should be decided by the guide & co-guide by mutual consultation.

4. The clinical residents are not ordinarily expected to undertake experimental work or clinical work involving new techniques, not hitherto perfected OR the use of chemicals or radioisotopes not readily available. They should; however, be free to enlarge the scope of their studies or undertake experimental work on their own initiative but all such studies should be feasible within the existing facilities.

5. The DNB residents should be able to freely use the surgical pathology/autopsy data if it is restricted to diagnosis only, if however, detailed historic data are required the resident will have to study the cases himself with the help of the guide/co-guide. The same will apply in case of clinical data.

6. Statistical methods used for analysis should be described specifically for each objective, and name of the statistical program used mentioned.

## General Layout of a DNB Thesis:

- **Title-** A good title should be brief, clear, and focus on the central theme of the topic; it should avoid abbreviations. The Title should effectively summarize the proposed research and should contain the PICO elements.

- **Introduction-** It should be focused on the research question and should be directly relevant to the objectives of your study.

- **Review of Literature -** The Review should include a description of the most relevant and recent studies published on the subject.

- Aim and Objectives - The 'Aim' refers to what would be broadly achieved by this study or how this study would address a bigger question / issue.
- The 'Objectives' of the research stem from the research question formulated and should at least include participants, intervention, evaluation, design.

- **Material and Methods-** This section should include the following 10 elements: Study setting (area), Study duration; Study design (descriptive, case-control, cohort, diagnostic accuracy, experimental (randomized/non-randomized)); Study sample (inclusion/exclusion criteria, method of selection), Intervention, if any, Data collection, Outcome measures (primary and secondary), Sample size, Data management and Statistical analysis, and Ethical issues (Ethical clearance, Informed consent, trial registration).

- **Results-** Results should be organized in readily identifiable sections having correct analysis of data and presented in appropriate charts, tables, graphs and diagram etc.

- **Discussion–**It should start by summarizing the results for primary and secondary objectives in text form (without giving data). This should be followed by a comparison of your results on the outcome variables (both primary and secondary) with those of earlier research studies.

- **Summary and Conclusion-** This should be a précis of the findings of the thesis, arranged in four paragraphs: (a) background and objectives; (b) methods; (c) results; and (d) conclusions. The conclusions should strictly pertain to the findings of the thesis and not outside its domain.

- **References-** Relevant References should be cited in the text of the protocol (in superscripts).

- **Appendices -**The tools used for data collection such as questionnaire, interview schedules, observation checklists, informed consent form (ICF), and participant information sheet (PIS) should be attached as appendices.

## Thesis Submission to NBE

1. As per NBE norms, writing a thesis is essential for all DNB candidates towards partial fulfillment of eligibility for award of DNB degree.

2. DNB candidates are required to submit the thesis before the cut-off date which shall be 30th June of the same year for candidates appearing for their scheduled December final theory examination. Similarly, candidates who are appearing in their scheduled June DNB final examination shall be required to submit their thesis by 31st December of preceding year.

3. Candidates who fail to submit their thesis by the prescribed cutoff date shall NOT be allowed to appear in DNB final examination.

4. Fee to be submitted for assessment (In INR): 3500/-

5. Fee can be deposited ONLY through pay-in-slip/challan at any of the Indian bank branch across India. The challan can be downloaded from NBE website www.natboard.edu.in

6. Thesis should be bound and the front cover page should be printed in the standard format. A bound thesis should be accompanied with:

    a. A Synopsis of thesis.
    b. Form for submission of thesis, duly completed
    c. NBE copy of challan (in original) towards payment of fee as may be applicable.
    d. Soft copy of thesis in a CD duly labeled.
    e. Copy of letter of registration with NBE.

7. A declaration of thesis work being bonafide in nature and done by the candidate himself/herself at the institute of DNB training need to be submitted bound with thesis. It must be signed by the candidate himself/herself, the thesis guide and head of the institution, failing which thesis shall not be considered.

## Constitution Institutional Ethics Committee:

1. The accredited hospital should have an Institutional Ethics Committee (IEC) which is multidisciplinary and multi-sectorial in composition. The Institutional Ethics Committee (IEC) shall review all ethical aspects of the project proposals received by it from DNB trainees in an objective manner & shall provide advice to researchers on all aspects of the welfare and safety of all the concerned after ensuring the scientific soundness of the proposed research through appropriate Scientific Review Committee.

2. The accredited hospital / institute is required to have an Institutional Ethics Committee (IEC) as per Biomedical Research Guidelines of ICMR. It should be registered with the Drug Controller General of India (DCGI).

3. The number of persons in an ethics committee should be kept fairly small (8 - 12 members). It is generally accepted that a minimum of five persons is required to form the quorum without which a decision regarding the research should not be taken. The IEC should appoint from among its members a Chairman who should be from outside the Institution to maintain the independence of the Committee. The Member Secretary should be from the same Institution and should conduct the business of the Committee. Other members should be a mix of medical/nonmedical, scientific and non-scientific persons including lay persons to represent the differed points of view.
   The composition may be as follows:
   - Chairperson
   - One - two persons from basic medical science area
   - One - two clinicians from various Institutes
   - One legal expert or retired judge
   - One social scientist/ representative of non-governmental voluntary agency
   - One philosopher/ ethicist/ theologian
   - One lay person from the community • Member Secretary

4. In case the institution does not have an Institutional Ethics Committee (IEC) registered with DCGI, the accredited hospital may tie up with a nearby institution to utilise its DCGI registered IEC. A Memorandum of Understanding in this regard shall be required to be submitted to Accreditation Department of NBE

## Constitution of Scientific Research Committee/Institutional Research Committee

1. In addition to the Institutional Ethics Committee (IEC), the applicant hospital should also have an Institutional Research Committee/Scientific Research Committee (SRC) to mentor & review the research projects in the hospital.

2. The SRC shall comprise of following members: • Head of the Institute - Shall be the Chairman of the Committee • Statistician • Local teaching faculty of the level of Professor/Sr. Consultant from other hospitals/institutions • Guide & Co-Guide(s) of concerned DNB trainee • Basic Sciences Faculty

3. Further members can be incorporated as a part of the above committee and all Guide/Co-Guides will act as ex-officio members.

4. SRC has to be constituted in-house (as per composition prescribed above) as it includes thesis guides of DNB candidates. The thesis protocols of DNB trainees shall be required to be approved by the IEC and SRC.

**(To be issued only on Official letterhead of the hospital)**

Ref. No: Dated:

To,
Deputy Director,
National Board of Examinations
Medical Enclave, Ansari Nagar,
Mahatma Gandhi Marg (Ring Road)
New Delhi-110029

**Subject: - Thesis Protocol Approval Letter (Institutional Ethics Committee & Scientific Research Committee and its Composition)**

Sir,

This is for your kind information that the research proposal/thesis protocols of below listed DNB candidates have been considered and reviewed by the Scientific Research Committee (SRC) of the Institute/hospital in its meeting held on _____ and by the Institutional Ethics Committee (IEC) in its meeting held on _____. S.N. Name of Candidate Specialty Session Testing ID/Roll No. Thesis Topic Title The IEC which reviewed the proposals is duly registered with the Drug Controller General of India (DCGI) and SRC of the hospital is composed as per guidelines prescribed by NBE for the purpose. The authenticated copies of composition of both the committees are enclosed herewith. Both the committees i.e. IEC and SRC have approved conducting the study on above listed research proposal(s) of DNB candidate(s) for the purpose of writing their DNB theses. It is further certified that the proposed research protocol(s) have not been/shall not be submitted elsewhere for any degree, fellowship or any other titles for recognition. The minutes of aforesaid meetings of IEC and SRC are available with the hospital and can be reproduced before NBE, if so required, at any point of time.

**Name & Signature of the Academic Head/DNB Coordinator**

**Name & Signature of Administrative Head of the Institute**

Encls.:
1. Composition of Institutional Ethics Committee (IEC)
2. Composition of Scientific Research Committee (SRC) Please affix official stamp of the Hospital Please affix official stamp

## LOG BOOK

A candidate shall maintain a log book of operations (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s) The candidate will maintain the record of all academic activities undertaken by him/her in log book .

1. Personal profile of the candidate
2. Educational qualification/Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations

# LEAVE RULES

## LEAVE RULES FOR DNB/FNB TRAINEES

The following revised leave rules shall apply to the candidates, those who join on or after 2018. Those who joined before 2018, the old leave rule shall be applicable.

1. DNB/FNB Trainees are entitled to avail leave during the course of DNB/FNB training as per the Leave Rules prescribed by NBE.
2. A DNB/FNB Trainees can avail a maximum of 30 days of leave in a year excluding regular duty off/ Gazetted holidays as per hospital/institute calendar/policy. This leave shall be processed at the institutional level.
3. Any kind of study leave is not permissible to DNB/FNB Trainees.
4. Under normal circumstances leave of one year should not be carried forward to the next year. However, in exceptional cases such as prolonged illness, the leave across the DNB/FNB training program may be clubbed together with prior approval of NBE.
5. Unauthorized absence from DNB/FNB training for more than 7 days may lead to cancellation of registration and discontinuation of the DNB/FNB training and rejoining shall not be permitted.
6. Any Leave availed by the candidate other than the eligible leave (30 days per year) shall lead to extension of DNB /FNB training. The training institute has to forward such requests to NBE along with the leave records of the candidate since his/her joining and supporting documents (if any) through the Head of the Institute with their recommendation/comments. NBE shall consider such requests on merit provided the seat is not carried over and compromise with training of existing trainees in the Department.
7. Any extension of DNB/FNB training beyond the scheduled completion date of training is permissible only under extra-ordinary circumstances with prior approval of NBE. Such extension is neither automatic nor shall be granted as a matter of routine.
8. DNB/FNB trainees are required to complete their training by a prescribed cutoff date (as per information bulletin of Exit exam) for being eligible to DNB/FNB Exit examination.
9. The eligibility for DNB/FNB Final Examination shall be determined strictly in accordance with the criteria prescribed in the respective information bulletin.

## CLARIFICATION ON MATERNITY/PATERNITY LEAVE FOR DNB/FNB TRAINEES

1. As per the revised leave rules dated 20.03.2018 candidates join on or after 2018can avail Maternity / Paternity leave, as per the Central or State Government policies, whichever is applicable to DNB/FNB training institute.

2. Any Leave availed by the DNB/FNB Trainee other than the eligible leave mentioned in the revised leave rules dated 20.03.2018, shall lead to extension of DNB /FNB training to complete the prescribed duration of training as mentioned in the information bulletin and registration letter.

3. DNB/FNB trainees are eligible for stipend either during the leave period or extension of training period as per the policies of DNB/FNB training institute and prevailing rules.

4. DNB/FNB trainees are required to complete their training, including the extension of training (wherever applicable), by the prescribed cut-off date, for being eligible to DNB/FNB Exit examination.

5. The eligibility for DNB/FNB Final Examination shall be determined strictly in accordance with the criteria prescribed in the respective information bulletin.

## EXAMINATION

## FORMATIVE ASSESSMENT

Internal Appraisal includes various formal and informal assessment procedures by which evaluation of student's learning, comprehension, and academic progress is done by the teachers/ faculty to improve student attainment. The nature of evaluation to be followed in Internal Appraisal should be on Formative Norms ONLY as it shall aim to give feedback on teaching and learning and become an integral part of the effective teaching .The end goal of Internal Appraisal should be to collect information which can be used to improve the student learning process .

***The purpose of the exercise is to assist the NBE accredited hospitals/ institutions to develop in to a center of academic excellence.***

Internal Appraisal is essentially positive in intent, directed towards promoting learning; it is therefore part of teaching. Validity and usefulness are paramount in internal appraisal and should take precedence over concerns for reliability.

The Internal Appraisal consists of three parts:

Part I :- Conduction of theory examination
Part-II :- Feedback session on the performance in the theory examination
Part-III :- Work place based clinical assessment

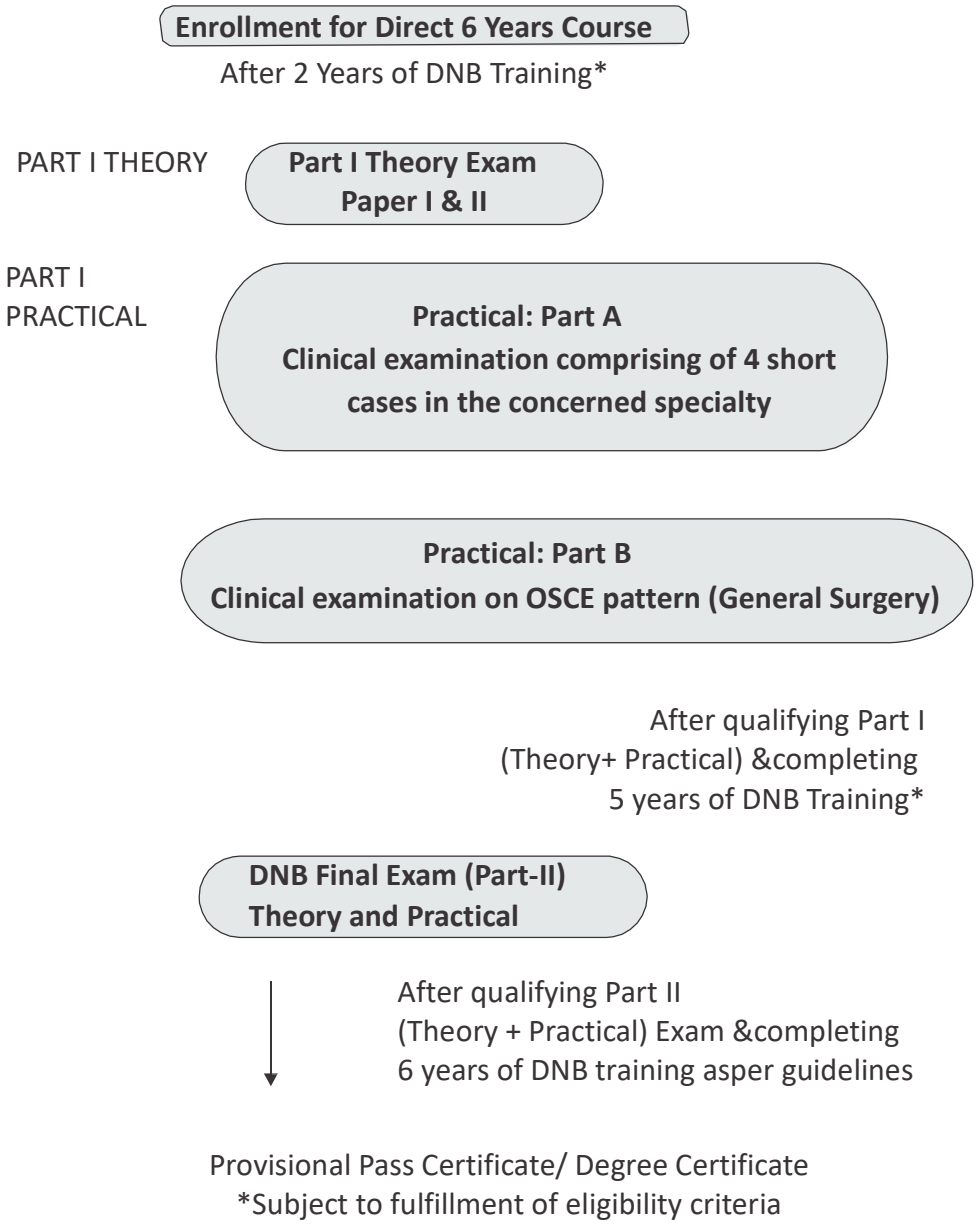
The assessment scheme consists of three parts as indicated below:-

| | | |
|---|---|---|
| **PART – I** | **CONDUCT OF THEORY EXAMINATION** | A trainee has to appear for theory exam to be held on a single day only. |
| **PART – II** | **FEEDBACK SESSION ON THE THEORY PERFORMANCE** | The evaluated answer sheets of the trainees shall be handed back to them after completion of assessment, for discussion with their respective Head of Departments & faculty. |
| **PART – III** | **WORK PLACE BASED CLINICAL ASSESSMENT *** | After theory examination, trainees have to appear for Clinical Assessment. |

** **The Work Place Based Clinical Assessment is to be conducted for final year trainees ONLY. It is NOT applicable for the first year trainees in accordance with the prescribed guidelines.***

## FINAL EXAMINATION

Plastic Surgery Candidates enrolled for DNB Direct 6 year courses in Plastic Surgery are required to take Part–I &Part–II (Final) Examination.



| Plastic Surgery (Direct 6 years course) | |
|---|---|
| Part-I | On completion of their 2 years of DNB training subject to Examination fulfillment of eligibility criteria |
| Final | On completion of 5years of DNB training subject to fulfillment of Examination eligibility criteria. Paper–I of the theory exam shall be exempted; Candidates are required to take only Paper–II&III of DNB Final Theory Exam. |

**Part–I Examination:**

I Candidates enrolled for Direct 6-year courses Plastic Surgery can take Part–I Examination on completion of their 2 year of DNB training subject to fulfillment of eligibility criteria. The cut-off date for completion of 2 year DNB training is on or before prescribed date.

II DNB Part–I (Theory)Examination for candidates of Direct 6 year courses in Plastic Surgery comprises of two question papers.

III There are 10 short notes of 10 marks each in the question paper.

IV Maximum time permitted is 3 hours for each paper.

V Candidate must score at least 50% of maximum marks to qualify the theory exam i.e. candidate scoring 100 or more marks out of 200 shall be declared 'pass' in theory examination.

VI Candidate must score at least 100/200 in the aggregate of 2 papers to qualify the theory examination. Grace marks of up to 2% of maximum marks i.e. 4/200 shall be given only to the candidates falling in the zone of consideration i.e. securing between 96-99 marks out of 200.

**PLASTIC SURGERY (PART-I)**

**SYLLABUS FOR PAPER-I**

- Basic Principles of General Surgery

**PLASTIC SURGERY PAPER II (PART-I)**

- Basic Sciences as applied to Plastic Surgery

Candidates who have successfully qualified the Part–I theory examination shall be required to appear in Part–I practical examination.
Scheme for practical examination shall be sent to candidates registered with NBE.

| | |
|---|---|
| PART-I<br>(Theory) | Plastic Surgery |
| Paper – I Max Marks: 100 | Basic Principles of General Surgery |
| Paper – II<br>Max Marks: 100 | Basic Sciences as applied to Plastic Surgery |

**Part–II (Final) Examination:**

I Candidates who have successfully qualified Part–I examination can take Part–II (Final) Examination on completion of 5 years of DNB training subject to fulfillment of eligibility criteria.

II Part–II (Final) Examination is common for candidates of 3 years and 6 years DNB courses in the respective super specialties. However, Paper-I Shall be exempted for candidates of Direct 6-year courses.

**(C) Final Examination(Direct 6 years courses):** Candidates who joined DNB course in Plastic surgery (Direct 6 years courses) and have successfully qualified Part-I examination as direct 6 years candidates can take Part–II (Final) Examination on completion of 5 years of DNB training subject to fulfillment of eligibility criteria.

Candidates should be completing their 5 years DNB training on or before on or before prescribed date. Part-II (Final) Examination is common for candidates of 3 years and direct 6 years DNB courses in the respective super specialties. Direct 6 years candidates appearing in DNB final examination shall be exempted from question Paper–I. They will be required to attempt question paper II & III only.

## Declaration of DNB Final Results

1. DNB final is a qualifying examination.
2. Results of DNB final examinations (theory & practical) are declared as PASS/FAIL.
3. DNB degree shall be conferred at the convocation of NBE.

# RECOMMENDED TEXT BOOKS AND JOURNALS

## Suggested Books

- Grabb & Smith: Plastic Surgery – 7th Edition
- Neligan P. Ed Plastic Surgery – 6 Volume set 4th Edition , 2017.
- Mc Gregor: Fundamental techniques of Plastic Surgery
- Diego Marre. Fundamental Topics in Plastic Surgery
- Plastic and Reconstructive Surgery Ed. Karoon Agrawal
- Green's: Operative Hand surgery
- Grab's: Encyclopedia of flaps
- Flaps and Reconstructive Surgery – Wei and Mardini. 2nd ed
- Paediatric Burns-Total Management of the Burned Child by Marella L Hanumadass and K Mathangi Ramakrishnan
- Total Burn Care – David Herndon. 4th Ed.
- Mc Carthy: Current therapy in Plastic Surgery
- Practice Manual of Microvascular Surgery – Acland RD and Sabapathy SR
- Maxillofacial Surgery – Peter Ward Booth, 2 vol set. 2nd ed.

## Suggested Journals

- Indian Journal of Plastic Surgery
- Plastic and Reconstructive Surgery
- Journal of Plastic Reconstructive and Aesthetic Surgery
- Burns
- Clinics in Plastic Surgery
- Hand Clinics
- Journal of Hand Surgery (am)
- Aesthetic Surgery Journal

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