

# **GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN PAEDIATRICS**

## **Preamble**

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

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.

## ***SUBJECT SPECIFIC OBJECTIVES***

The objectives of MD Course in Pediatrics 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 Pediatrics 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:**

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

## **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

## **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) Basic principles of rehabilitation
- xiii) Peritoneal dialysis
- xiv) 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
- viii. **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

## I 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.
- Vaccination
- 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  ADHD.
- Normal growth and development  Sexual maturation and its disturbances
- Failure to thrive and short stature  Autism (as mentioned in objective 24)

#### Neonatology

- Perinatal care  Low birth weight
- Care in the labor room and resuscitation  Newborn feeding
- Prematurity  Respiratory distress
- Hypothermia  Apnea
- Infections  Anemia and bleeding disorders

- Jaundice
- Neurologic disorders
- Renal disorders
- Thermoregulation and its disorders

- Gastrointestinal disorders
- Malformations
- Understanding of perinatal medicine

### **Nutrition**

- Maternal nutritional disorders; weight impact on fetal outcome
- Infant feeding including deficiencies complementary feeding
- Protein energy malnutrition
- Adolescent nutrition
- Nutritional management of systemic illness (gi, hepatic, renal illness)

- Nutrition for the low birth
- Breast feeding
- Vitamin and mineral
- Obesity
- Parenteral and enteral nutrition

### **Cardiovascular**

- Heart diseases  
Congenital (cyanotic and acyanotic)
- Infective endocarditis
- Disease of myocardium  
  
(cardiomyopathy, myocarditis)
- Hyperlipidemia in children

- Rheumatic fever and rheumatic heart disease
- Arrhythmia
- Diseases of pericardium
- Systemic hypertension

### **Respiratory**

- **Congenital and acquired disorders of nose, tract tonsils** and adenoids
- Congenital anomalies of lower respiratory tract
- Foreign body in larynx, trachea and bronchus
- Subglottic stenosis (acute, chronic)
- Bronchial asthma
- Acute pneumonia
- Recurrent, interstitial pneumonia
- Atelectasis, pneumothorax
- Pleural effusion, empyema.

- Infections of upper respiratory**
- Obstructive sleep apnea
- Acute upper airway obstruction
- Trauma to larynx
- Neoplasm of larynx and trachea
- Bronchiolitis
- Aspiration pneumonia, GER
- Suppurative lung disease
- Lung cysts, mediastinal mass

### **Gastrointestinal and liver disease**

- Disease of oral cavity
- Peptic ulcer disease
- Intestinal obstruction
- Malabsorption syndrome
- Irritable bowel syndrome
- Hirschsprung disease
- Hepatitis
- Chronic liver disease
- Metabolic diseases of liver

- Disorders of deglutition and esophuags
- Congenital pyloric stenosis
- Acute and chronic pancreatic disorders
- Acute and chronic diarrhea
- Inflammatory bowel disease
- Anorectal malformations
- Hepatic failure
- Budd-chiari syndrome
- Cirrhosis and portal hypertension

### **Nephrologic and Urologic disorders**

- Acute and chronic glomerulonephritis
- Hemolytic uremic syndrome
- Vur and renal scarring
- Renal tubular disorders
- Urinary tract infection
- Involvement in systemic diseases
- Neurogenic bladder, voiding dysfunction
- Renal and bladder stones
- Hydronephrosis
- 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
- Epilepsy, epileptic syndromes
- Brain abscess
- Guillain-barre syndrome
- Hiv encephalopathy
- Cerebral palsy
- Neurodegenerative disorders
- Mental retardation
- Muscular dystrophies
- Malformations
- Tumors

### **Hematology and Oncology**

- Deficiency anemias
- Aplastic anemia
- Thrombocytopenia
- Blood component therapy
- Bone marrow transplant/stem cell transplant
- Myelodysplastic syndrome
- Neuroblastoma, Wilms tumor
- Hemolytic anemias
- Pancytopenia
- Disorders of hemostasis
- Transfusion related infections
- Acute and chronic leukemia
- Lymphoma
- Hypercoagulable states

### **Endocrinology**

- Hypopituitarism/hyperpituitarism
- Pubertal disorders
- Adrenal insufficiency
- Adrenogenital syndromes
- Hypoglycemia
- Gonadal dysfunction and intersexuality
- Diabetes insipidus
- Hypo – and hyper-thyroidism
- Cushing's syndrome
- Diabetes mellitus
- Short stature
- Obesity



## **Infections**

- Bacterial (including tuberculosis)
- Fungal
- Rickettsial
- Protozoal and parasitic
- Control of epidemics and infection prevention
- Viral (including HIV)
- Parasitic
- Mycoplasma
- Nosocomial infections
- Safe disposal of infective material

## **Emergency and Critical Care**

- Emergency care of shock
- Respiratory failure
- Status epilepticus
- Fluid and electrolyte disturbances
- Poisoning
- Scorpion and snake bites
- Cardio-respiratory arrest
- Acute renal failure
- Acute severe asthma
- Acid-base disturbances
- Accidents

## **Immunology and Rheumatology**

- Arthritis (acute and chronic)
- Immunodeficiency syndromes
- Vasculitides
- Systemic lupus erythematosus

## **ENT**

- Acute and chronic otitis media
- Post-diphtheritic palatal palsy
- Allergic rhinitis/sinusitis
- Hearing loss
- Acute/chronic tonsillitis/adenoids
- Foreign body

## **Skin Diseases**

- Exanthematous illnesses
- Pigment disorders
- Infections
- Atopic, seborrheic dermatitis
- Alopecia
- Vascular lesions
- Vesicobullous disorders
- Steven-johnson syndrome
- Drug rash
- Icthyosis

## **Eye problems**

- Refraction and accommodation
- Cataract
- Strabismus
- Disorders of retina, including tumors
- Partial/total loss of vision
- Night blindness, xerophthalmia
- Conjunctival and corneal disorders

## **Behavioral and Developmental disorders**

- Rumination, pica
- Sleep disorders
- Breath holding spells
- Mood disorders
- Attention deficit hyperactivity disorders
- Enuresis, encopresis
- Habit disorders
- Anxiety disorders
- Temper tantrums
- Autism (as mentioned in objective 24)

## **Social/Community Paediatrics**

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

### **Orthopaedics**

- Major congenital orthopedic deformities
- Common bone tumors

- Bone and joint infections

## **II. Approach to clinical problems**

### **Growth and development**

- Precocious and delayed puberty
- Impaired learning

- Developmental delay

### **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

- Systemic hypertension
- Shock

### **GIT and Liver**

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

- Persistent and chronic diarrhea
- Ascites
- Constipation
- Jaundice
- Hepatic failure and encephalopathy

### **Respiratory**

- Cough/chronic cough
- Wheezy child

- Hemoptysis
- Respiratory distress

### **Infections**

- Acute onset pyrexia
- Recurrent infections
- Nosocomial infections

- Prolonged pyrexia with and without localizing signs
- Fever with xanthema

### **Renal**

- Hematuria/dysuria
- Voiding dysfunctions
- Hypertension

- Bladder/bowel incontinence
- Renal failure (acute and chronic)

### **Hematology and Oncology**

- Anemia

- Bleeding

### **Neurology**

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

- Convulsions
- Cerebral palsy
- Floppy infant
- Headache

### **Endocrine**

- Thyroid swelling
- Obesity

- Ambiguous genitalia
- Short stature

### Miscellaneous

- Skin rash  Lymphadenopathy
- Epistaxis  Proptosis
- Arthralgia, arthritis

## ***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 may select a mix of the following sessions:

- Journal club t Once a week
- Seminar Once a fortnight
- Case discussions once a month
- Interdepartmental case or seminar Once a month  
[Cardiology, Pediatric Surgery]
  
- 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

#### **Desirable**

Posting in Out Patient Services of the following specialties is recommended  
Posting 15 days each.

- Skin
- Pediatric Surgery
- Physical Medicine and Rehabilitation
- Community

**Note:** Additionally, the PG students may be sent to allied specialties (Cardiology, Neurology, nephrology *etc.*) depending on facilities available. It should be ensured that the training conforms to the curriculum.

### • **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 2 <sup>nd</sup> 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.**

## **ASSESSMENT**

### **FORMATIVE ASSESSMENT, ie., assessment to improve learning**

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

#### **General Principles**

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

#### **Quarterly assessment during the MD training should be based on:**

- 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).**

### **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 should have 10 short essay questions (SEQ).

**Paper I:** Basic sciences as applied to Paediatrics

**Paper II:** Neonatology and community Paediatrics

**Paper III:** General Paediatrics including advances in Paediatrics relating to Cluster I specialties

**Paper IV:** Paediatric Medicine including advances in Paediatrics relating to Cluster II specialties

Cluster I: Nutrition, Growth and Development, Immunization, Infectious disease, Genetics, Immunology, Rheumatology, Psychiatry and Behavioral Sciences, Skin, Eye, ENT, Adolescent Health, Critical Care, Accidents and Poisoning

Cluster II: Neurology and Disabilities, Nephrology, Hematology and Oncology, Endocrinology, Gastroenterology and Hematology, Respiratory and Cardiovascular disorders

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### **3. Practical/clinical and Oral/viva voce examination**

#### **Practical examination**

Case I

Case II (Newborn)

Case III

OSCE may be used

**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**

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

##### **A. International Journals**

1. Pediatrics
2. The Journal of Pediatrics
3. Archives of disease in childhood
4. Pediatric clinic of North America
5. Pediatric Research
6. The Pediatric infectious disease Journal

##### **B. National Journals**

1. Indian Pediatrics
2. Indian Journal of Pediatrics
3. Journal of Neonatology
4. Pediatric Hematology Oncology Journal

**Annexure I**

#### **Orientation sessions for PG students joining MD in Pediatrics**

**This could be spread over 4-5 sessions once or twice a week depending on departmental routine and feasibility.**

## **For all PG students**

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 Pediatrics (Seminars)

- 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

**Postgraduate Students Appraisal Form Pre  
/ Para /Clinical Disciplines**

**Name of the Department/Unit :**

**Name of the PG Student :**

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

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

**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.**

**SIGNATURE OF ASSESSEE**

**SIGNATURE OF CONSULTANT**

**SIGNATURE OF HOD**