MODEL EVALUATION SHET FOR ACADEMIC ACTIVITIES/ PRESENTATIONS

Journal Club/Seminar

Name: Topic: Date:

Sl No	*Points to be considered*	*Score of Faculty Members*				
		01	*02*	*04*	*04*	*05*
01	Choice of article (Journal Club) or topic of seminar (if not allotted)					
02	Understanding of the subject					
03	Whether relevant cross-references and articles have been consulted					
04	Overall preparation					
05	Whether strengths, weaknesses & controversies have been presented					
06	Cogency of presentation					
07	Use of audio-visual aids					
08	Response to questions					
09	Time scheduling					
10	Overall Performance					

MEAN SCORE

Guidance to the scoring scheme that is to be adopted may be incorporated and separate sheets may be circulated to individual Faculty Members that can be compiled subsequently. Signatures of the Faculty Members should be obtained in the appropriate sheets.

MODEL ASSESSMENT RECORD

Name:			**Date of Admission**: 01 Jan 2000 **Assessment Period:** Jan-Jun 2000		
Posting/Characteristic		**Score**	**Posting/Characteristic**		**Score**
Posting	Surgical Pathology		**Academic**	Journal Club/Seminar	
	Cytopathology		**Research**	Aptitude	
	Haematology			Competence	
	Transfusion Medicine			Overall Performance	
	Laboratory Medicine		**Service**	Aptitude	
	Autopsy			Performance	
	Others (Please Specify)		Attitude towards patients/colleagues		
Attendance	Regularity & Punctuality		Responsibilities towards duties		

Special Remarks if any:

OVERALL GRADING*: ☐

Date: Signature of Head/ Faculty-in-charge

- ***Grading may be done from A+(Excellent) to C (Poor) as in Page 31 or in another predetermined scheme.***
- ***One form is to be filled for each candidate by each Faculty Member and the results consolidated.***
- ***If a student is not posted in a particular branch during the period under review then this must b noted.***
- ***All Grades especially those indicative of "Below average" or "Poor" performance must be communicated to the student/candidate.***

PEDIATRICS — M D

1. GOAL

The goal of M D course in Pediatrics is to produce a competent pediatrician who:

(i) recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of National Health Policy and professional ethics;

(ii) has acquired the competencies pertaining to pediatrics that are required to be practiced in the community and at all levels of health care system;

(iii) has acquired skills in effectively communicating with the child, family and the community;

(iv) is aware of the contemporary advances and developments in medical sciences as related to child health;

(v) is oriented to principles of research methodology; and

(vi) has acquired skills in educating medical and paramedical professionals.

2. OBJECTIVES

At the end of the MD course in Pediatrics, the student should be able to:

(i) recognize the key importance of child health in the context of the health priority of the country;

(ii) practice the specialty of Pediatrics in keeping with the principles of professional ethics;

(iii) identify social, economic, environmental, biological and emotional determinants of child and adolescent health, rehabilitative, preventive and promotive measures to provide holistic care to children;

(iv) recognize the importance of growth and development as the foundation of Pediatrics; and help each child realize her/his optimal potential in this regard;

(v) take detailed history, perform full physical examination including neuro-development and behavioral assessment and anthropometric measurements of the child and make clinical diagnosis;

(vi) perform relevant investigative and therapeutic procedures for the pediatric patient;

(vii) interpret important imaging and laboratory results;

(viii) diagnose illness in children based on the analysis of history, physical examination and investigative work up;

(ix) plan and deliver comprehensive treatment for illness in children using principles of rational drug therapy;

(x) plan and advise measures for the prevention of childhood disease and disability;

(xi) plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs;

(xii) manage childhood emergencies efficiently;

(xiii) provide comprehensive care to normal, 'at risk' and sick neonates;

(xiv) recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them;

(xv) demonstrate empathy and humane approach towards patients and their families and respect their sensibilities;

(xvi) demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities;

(xvii) 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 pediatrics;

(xviii) demonstrate competence in basic concepts of research methodology and epidemiology;

(xix) facilitate learning of medical/nursing students, practicing physicians, para-medical health workers and other providers as a teacher-trainer;

(xx) play the assigned role in the implementation of national health programs, effectively and responsibly;

(xxi) organize and supervise the desired managerial and leadership skills;

(xxii) function as a productive member of a team engaged in health care, research and education.

3. SYLLABUS

General Guidelines – during the training period effort must always be made that adequate time is spent in discussing child health problems of public health importance in the country or a particular region.

3.1 Topics

3.1.1 **Growth and development:**

- principles of growth and development
- normal growth and development in childhood and adolescence
- normal newborn
- normal growth and development,
- sexual maturation and its disturbances
- failure to thrive and short stature.

3.1.2 **Neonatology :**

- perinatal care
- care in the labor room and resuscitation
- prematurity
- common transient phenomena
- low birth weight
- newborn feeding
- respiratory distress
- apnea

- infections
- jaundice
- neurologic disorders
- renal disorders
- thermoregulation and its disorders
- anemia and bleeding disorders
- gastrointestinal disorders
- malformations
- understanding of perinatal medicine

3.1.3 **Nutrition** :

- maternal nutritional disorders; impact on fetal outcome
- infant feeding including complementary feeding
- protein energy malnutrition
- adolescent nutrition
- nutritional management of systemic illness (celiac disease, hepatobiliary disorders, nephrotic syndrome)
- nutrition for the low birth weight
- breast feeding
- vitamin and mineral deficiencies
- obesity
- parenternal and enteral nutrition in neonates and children

3.1.4 **Cardiovascular :**

- congenital heart diseases (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

3.1.5 **Respiratory :**

- congenital and acquired disorders of nose
- tonsils and adenoids
- congenital anomalies of lower respiratory tract
- foreign body in larynx trachea & bronchus
- trauma to larynx
- neoplasm of larynx and trachea
- bronchitis
- aspiration pneumonia
- acute pneumonia
- suppurative lung disease
- atelectasis
- emphysema and hyper-inflation
- pulmonary edema
- infections of upper respiratory tract
- obstructive sleep apnea
- acute inflammatory upper airway obstruction
- subglottic stenosis (acute and chronic)
- bronchiolitis
- GER
- recurrent and interstitial pneumonia
- lung cysts
- bronchial asthma
- bronchiectasis

- pleural effusion
- mediastinal mass
- pulmonary leaks

3.1.6 **Gastrointestinal and liver disease :**

- disease of mouth
- disorders of deglution and esophagus
- H. pylori infection
- congenital pyloric stenosis
- malabsorption syndrome
- irritable bowel syndrome
- hirschsprung's disease
- hepatitis
- chronic liver disease
- Budd-Chiari syndrome
- cirrhosis and portal hypertension
- oral cavity and tongue
- peptic ulcer disease
- foreign body
- intestinal obstruction
- acute and chronic diarrhea
- ulcerative colitis
- anorectal malformations
- hepatic failure
- Wilson's disease
- metabolic diseases of liver

3.1.7 **Nephrologic & Urologic disorders :**

- acute and chronic glomerulonephritis
- hemolytic uremic syndrome
- VUR and renal scarring
- renal tubular disorders
- congenital and hereditary renal disorders
- posterior urethral valves
- undescended testis
- nephrotic syndrome
- urinary tract infection
- renal involvement in systemic diseases
- renal and bladder stones
- hydronephrosis, voiding dysfunction
- Wilm's tumor

3.1.8 **Neurologic disorders :**

- seizure and non-seizure paroxysmal events
- meningitis
- brain abscess
- acute encephalitis and febrile encephalopathies
- neurocysticercosis and other neuroinfestations
- SSPE
- neurometabolic disorders
- neuromuscular disorders
- learning disabilities
- acute flaccid paralysis and AFP surveillance
- movement disorders of childhood
- malformations
- epilepsy and epileptic syndromes of childhood
- coma
- Guillain-Barre syndrome
- HIV encephalopathy
- cerebral palsy
- neurodegenerative disorders
- mental retardation
- muscular dystrophies
- ataxia
- CNS tumors

3.1.9 **Hematology & Oncology :**

- deficiency anemias
- aplastic anemia
- thrombocytopenia
- blood component therapy
- bone marrow transplant/stem cell transplant
- myelodysplastic syndrome
- non-Hodgkin's lymphoma
- hypercoagulable states
- hemolytic anemias
- pancytopenia, disorders of hemostasis
- transfusion related infections
- acute and chronic leukemia
- Hodgkin disease
- neuroblastoma

3.1.10 **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

3.1.11 **Infections :**

- bacterial
- fungal
- rickettssial
- protozoal infection
- protozoal and parasitic
- HIV
- control of epidemics and infection prevention
- viral
- parasitic
- mycoplasma
- tuberculosis
- nosocomial infections
- monitory for nosoconial infections
- safe disposal of infective material

3.1.12 **Emergency & Critical care :**

- emergency care of shock
- respiratory failure
- status epilepticus
- fluid and electrolyte disturbances and its therapy
- poisoning
- scorpion and snake bites
- cardio-respiratory arrest
- acute renal failure
- acute severe asthma
- acid-base disturbances
- accidents

3.1.13 **Immunology & Rheumatology :**

- arthritis (acute and chronic)
- T and B cell disorders
- connective tissue disorders
- immuno-deficiency syndromes

3.1.14 **ENT :**

- acute and chronic otitis media
- post-diphtheritic palatal palsy
- conductive/sensorineural hearing loss

- ♦ acute/chronic tonsillitis/adenoids
- ♦ allergic rhinitis/sinusitis
- ♦ foreign body

3.1.15 **Skin Diseases :**

- ♦ exanthematous illnesses
- ♦ vascular lesions
- ♦ pigment disorders
- ♦ vesicobullous disorders
- ♦ infections: pyogenic
- ♦ fungal and parasitic
- ♦ Steven-Johnson syndrome
- ♦ eczema
- ♦ seborrheic dermatitis
- ♦ drug rash
- ♦ urticaria
- ♦ alopecia
- ♦ icthyosis

3.1.16 **Eye problems :**

- ♦ refraction and accommodation
- ♦ partial/total loss of vision cataract
- ♦ night blindness
- ♦ chorioretinitis
- ♦ strabismus
- ♦ conjunctival and corneal disorders
- ♦ retinopathy of prematurity
- ♦ retinoblastoma
- ♦ optic atrophy
- ♦ pailledema

3.1.17 **Behavioral & Developmental disorders :**

- ♦ rumination
- ♦ pica
- ♦ enuresis
- ♦ encopresis
- ♦ sleep disorders
- ♦ habit disorders
- ♦ breath holding spells
- ♦ anxiety disorders
- ♦ mood disorders
- ♦ temper tantrums
- ♦ attention deficit hyperactivity disorders
- ♦ autism

3.1.18 **Social pediatrics :**

- ♦ national health programs related to child health
- ♦ child abuse and neglect
- ♦ child labor
- ♦ adoption
- ♦ disability and rehabilitation
- ♦ rights of the child
- ♦ national policy of child health and population
- ♦ juvenile delinquency

3.1.19 **Genetics :**

- ♦ principles of inheritance
- ♦ pedigree drawing
- ♦ chromosomal disorders
- ♦ single gene disorders
- ♦ multifactorial/polygenic disorders
- ♦ genetic diagnosis
- ♦ prenatal dignosis

3.1.20 **Orthopedics :**

- ♦ major congenital orthopedic deformities
- ♦ bone and joint infections: pyogenic
- ♦ tubercular
- ♦ common bone tumors

3.2 Approach to Important Clinical Problems

3.2.1 **Growth and development :**

- precocious and delayed puberty
- developmental delay
- impaired learning

3.2.2 **Neonatology :**

- normal newborn
- low birth weight newborn
- sick newborn

3.2.3 **Nutrition :**

- lactation management and complementary feeding
- protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies
- failure to thrive

3.2.4 **Cardiovascular :**

- murmur
- cyanosis
- congestive heart failure
- systemic hypertension
- arrhythmia
- shock

3.2.5 **GIT and liver :**

- Acute diarrhea
- persistent and chronic diarrhea
- abdominal pain and distension
- ascites
- vomiting
- constipation
- gastrointestinal bleeding
- jaundice
- hepatosplenomegaly
- hepatic failure and encephalopathy

3.2.6 **Respiratory :**

- Cough/chronic cough
- noisy breathing
- wheezy child
- respiratory distress
- hemoptysis

3.2.7 **Infections :**

- acute onset pyrexia
- prolonged pyrexia with and
- recurrent infections
- without localizing signs
- nosocomial infections

3.2.8 **Renal :**

- Hematuria/dysuria
- bladder/bowel incontinence
- voiding dysfunctions
- renal failure (acute and chronic)

3.2.9 **Hematoncology :**

- lymphadenopathy
- anemia
- bleeding

3.2.10 **Neurology :**

- limping child
- abnormality of gait
- macrocephaly & microcephaly
- acute flaccid paralysis
- headache
- convulsions
- paraplegia, quadriplegia
- floppy infant
- cerebral palsy and other neuromotor disability

3.2.11 **Endocrine :**

- thyroid swelling
- obesity
- precocious &delayed puberty
- ambiguous genitalia
- short stature

3.2.12 **Skin/Eye/ENT :**

- skin rash
- pain/discharge from ear
- epistaxis
- blindness
- eye discharge
- squint
- pigmentary lesions
- hearing loss
- refractory errors
- cataract
- redness
- proptosis

3.2.13 **Miscellaneous :**

- habit disorders
- arthralgia
- arthritis
- hyperactivity and attention deficit syndrome
- multiple congenital anomalies

3.3 Skills

3.3.1 **History and examination :**

- history taking including psychosocial history
- newborn examination, including gestation assessment
- nutritional anthropometry and its assessment
- SMR rating
- full systemic examination
- communication with children parents
- genetic counseling
- physical examination including fundus examination
- assessment of growth
- use of growth chart
- developmental evaluation
- health functionaries and social support groups

3.3.2 **Bedside procedures :**

Therapeutic skills :

- hydrotherapy
- endotracheal intubation
- administration of oxygen
- nasogastric feeding
- cardiopulmonary resuscitation (pediatric and neonatal)

- venepuncture and establishment of vascular access
- parenteral nutrition
- intrathecal administration of drugs
- administration of fluids, blood blood components
- intraosseous fluid administration
- common dressings abscess drainage

Investigative skills :

- blood sampling – venous and arterial
- ventricular tap
- peritoneal, pericardial and subdural tap
- liver biopsy
- collection of urine for culture, urethral catheterization suprapubic aspiration
- lumbar puncture
- bone marrow aspiration and biopsy
- kidney biopsy
- muscle and nerve biopsy

Bedside investigations :

- hemoglobin, TLC, ESR,
- urine: routine and microscopic examination
- stool microscopy including hanging drop preparation
- Gram stain
- shake test on gastric aspirate
- peripheral smear staining and examination
- examination of CSF and other body fluids
- ZN stain

3.3.3 **Interpretation :**

- interpretation of X-rays of chest, abdomen, bone and skull
- ECG;
- common EEG patterns
- audiograms
- ABG findings; ultrasound and CT scan
- ultrasonographic abnormalities and isotope studies

3.4 **Understanding of Basic Sciences :**

- embryogenesis of different organ systems especially heart, genitourinary system, gastrointestinal tract
- applied anatomy of different organs
- Physiology of micturition and defecation
- placental physiology, fetal and neonatal circulation
- regulation of temperature (especially newborn)
- acid base balance
- calcium metabolism
- hematopoiesis, hemostasis
- growth and development at
- nutrition
- functions of kidney, liver, lungs, heart and endocrine glands
- blood pressure
- fluid electrolyte balance
- vitamins and their functions
- bilirubin metabolism
- puberty and its regulation
- different ages

- ♦ normal requirements of various nutrients
- ♦ principles of basic immunology, bio-statistics managerial skills
- ♦ pharmacokinetics of commonly used drugs
- ♦ basics of genetics and molecular biology
- ♦ teaching methodology and and clinical epidemiology
- ♦ microbial agents and their epidemiology

3.5 Community and Social Pediatrics

- ♦ national health nutrition programs
- ♦ prevention of blindness
- ♦ prevention of sexually transmitted diseases
- ♦ health legislation
- ♦ adoption
- ♦ juvenile delinquency
- ♦ investigation of adverse events following immunization in the community
- ♦ general principles of prevention and control of infections including food borne
- ♦ soil born and vector born diseases
- ♦ nutrition screening of community
- ♦ school health programs
- ♦ contraception
- ♦ national policy on children
- ♦ child labor
- ♦ government and non-government support services for children
- ♦ waterborne
- ♦ investigation of an outbreak in a community

4. TEACHING PROGRAM

4.1 General Principles

- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training should be skills oriented.
- Learning in postgraduate 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.

4.2 Formal Teaching Sessions

Activity	*Frequency*	*Preceptor*	*Evaluator*
Journal Club	Once a week	SR & Faculty	2 faculty members other than the Preceptor
Case Discussion			
Pediatrics			
all JR	Once in 15 days	Faculty	Faculty
Bedside	Morning – 4 times a week	Faculty (Unit)	Faculty (Unit)
	Evening – twice a week	SR	SR

Other Specialties			
Hematology	Once in 3 weeks	Hematology Faculty	
Pediatric Cardiology	Once in 2 weeks	Cardiology Faculty	Cardiology Faculty
Mortality audit	Thrice a month	Senior Resident & Faculty	
Statistics PICU	Once in three month	PICU Faculty	
Statistics NICU	Once a year	SR NICU Faculty	
Interesting/difficult cases	Once a month	Faculty	
Pediatrics Radiology Conference	Once a week	SR & Faculty	
Seminar	Once a week	SR & Faculty	2 Faculty members other than the preceptor
Faculty Lectures			
Pediatrics Other specialties	Once a month	Faculty	
Pediatric Surgery	2 in each semester	Peds. Surgery Faculty	
Dermatology	2 in each semester	Dermatology Faculty	
Psychiatry/ Psychology	2 in each year	Psychiatry Faculty	
Biostatistics	2 in each year	Biostatistics Faculty	
Communication Skills	1 in each semester		
Ethical & Legal Issues	1 in each year		
Departmental Symposium	1 in each semester	Resident & Faculty	Faculty other than preceptor

4.3 Rotations

Postgraduate student must rotate through all clinical units of the department. This is especially important for him to get Pediatric subspeciality training.

- Neonatology (NICU) - 6 months
- Intensive Care (PICU) - 5 months
- Each Unit
- Unit I - 6-8 months
  Subspeciality – Nephrology gastro-enterology, hepatology
- Unit II - 6-8 months
  Neurology, endocrinology, genetics

- Unit III - 6-8 months
  Oncology, pulmonology,
  rheumatology & tuberculosis
  Pediatric Cardiology - 2 months

(All Units also provide general pediatric care in addition to subspeciality).

PGS should also attend subspeciality clinics during their respective Unit postings.

5. THESIS

5.1 Objectives

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

(i) identify a relevant research question;

(ii) conduct a critical review of literature;

(iii) formulate a hypothesis;

(iv) determine the most suitable study design;

(v) state the objectives of the study;

(vi) prepare a study protocol;

(vii) undertake a study according to the protocol;

(viii) analyze and interpret research data, and draw conclusions,

(ix) write a research paper.

5.2 Guidelines

While selecting thesis topics, following should be kept in mind :

(i) the scope of study should be limited so that it is possible to conduct it within the resources and time available to the student;

(ii) the emphasis should be on the process of research rather than the results;

(iii) the protocol, interim progress as well as final presentation must be made formally to the entire department;

(iv) only one student per teacher/thesis guide;

(v) periodic department review of the thesis work as per following schedule :

- End of 4 months - Submission of protocol
- 6 months prior to examination - Final presentation and submission

6. ASSESSMENT – INTERNAL AND FINAL

6.1 General Principles

- The assessment should be valid, objective, and reliable.
- It must cover cognitive, psychomotor and affective domains.
- Formative, continuing and summative (final) assessment should be conducted in theory as well as practicals/clinicals. In addition, thesis should be assessed separately.

6.2 Overall Weightage

Internal assessment - 30%

Final summative examination - 70%

6.2.1 Formative assessment

The formative assessment should be continuous as well as end-of-term. The former should be based on the feedback from the senior residents and the unit faculty concerned. End-of-term assessment should be held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate.

6.2.2 Internal assessment

Proposed Internal Assessment

Items	*Weightage*	*Timing of Assessment*	*Evaluators*
1. Personal attributes* (details)	30%	At end of each posting	Faculty in-charge and Senior Resident
2. Clinical skills and performance	40%	At end of each posting	Faculty in-charge and Senior Resident
3. Academic activities			
i. Journal Club, Seminars, Case discussion	10%	Ongoing	Faculty preceptor, Faculty (Other than preceptor)
ii. End of each semester** Theory exam.	10%	End semester	Faculty
iii. End of each semester*** Practical exam.	10%	End semester	Faculty

***Personal attributes :**

- Availability : Punctual, available continuously on duty, responds promptly to calls, takes proper permission for leave.
- Sincerity and motivation : Dependable, honest, admits mistakes, does not falsify information, exhibits good moral values, loyal to institution, has initiative, takes on responsibilities, goes beyond routine work, exhibits keen desire to learn.
- Diligence and performance : Dedicated, hardworking, does not shirk duties, leaves no work pending, competent in clinical case work up and management, skilled in procedures, proficient in record keeping and file work.
- Academic ability : Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- Interpersonal skills : Has compassionate attitude towards patients, gets on well with colleagues and paramedical staff.

****Syllabus for end semester theory exams :**

Semester I. Growth and development, behavioral disorder, nutrition, immunization, infections disease, biostatistics.

Semester II. Respiratory system, gastroenterology, hepatology and neurology.

Semester III. Neonatology, emergencies, nephrology and endocrinology.

Semester IV. Hematology, hematoncology immunology, genetics, behavioral and psychological adolescent health disorders, social and preventive pediatrics and other specialities.

Semester V. Whole syllabus

Theory assessment at the end of each semester will consist of 5 short answer questions.

*** End semester practical exam – one case, Viva, OSCE (Neonatology)

6.2.3 Summative Assessment

- Ratio of marks in theory and practicals will be equal.
- The pass percentage will be 50%.
- Candidate will have to pass theory and practical examinations separately.

Theory :

Paper 1	:	Basic sciences as applied to pediatrics	25%
Paper 2	:	Neonatology and community pediatrics	25%
Paper 3	:	General pediatrics including advances in pediatrics relating to Cluster I specialities*	25%
Paper 4	:	General pediatrics including advances in pediatrics relating to Cluster II specialities**	25%

*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, oncology, endocrinology, gastroenterology, hepatology, respiratory and cardiovascular disorders.

In each paper there should be 10 short essay questions (SEQ).

Practicals :

Two external and two internal examiners should conduct the examinations :

- 3 cases semi long 20% each (total 60%)
- OSCE (Neonatology) 20%
- Viva 20%

Recommended Reference Books

- Behrman RE, Kliegman RM, Jenson HB. Nelson Textbook of Pediatrics. Harcourt Asia Pte Ltd, 16th edition, 2000.
- Rudolph AM, Hoffman JIE, Rudolph CD. Rudolph's Pediatrics. Appleton and Lange, 20th edition, 1996. Campbell AGM, McIntosh N. Forfar and Arneil's Textbook of Pediatrics. ELBS. 4th edition, 1992.

- Ghai OP, Gupta P, Paul VK. Essential Pediatrics. Interprint, New Delhi, 5th edition, 2001.
- Singh M. Pediatrics Clinical Methods. Sagar Publications, 1st edition, 1992.
- Siberry GK, Iannone R. The Harriet Lane Handbook. Mosby & Harcourt India. 15th Edition, 2000.
- Singh M, Deorari AK. Drug Doses in Children. Sagar Publications, 2001.

Growth and Development

- IlIingworth RS. The development of the infant and young child. Normal and abnormal. Churchill Livingstone, 9th edition, 1987.

Nutrition

- Alleyne GAO, Hay RW, Picou DI, Stanford JP, Whitehead RG. Protein energy malnutrition. Jaypee Brothers, 1989.
- Management of severe malnutrition: a manual for physicians and other senior health workers. WHO, Geneva, 1999.
- Suskind RM, Lewinter-Suskind C. The malnourished child. Nestle Nutrition Workshop Series. Volume 19, 1990.

Infectious diseases

- Feigin RD, Cherry ID. Textbook of Pediatric Infectious Diseases. W. B. Saunders, 5th edition, 2000.
- Remington JS, Klein JO. Infectious Diseases of the Fetus and Newborn Infant. W. B. Saunders, 5th edition, 2000.
- Weatherall DJ, Ledingham JGG, Warrell DA. Oxford Textbook of Medicine; Volume I. Oxford University Press, 3rd edition, 1996.
- Cook G. Manson's tropical diseases. ELBS and W. B. Saunders Co., 20th edition, 1996.
- Seth V, Kabra SK. Essentials of tuberculosis in children. Jaypee Brothers, 2nd edition, 2001.
- Pizzo PA, Wilfert CM. Pediatric AIDS. Lippincott Williams & Wilkins. 3rd Edition, 1998.

Intensive care

- Singh M. Medical emergencies in children. Sagar Publications, 3rd edition, 2000. .
- Rogers MC, Nichols DG. Textbook of Pediatric intensive care. Williams & Wilkins, 3rd Edition, 1996.

Neonatology

- Singh M. Care of the Newborn, Sagar Publication, 2000.
- Avery GB, Fletcher MA, MacDonald MG. Neonatology- Pathophysiology and Management of the Newborn. Lippincott William and Wilkins, 5th edition, 2000.
- Cloherty JP, Stark AR. Manual of Neonatal Care. Lippincott- Raven Publishers, 4th edition, 1998.
- Kattwinkel I. Textbook of neonatal resuscitation. American Heart Association and American Academy of Pediatrics, 4th edition, 2000.

Neurology

- Swaiman B, Kenneth F, Ashwal S. Pediatric Neurology: Principles and Practice. St. Louis Mosby, 3rd edition, 1999.

- Brett EM. Pediatric Neurology . Churchill Livingstone, 3rd edition, 1997.
- Menkes JH. Textbook of Childhood Neurology. Lea and Febiger, 5th edition, 2000.

Cardiology

- Allen HO, Clark FB, Gutgesell HP, Driscoll DJ. Moss and Adam's Heart Disease in Infants, Children and Adolescents. Lippincott Williams and Wilkins, 6th edition, 2001.
- Park MK. Pediatric cardiology for practitioners. Mosby- YearBook, Inc., 3rd edition, 1996.

Gastroenterology

- Suchy FI, Sokol RJ, Balistreri WF. Liver disease in children. Lippincott Williams and Wilkins, 2nd edition, 2001.
- Bhan MK, Bhatnagar S. Guidelines for management of diarrhea in children. Ministry of Health, GOI and WHO/SEARO, 2000.

Endocrinology

- Lifshitz F. Pediatric Endocrinology. Marcel Dekker, Inc., 3rd edition, 1995.
- Sharma S, Singhal T, Bajpai A. Management protocols in pediatric endocrinology. April 2000.
- Desai MP, Bhatia B, Menon PSN. Pediatric Endocrine Disorders. Orient Longman, 2001.

Nephrology

- Barratt TM, Avner ED, Harmon WE. Pediatric nephrology. Baltimose Williams and Wilkins, 4th edition, 1998.
- Srivastava RN, Bagga A Pediatric Nephrology, 3rd edition, Jaypee, New Delhi, 2001.

Hematology & Oncology

- Nathan DG, Orkin SH. Nathan and Oski's Hematology of Infancy and Childhood. W. B. Saunders, 5th edition, 1998.

Rheumatology

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