



Dr. D. Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

**Syllabus for
PG Medical Specialties**

2014 - 15
(Amended / Revised upto July 2019)



Dr. D.Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)
(An ISO 9001 : 2015 Certified University)

Dr. A. N. Suryakar
Registrar

Ref. No. : DPU/875-vii/2019
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NOTIFICATION

Whereas in pursuance of the following decisions taken by the Board of Management, it is hereby notified to all concerned that the "Syllabus for PG Medical and Surgical Specialties – 2014-15" is revised upto July 2019 and hereby published.

- Changes in syllabus for UG and PG in General Medicine, Pulmonary Medicine and General Surgery vide Resolution No. BM-07-(iii)-4 dated 28th January, 2014.
- Updation in UG and PG syllabus of General Medicine, Obstetrics & Gynecology, Orthopedics, Anaesthesiology, ENT and Ophthalmology vide Resolution No. BM-04(i)-15, dated 31st March, 2015.
- Modifications in pattern of PG practical examinations for MD (General Medicine), MD (Pediatrics), MS (General Surgery), and MS (OBGY) vide Resolution No. BM-26(iv)-15, dated 29th December, 2015.
- Updation in PG syllabus in Radio-Diagnosis subject vide Resolution No. BM-26(vii)-15, dated 29th December, 2015.
- Introduction of Bioethical aspects in various chapters of all subjects vide Resolution No. BM-26(xi)-15, dated 29th December, 2015
- Partial Modifications in Pattern of PG Practical Examinations for MD (General Medicine) and MS (General Surgery) vide Resolution No. BM-17(vii)-16, dated 22nd September, 2016.
- Modifications in the syllabus of MD (Emergency Medicine) vide Resolution No. BM-35(iv)-18, dated 12th October, 2018.
- Changes in teaching and assessment of MS (Ophthalmology), vide Resolution No. BM-35(v)-18, dated 12th October, 2018.
- Changes in the practical examination pattern of M.S. (Orthopedics) vide Resolution No. BM-35(vi)-18, dated 12th October, 2018.
- Change in practical examination pattern of MD (Dermatology) vide Resolution No. BM-35(vii)-18, dated 12th October, 2018.
- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) and gap analysis for all courses of UG and PG Programmes for Para-Clinical and Surgical Subjects vide Resolution No. BM-10(vii)-19 dated, 12th April, 2019.
- Interdisciplinary subjects (for Surgical Subjects) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide Resolution No. BM-10(viii) dated 12th April, 2019.
- Changes in syllabus of MD (General Medicine) and MD (Psychiatry) vide Resolution No. BM-27(iv)-19 dated 30th July, 2019.
- Modifications in MD (Respiratory Medicine) Practical examination pattern vide Resolution No. BM-27(vii)-19 dated 30th July, 2019.



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- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) outcome analysis of Pos and Cos and mapping with objectives for all courses of UG and PG Programmes of Pre-Clinical and **Medicine Subjects** under the Faculty of Medicine vide **Resolution No. BM-27(x)-19 dated 30th July, 2019.**
- Interdisciplinary subjects (**for Medicine Subjects**) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide **Resolution No. BM-27(xi) dated 30th July, 2019.**

The **Syllabus for PG Medical and Surgical Specialties – 2014-15** is Revised upto July 2019 will be useful to all the concerned. This will come into force with immediate effect.



(Dr. A. N. Suryakar)
Registrar

Copy to:

1. PS to Chancellor for kind information of Hon'ble Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
2. PS to Vice Chancellor for kind information of Hon'ble Vice Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
3. The Dean, Dr. D. Y. Patil Medical College Hospital & Research Centre, Pimpri, Pune
4. The Controller of Examinations, Dr. D. Y. Patil Vidyapeeth, Pune.
5. Director (IQAC), Dr. D. Y. Patil Vidyapeeth, Pune.
6. Web Master for uploading on Website.

**MAPPING OF PROGRAMME OUTCOMES [POs] AND COURSE
OUTCOMES [COs] OF PG PROGRAMMES**

No.	By the end of the programme, the Postgraduate will have / be:
PO 1	Knowledge and Skills
PO 2	Planning and problem solving abilities
PO 3	Communication
PO 4	Research Aptitude
PO 5	Professionalism and Ethics
PO 6	Leadership
PO 7	Societal Responsibilities
PO 8	Environment and Sustainability
PO 9	Lifelong Learner

DEPARTMENT OF PEDIATRICS

Course Code	Course Title
PGM03	MD Pediatrics

Course Outcomes (Subject Code)

CO No.	At the end of the course, the learner should be able to:	Mapped Programme Outcomes
PGM03.1	Diagnose and manage all Pediatrics and neonatal diseases, genetic disorder and infection diseases.	PO1,PO2,PO3,PO4, PO5, PO 6,PO7, PO9
PGM03. 2	Manage all paediatrics and neonatal emergencies.	PO1,PO2,PO3,PO4, PO5, PO 6,PO 9
PGM03.3	Recognise the health needs of infant's children and adolescent as per retainable goals in community & Provides preventive care to children.	PO1,PO2,PO3,PO4, PO5, PO6, PO7, PO8,PO9
PGM03.4	Demonstrates skills in educating medical and paramedical professionals.	PO1,PO2,PO3, PO4, PO5, PO 6, PO 8, PO 9
PGM03.5	Communicate and council parents on issues of related to nutrition immunisation, growth and developments acute and chronic illness inform clinical illness and declare death.	PO1,PO2,PO3,PO4, PO5, PO 6, PO7, PO8, PO9
PGM03.6	Perform skills related to emergency and chronic illness.	PO1,PO2,PO3,PO4,PO5, PO 6,PO7,PO8,PO9



PEDIATRICS

PEDIATRICS

PREAMBLE :

A post graduate student after undergoing the required training should be able to deal effectively with the needs of the community and should be competent to handle the problems related to his specialty including recent advances. S/He should also acquire skills in teaching of medical/para-medical students.

GOALS:

The goal of M.D. (Pediatrics) program is to provide training in pediatrics and Neonatology to produce competent specialists who are able to provide basic and specialty care of the highest order to neonates; children and adolescents at the community level and at primary, secondary and tertiary levels of healthcare, and to act as future trainers, teachers, and researchers in the field of pediatrics and Neonatology

SUBJECT SPECIFIC OBJECTIVES :

The objectives of MD Course in Paediatrics are to produce a competent pediatrician who:

- Recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of the National Health Policy and professional ethics
- Has acquired the competencies pertaining to Paediatrics that are required to be practiced in the community and at all levels of health system
- Has acquired skills in effectively communicating with the child, family and the community
- Is aware of contemporary advances and developments in medical sciences as related to child health
- Is oriented to principles of research methodology
- Has acquired skills in educating medical and paramedical professionals
- Is able to recognize mental conditions and collaborate with Psychiatrists / Child Psychologists for the treatment of such patients

SUBJECT SPECIFIC COMPETENCIES :

A. COGNITIVE DOMAIN

At the end of the MD course in Paediatrics, the students should be able to:

1. Recognize the key importance of child health in the context of the health priority of country
2. Practice the specialty of Paediatrics in keeping with the principles of professional ethics
3. Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children
4. Recognize the importance of growth and development as the foundation of Paediatrics and help each child realize her/his optimal potential in this regard
5. Take detailed history; perform full physical examination including neuro- development and behavioral assessment and anthropometric measurements in the child and make clinical diagnosis
6. Perform relevant investigative and therapeutic procedures for the paediatric patient
7. Interpret important imaging and laboratory results
8. Diagnose illness based on the analysis of history, physical examination and investigations
9. Plan and deliver comprehensive treatment for illness using principles of rational drug therapy
10. Plan and advice measures for the prevention of childhood disease and disability
11. Plan rehabilitation of children with chronic illness and handicap and those with special needs
12. Manage childhood emergencies efficiently
13. Provide comprehensive care to normal, 'at risk' and sick neonates
14. Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation

15. Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them.
16. Demonstrate empathy and humane approach towards patients and their families and keep their sensibilities in high esteem
17. Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities
18. Develop skills as a self-directed learner. Recognize continuing educational needs; use appropriate learning resources and critically analyze published literature in order to practice evidence-based Paediatrics
19. Demonstrate competence in basic concepts of research methodology and epidemiology
20. Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher-trainer
21. Implement National Health Programs, effectively and responsibly
22. Organize and supervise the desired managerial and leadership skills
23. Function as a productive member of a team engaged in health care, research and education.
24. Recognize mental conditions, characterized by self-absorption, reduced ability to respond, abnormal functioning in social interaction with or without repetitive behavior, poor communication (autism) and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients.

All PG students joining the course should have an orientation session to acquaint them with the requirements and other details. A plan for orientation session has been given at Annexure 1.

B. AFFECTIVE DOMAIN:

Should be able to :

1. Function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. PSYCHOMOTOR DOMAIN

At the end of the course, the student should have acquired following skills:

I. HISTORY AND EXAMINATION :

The student must gain proficiency in eliciting, processing and systemically presenting Paediatrics history and examination with due emphasis of the important and minimization of less important facts. The following skills must be achieved:

- i) Recognition and demonstration of physical findings
- ii) Recording of height, weight, head circumference and mid arm circumference and interpretation of these parameters using growth reference standard assessment of nutritional status and growth
- iii) Assessment of pubertal growth
- iv) Complete development assessment by history and physical examination, and recognizing developmental disabilities, including autism
- v) Systematic examination
- vi) Neonatal examination including gestation assessment by physical neurological criteria
- vii) Examination of the fundus and the ear-drum
- viii) Skills related to IMNCI and IYCF

II. MONITORING SKILLS :

Non-invasive monitoring of blood pressure, pulse and respiratory rates, saturation; ECG, Ventilation & Special Situations.

III. INVESTIGATIVE PROCEDURES

- i) Venous, capillary and arterial blood sampling using appropriate precautions
- ii) Pleural, peritoneal, pericardial aspiration; subdural, ventricular and lumbar puncture
- iii) Tuberculin test
- iv) Biopsy of liver and kidney
- v) Urethral catheterization and suprapubic tap
- vi) Gastric content aspiration

IV. THERAPEUTIC SKILLS

- i) Breast feeding assessment and counseling; management of common problems
- ii) Establishment of central and peripheral vascular access; CVP monitoring
- iii) Administration of injections using safe injection practices
- iv) Determination of volume and composition of intravenous fluids and their administration
- v) Neonatal and Pediatric basic and advanced life support
- vi) Oxygen administration, CPAP and nebulization therapy
- vii) Blood and blood component therapy
- viii) Intraosseous fluid administration
- ix) Phototherapy, umbilical artery and venous catheterization and exchange transfusion
- x) Nasogastric feeding
- xi) Common dressings and abscess drainage; intercostal tube insertion
- xii) Adolescent Care

xiii) Basic principles of rehabilitation

xiv) Peritoneal dialysis

xv) Mechanical ventilation

V. BED SIDE INVESTIGATIONS, INCLUDING

i) Complete blood counts, micro ESR, peripheral smear

ii) Urinalysis

iii) Stool microscopy and hanging drop

iv) Examination of CSF and other body fluids

v) Blood sugar

vi) Shake test on gastric aspirate

vii) Gram stain, ZN stain

VI. PATIENT MANAGEMENT SKILLS

i) Proficiency in management of pediatric emergencies, including emergency triaging

ii) Drawing and executing patient management plan and long term care

iii) Documenting patient records on day to day basis and problem oriented medical record

iv) Care of a normal and sick newborn, management of neonatal disorders hypothermia, sepsis, convulsions, jaundice, metabolic problems

v) Identifying need for timely referral to appropriate departments / health facility and pre-transport stabilization of the sick child

VII. COMMUNICATION SKILLS; ATTITUDES; PROFESSIONALISM

i) Communicating with parents/child about nature of illness and management plan prognostication, breaking bad news

ii) Counseling parents on breast feeding, nutrition, immunization, disease prevention, promoting healthy life style

iii) Genetic counseling

- iv) Communication and relationship with colleagues, nurses and paramedical workers
- v) Appropriate relation with pharmaceutical industry
- vi) Health economics
- vii) Professional and research ethics

VIII. INTERPRETATION OF INVESTIGATIONS

- i. Plan x-ray chest, abdomen, skeletal system
- ii. Contrast radiological studies: Barium swallow, barium meal, barium enema, MCU
- iii. Ultrasound skull and abdomen
- iv. Histopathological, biochemical and microbiological investigations
- v. CT Scan and MRI (skull, abdomen, chest)
- vi. Electrocardiogram, electroencephalogram
- vii. Arterial and venous blood gases

DESIRABLE:

Interpretation of radio-isotope studies, audiogram, neurophysiological studies, (BERA, VER, Electromyography [EMG], Nerve Conduction Velocity [NCV]), lung function tests

IX. ACADEMIC SKILLS

- i. Familiarity with basic research methodology, basic IT skills. Planning the protocol of the thesis, its execution and final report
- ii. Review of literature
- iii. Conducting clinical sessions for undergraduates' medical students
- iv. Desirable: writing and presenting a paper. Teaching sessions for nurses and medical workers

SYLLABUS

COURSE CONTENTS

GUIDELINES :

During the training period, effort must be made that adequate time is spent in discussing child health problems of public health importance in the country or particular region.

BASIC SCIENCES :

- Principles of inheritance, chromosomal disorders, single gene disorders, multifactorial / polygenic disorders, genetic diagnosis and prenatal diagnosis, pedigree drawing.
- Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract. Applied anatomy and functions of different organ systems.
- Physiology of micturition and defecation; placental physiology; fetal and neonatal circulation; regulation of temperature, blood pressure, acid base balance, fluid electrolyte balance and calcium metabolism.
- Vitamins and their functions.
- Hematopoiesis, hemostasis, bilirubin metabolism.
- Growth and development at different ages, growth charts; puberty and its regulation.
- Nutrition: requirements and sources of various nutrients.
- Pharmacokinetics of common drugs, microbial agents and their epidemiology.
- Basic immunology, biostatistics, clinical epidemiology, ethical and medico-legal issues.
- Teaching methodology and managerial skills.

Understanding the definition, epidemiology, aetiopathogenesis, presentation, complications, differential diagnosis and treatment of the following, but not limited to:

GROWTH AND DEVELOPMENT

- Principles of growth and development
- Normal growth and development
- Failure to thrive and short stature

NEONATOLOGY

- Perinatal care
- Care in the labor room and resuscitation
- Prematurity
- Common transient phenomena
- Infections
- Normal growth and development,
- Sexual maturation and its disturbances
- Autism (as mentioned in objective 24)
- Low birth weight
- Newborn feeding
- Respiratory distress
- Apnea
- Anemia and bleeding disorders
- Jaundice
- Neurologic disorders
- Renal disorders
- Gastrointestinal disorders
- Malformations
- Understanding of perinatal medicine
- Thermoregulation and its disorders

NUTRITION

- Maternal nutritional disorders;
- Nutrition for the low birth weight impact on fetal outcome
- Breast feeding
- Infant feeding including complementary feeding
- Vitamin and mineral deficiencies
- Protein energy malnutrition
- Obesity
- Adolescent nutrition
- Parenteral and enteral nutrition
- Nutritional management of systemic illness (gi, hepatic, renal illness)

CARDIOVASCULAR

- Congenital heart diseases (cyanotic and acyanotic)
- Rheumatic fever and rheumatic heart disease
- Infective endocarditis
- Arrhythmia
- Disease of myocardium(cardiomyopathy, myocarditis)
- Diseases of pericardium
- Systemic hypertension
- Hyperlipidemia in children

RESPIRATORY

- Congenital and acquired disorders of nose tonsils and adenoids
- Congenital anomalies of lower respiratory tract
- Foreign body in larynx trachea and bronchus
- Subglottic stenosis (acute, chronic)
- Bronchial asthma
- Infections of upper respiratory tract

- Obstructive sleep apnea
- Acute pneumonia, bronchiolitis
- Acute upper airway obstruction
- Trauma to larynx
- Neoplasm of larynx and trachea
- Recurrent, interstitial pneumonia
- Atelectasis · aspiration pneumonia, ger
- Suppurative lung disease
- Lung cysts, mediastinal mass
- Pleural effusion

GASTROINTESTINAL AND LIVER DISEASE

- Disease of oral cavity
- Disorders of deglutition and esophagus
- Peptic ulcer disease
- Intestinal obstruction
- Congenital pyloric stenosis
- Acute and chronic pancreatic disorders
- Malabsorption syndrome
- Irritable bowel syndrome
- Hirschsprung disease
- Hepatitis
- Chronic liver disease
- Metabolic diseases of liver

NEPHROLOGIC AND UROLOGIC DISORDERS

- Acute and chronic glomerulonephritis
- Hemolytic uremic syndrome
- Vur and renal scarring
- Renal tubular disorders dysfunction
- Congenital and hereditary renal disorders
- Posterior urethral valves
- Undescended testis, hernia, hydrocoele

NEUROLOGIC DISORDERS

- Seizure and non-seizure paroxysmal events
- Meningitis, encephalitis
- Febrile encephalopathies
- Neurocysticercosis and other neuroinfestations
- SSPE
- Neurometabolic disorders
- Neuromuscular disorders
- Learning disabilities
- Acute flaccid paralysis and afp surveillance
- Movement disorders

HEMATOLOGY AND ONCOLOGY

- Deficiency anemias
- Aplastic anemia
- Thrombocytopenia
- Blood component therapy
- Bone marrow transplant/stem cell transplant
- Myelodysplastic syndrome
- Neuroblastoma

ENDOCRINOLOGY

- Hypopituitarism/hyperpituitarism
- Pubertal disorders
- Acute and chronic diarrhea
- Inflammatory bowel disease
- Anorectal malformations
- Hepatic failure
- Budd-chiari syndrome
- Cirrhosis and portal hypertension
- Xanthema syndrome
- Urinary tract infection
- Involvement in systemic diseases
- Neurogenic bladder, voiding
- Renal and bladder stones
- Hydronephrosis
- Wilms tumor
- Epilepsy, epileptic syndromes
- Brain abscess
- Guillain-barre syndrome
- Hiv encephalopathy
- Cerebral palsy
- Neurodegenerative disorders
- Mental retardation
- Muscular dystrophies
- Malformations
- Tumors

- Hemolytic anemias
- Pancytopenia
- Disorders of hemostasis
- Transfusion related infections
- Acute and chronic leukemia
- Lymphoma
- Hypercoagulable states
- Diabetes insipidus
- Hypo – and hyper-thyroidism
- Adrenal insufficiency
- Adrenogenital syndromes
- Hypoglycemia
- Gonadal dysfunction and intersexuality

INFECTIONS

- bacterial (including tuberculosis)
- fungal
- rickettsial
- protozoal and parasitic
- control of epidemics and infection prevention

EMERGENCY AND CRITICAL CARE

- emergency care of shock
- respiratory failure
- status epilepticus
- fluid and electrolyte disturbances
- poisoning
- scorpion and snake bites

IMMUNOLOGY AND RHEUMATOLOGY

- Arthritis (acute and chronic)
- Immunodeficiency syndromes

ENT

- Acute and chronic otitis media
- Post-diphtheritic palatal palsy
- Allergic rhinitis/sinusitis

SKIN DISEASES

- Exanthematous illnesses
- Pigment disorders
- Infections
- Atopic, seborrheic dermatitis
- Alopecia

EYE PROBLEMS

- Refraction and accommodation
- Cataract
- Strabismus
- Cushing's syndrome
- Diabetes mellitus
- Short stature
- Obesity
- Viral (including hiv)
- Parasitic
- Mycoplasma
- Nosocomial infections
- Safe disposal of infective material
- Cardio-respiratory arrest

- Acute renal failure
- Acute severe asthma
- Acid-base disturbances
- Accidents
- Vasculitides
- Systemic lupus erythematosus
- Hearing loss
- Acute/chronic tonsillitis/adenoids
- Foreign body
- Vascular lesions
- Vesicobullous disorders
- Steven-johnson syndrome
- Drug rash
- Ichthyosis
- Partial/total loss of vision
- Night blindness
- Conjunctival and corneal disorders
- disorders of retina, including tumors

BEHAVIORAL AND DEVELOPMENTAL DISORDERS

- Rumination, pica
- Sleep disorders
- Enuresis, encopresis· habit disorders· breath holding spells· mood disorders· anxiety disorders· temper tantrums

SOCIAL/COMMUNITY PAEDIATRICS

- National health programs related to child health - IMNCI
- Vaccines: constituents, efficacy, storage, contraindications and adverse reactions
- Rationale and methodology of pulse polio immunization
- Child labor, abuse, neglect - adoption
- Disability and rehabilitation - rights of the child
- National policy of child health and population - juvenile delinquency
- Principles of prevention, control of infections (food, water, soil, vector borne)
- Investigation of an epidemic

ORTHOPAEDICS

- Major congenital orthopedic deformities - Bone and joint infections
- Common bone tumors.

APPROACH TO CLINICAL PROBLEMS -

GROWTH AND DEVELOPMENT

- Precocious and delayed puberty - Developmental delay
- Impaired learning

NEONATOLOGY

- Low birth weight newborn - Sick newborn

NUTRITION

- Lactation management and complementary feeding
- Failure to thrive
- Protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies

CARDIOVASCULAR

- Murmur
- Cyanosis
- Congestive heart failure
- Arrhythmia

GIT AND LIVER

- Acute diarrhea
- Abdominal pain and distension
- Vomiting
- Gastrointestinal bleeding
- Hepatosplenomegaly

RESPIRATORY

- Cough/chronic cough
- Wheezy child

INFECTIONS

- Acute onset pyrexia
- Recurrent infections
- Nosocomial infections

RENAL

- Hematuria/dysuria
- Voiding dysfunctions
- Hypertension

HEMATOLOGY AND ONCOLOGY

- Anemia

NEUROLOGY

- Limping child
- Paraplegia, quadriplegia
- Macrocephaly and microcephaly
- Acute flaccid paralysis

ENDOCRINE

- Thyroid swelling
- Obesity

MISCELLANEOUS

- Skin rash
- Epistaxis
- Arthralgia, arthritis
- Systemic hypertension
- Shock
- Persistent and chronic diarrhea
- Ascites
- Constipation
- Jaundice
- Hepatic failure and encephalopathy
- Hemoptysis
- Respiratory distress
- Prolonged pyrexia with and without localizing signs
- Fever with xanthema
- Bladder/bowel incontinence
- Renal failure (acute and chronic)
- Bleeding
- Convulsions
- Cerebral palsy
- Floppy infant
- Headache
- Ambiguous genitalia
- Short stature
- Lymphadenopathy
- Proptosis

TEACHING AND LEARNING METHODS

POSTGRADUATE TEACHING PROGRAMME :

GENERAL PRINCIPLES :

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

TEACHING METHODOLOGY :

This should include regular bedside case presentations and demonstrations, didactic lectures, seminars, journal clubs, clinical meetings, and combined conferences with allied departments. The post graduate student should be given the responsibility of managing and caring for patients in a gradual manner under supervision. Department should encourage e-learning activities.

FORMAL TEACHING SESSIONS :

In addition to bedside teaching rounds, at least 5-hr of formal teaching per week are necessary. The departments hold following sessions:

- Journal club - Once a week
- Seminar - Once a fortnight
- Case discussions - Once a month
- Interdepartmental case or seminar - Once a month
- Clinical Posting (Cardiology, Pediatric Surgery)
- PBL
- Mortality Meet
- Microteaching
- Attend accredited scientific meetings (CME, symposia, and conferences).
- Additional sessions on resuscitation, basic sciences, biostatistics, research methodology, teaching methodology, hospital waste management, health economics, medical ethics and legal issues related to pediatric practice are suggested.

- There should be a training program on Research methodology for existing faculty to build capacity to guide research.
- The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

LOG BOOK:

During the training period, the post graduate student should maintain a Log Book indicating the duration of the postings/work done in Pediatric Wards, OPDs and Casualty. This should indicate the procedures assisted and performed, and the teaching sessions attended. The purpose of the Log Book is to:

- a) Help maintain a record of the work done during training,
 - b) Enable Consultants to have direct information about the work; intervene if necessary,
 - c) Use it to assess the experience gained periodically.
- The log book shall be used to aid the internal evaluation of the student. The Log books shall be checked and assessed periodically by the faculty members imparting the training.

ROTATIONS

The postgraduate student should rotate through all the clinical units in the department. In addition, following special rotations should be undertaken:

MANDATORY

- Neonatology, perinatology
- Intensive care, emergency
- Posting in Out Patient Services of the following specialties is recommended Skin
- Pediatric Surgery
- Physical Medicine and Rehabilitation
- Community

OPD : Cardiology, Nephrology, Pulmonology, Neurology. Endocrinology, Hematology, Gastroenterology.

Extension activities & Outreach Activities

THESIS -

OBJECTIVES :

By carrying out a research project and presenting his work in the form of thesis, the student shall be able to:

- Identify a relevant research question
- Conduct a critical review of literature
- Formulate a hypothesis
- Determine the most suitable study design
- State the objectives of the study
- Prepare a study protocol
- Undertake a study according to the protocol
- Analyze and interpret research data, and draw conclusions
- Write a research paper

GUIDELINES :

While selecting the topic, following should be kept in mind:

- The scope of study is limited to enable its conduct within the resources and time available
- The study must be ethically appropriate
- The emphasis should be on the process of research rather than the results
- The protocol, interim progress and final presentation is made formally to the department
- Only one student per teacher/thesis guide

There should be periodic department review of the thesis work, as per following schedule:

End of 6 months	Submission of protocol
During 2nd yr	Mid-term presentation
6 months prior to examination	Final presentation; submission

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

ORIENTATION SESSIONS FOR PG STUDENTS JOINING MD IN PAEDIATRICS

Orientation to the Hospital: Various Departments and facilities available

- Communication skills: Patients and colleagues
- Literature search
- Basic research methodology
- Protocol writing and thesis

PEDIATRIC PGS

Introduction to Residency in Paediatrics

- Universal precautions and appropriate disposal of hospital waste
- Management of shock
- Congestive cardiac failure
- Normal fluid and electrolyte requirement and their disorders
- Interpretation and management of disorders of acid-base balance
- Evaluation of a sick newborn
- Management of seizures, hypothermia and hypoglycemia in the newborn
- Management of seizures and status epilepticus
- Management of comatose patients
- Hospital management of severe PEM

- Acute kidney injury
- Fulminant hepatic failure
- Management of respiratory distress
- Management of acute diarrhea
- Approach to a bleeding child and its management
- Rational antibiotic therapy

ASSESSMENT

FORMATIVE ASSESSMENT, ie., assessment to improve learning

Formative assessment to test knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system. (Annexure I)

INTERNAL ASSESSMENT (6 MONTHLY)

- Theory
- Practical Clinical Assessment

QUARTERLY ASSESSMENT DURING THE MD TRAINING

- 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 I).

ANNEXURE II

POSTGRADUATE STUDENTS APPRAISAL FORM - PRE / PARA /CLINICAL DISCIPLINES -

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.	Thesis / Research work				
7.	Log Book Maintenance				

Publications Yes / No.

Remarks* _____

*** 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.

SUMMATIVE ASSESSMENT, ie., assessment at the end of training

The summative examination would be carried out as per the Rules given in Postgraduate medical education regulations, 2000.

The postgraduate examination shall be in three parts:

1. THESIS :

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

2. THEORY EXAMINATION :

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers. Each paper has two long questions (LAQ) and five short questions (SAQ).

FOR MD :

Paper-I	- Basic Sciences & Embryology	3 Hrs	100 Marks
Paper-II	- Neonatology and Community Pediatrics	3 Hrs	100 Marks
Paper-III	- Systemic Pediatrics	3 Hrs	100 Marks
Paper-IV	- Recent advances and allied	3 Hrs	100 Marks
Total Marks -			400Marks

(Questions should be self explanatory & exhaustive)

3. PRACTICAL/CLINICAL AND ORAL/VIVA VOCE EXAMINATION PRACTICAL EXAMINATION :

Case I

Case II (Newborn)

Case III

NICU/ PICU Round

Oral/Viva voce examination on defined areas by each examiner separately. Oral examination shall be comprehensive enough to test the post graduate student's overall knowledge of the subject.

RECOMMENDED READING :

BOOKS (latest edition)

1. Nelson's Textbook of Pediatrics, Kliegman et al (Editors)
2. Manual of Neonatal care, Cloherty
3. Nada's Pediatric Cardiology, Kaene
4. PG Textbook of Pediatrics, IAP P Gupta et al (Editors)
5. Clinical Methods in Pediatrics, P Gupta
6. Care of the newborn, Meharban Singh

JOURNALS :

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