



SHRI
DHARMASTHALA
MANJUNATHESHWARA
UNIVERSITY

Ordinance Governing
M.D. PEDIATRICS
Curriculum 2019-20

SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC 2018 dated 19th December 2018)

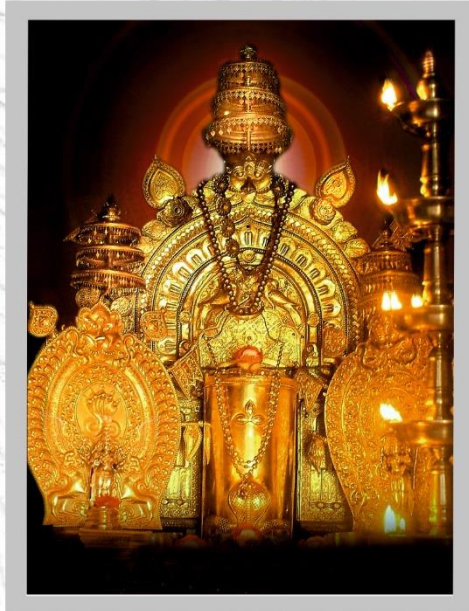
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|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

Edition Year : 2019-20

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THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with three wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line **"Truth Liberates"** highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.



SHRI
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VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



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UNIVERSITY

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SDMU/Notif/28/2019

Date: 24 - 04 - 2019

NOTIFICATION

Regulations and Curricula of Medical Postgraduate Degree Courses in Clinical Subjects - 2019

- Ref:**
1. Minutes of the Board of Studies - Medical PG held on 16-03-2019 (SDMU/BOS PG: 01/2019 dated 16-03-2019)
 2. Minutes of the 1st Joint Faculty Meeting held on 19-03-2019 (Letter No: SDMU/JF/M-01/85/2019; Dated: 19-03-2019)
 3. Minutes of the 1st Meeting of Academic Council held on 20-03-2019 (Letter No: SDMU/AC/M-01/93/2019; Dated: 21-03-2019)
 4. Minutes of the 2nd Meeting of BoM held on 22-03-2019 (Letter No: SDMU/BoM/M-02/94/2019; Dated: 23-03-2019)

Ordinance: In exercise of the powers conferred under Statutes 1.1 (Powers - Section xii), 1.2 (Powers and Functions - Section vii), 1.4 (Powers and Functions - Sections ix & x), 1.5b (Powers and Functions - Sections b & c) of Shri Dharmasthala Manjunatheshwara University, the BoM is pleased to approve and notify the Ordinance governing Regulations and Curricula of the following Medical Postgraduate Degree/ Diploma Courses in Clinical Subjects - 2019:

Sl No	Course	Sl No	Course
1	M.D. (General Medicine)	7	M. D. (Hospital Administration)
2	M. D. (Pediatrics)	8	M. S. (General Surgery)
3	M. D. (Dermatology)	9	M. S. (Ophthalmology)
4	M. D. (Psychiatry)	10	M. S. (Orthopedics)
5	M. D. (Anaesthesiology)	11	M. S. (Otorhinolaryngology)
6	M. D. (Radio-Diagnosis)	12	M. S. (Obstetrics & Gynecology)

Diploma

- 1 Diploma in Public Health

The ordinance shall be effective for the students joining the courses during 2019-20 and onwards.

By Order-



REGISTRAR

- To:**
1. The Principal, SDM College of Medical Sciences & Hospital.
 2. Members of BoG, BoM & Academic Council, Shri Dharmasthala Manjunatheshwara University

- Copy to:**
1. The Vice-Chancellor, Shri Dharmasthala Manjunatheshwara University
 2. The Controller of Examinations, Shri Dharmasthala Manjunatheshwara University

Course Description
Postgraduate Courses in Pediatrics
M. D. Pediatrics

A. Goals

The goals of postgraduate training in Pediatrics would be to train a basic medical graduate (MBBS)

1. To practice as a Child Health specialist equipped with appropriate knowledge and skills necessary to care for the normal and sick child.
2. To practice Child Health in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
3. To practice with empathy and the highest ethical standards of the profession.
4. To continue to strive for excellence by continuing medical education throughout his or her professional career.
5. To teach by sharing knowledge and skills with colleagues.
6. To research and find solutions to challenges in health care.

B. Objectives

The objectives to be fulfilled at the completion of the course are as follows:
At the end of the program, the student should be able to:

a. Knowledge:

- i. Describe, identify and monitor normal patterns of growth and development of children.
- ii. Describe etiopathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of childhood.
- iii. Demonstrate an understanding of Basic (Pre and Para-clinical) Sciences and its application to the normal and abnormal processes.

- iv. Analyze clinical and investigation data approach and manage a health-related problem.
- v. Identify and understand socio-economic-environmental-cultural factors in health care.
- vi. Recognize problems outside his or her abilities and appropriately refer.
- vii. Update one's knowledge and skills by self-directed learning and by participating in continued medical education programs utilizing media – spoken, written, Print and electronic.
- viii. Teach and share knowledge and skills with colleagues.
- ix. Audit and analyze work, assist in research and publish scientific articles in peer reviewed journals.

b. Skills:

- i. Elicit an appropriate clinical history.
- ii. Demonstrate appropriate clinical physical examination skills on children.
- iii. Plan, decide upon and interpret appropriate cost effective investigations.
- iv. Perform essential procedures both diagnostic and therapeutic.
- v. Manage, resuscitate and stabilize children in Pediatric or Neonatal emergencies.

c. Communication and attitudes:

- i. Communicate appropriately with guardians and children, assisting in their health care decision making.
- ii. Practice child health care at the highest ethical level, protecting the child at all costs.
- iii. Respect Patient's (and their guardian's) rights and professional relationships (Doctor-Doctor, Doctor-Nurse, Doctor-Patient, Doctor-Society).
- iv. Apply the highest level of ethics in Research, Publication, References and Practice of Pediatrics.

Duration of Study

The period of training for obtaining the degree shall be three completed years including the period of examination.

Provided that in the case of students having a MCI/NMC recognised two year postgraduate diploma course in the same subject, the period of training, including the period of examination, shall be two years.

Course Contents

Knowledge Must Know	Knowledge Desirable to know
The Field of Pediatrics <ol style="list-style-type: none">1. Evaluating Medical Literature Critical Appreciation of Journal articles2. Overview of Child Health3. The Normal Child4. Preventive and Social Pediatrics5. Epidemiology, Statistics and Research Methodology including Dissertation6. Ethical Issues in Pediatrics	<ol style="list-style-type: none">1. History of Pediatrics2. Traditions and Cultural Issues pertaining to Child Care
Growth and Development <ol style="list-style-type: none">1. Biopsychological Models of Development2. Fetal growth and development3. The newborn G/D4. Infant, Preschool, Early school, Adolescence G/D5. Assessment of Growth6. Development Assessment7. Standards/Normograms (including Indian)8. Approach to short stature9. Approach to Obesity10. Approach to Under nutrition	<ol style="list-style-type: none">1. IQ assessment
Psychological Disorders <ol style="list-style-type: none">1. Assessment and Interviewing	<ol style="list-style-type: none">1. Psychiatric considerations of CNS injury2. Mood Disorders

<ol style="list-style-type: none"> 2. Vegetative Disorders-Rumination, Pica, Enuresis, Encopresis, Sleep 3. Habit Disorders 4. Anxiety Disorders 5. Suicide 6. ADHD 7. Autism 8. Poor Scholastic performance child 9. Psychosomatic Illness 	<ol style="list-style-type: none"> 3. Disruptive Behavioral disorders 4. Sexual behavior variations 5. Psychosis 6. Psychological treatment 7. Neurodevelopment dysfunction in school age child 8. Learning Disorders
<p>Social Issues</p> <ol style="list-style-type: none"> 1. Adoption 2. Street Child 3. Child Care 4. Separation, death 5. Abuse and Neglect 6. Child Labor 7. Media (TV, Movies) and its effect on the child 	<ol style="list-style-type: none"> 1. Effects of a mobile society 2. Impact of Violence 3. Street Child 4. Single parent child 5. Foster care
<p>Children with Special Needs</p> <ol style="list-style-type: none"> 1. Failure To Thrive – Problems, Approach and Evaluation 2. Developmental disabilities, Chronic Illness 3. Mental Retardation – Problems, Approach and Evaluation 4. Care of Child with fatal illness 	<ol style="list-style-type: none"> 1. Children in Poverty 2. Homeless children 3. Foster Children 4. Runaway Children
<p>Nutrition</p> <ol style="list-style-type: none"> 1. Nutritional Requirements- Water, energy, Proteins, CHO, Fats, Minerals, Vitamins, 2. Diet/Nutrition Evaluation 3. Diet for later childhood and Adolescent 4. Infant and Child Feeding 5. Breast Milk Feeding, Human Lactation Management, BFHI 6. Nutrition Values of Indian Foods, Recipes 7. Weaning foods 	<ol style="list-style-type: none"> 1. Athletic Diet

<ol style="list-style-type: none"> 8. Feeding through 1 and 2nd years 9. Nutritional Disorders Including Obesity 10. Protein Energy Malnutrition 11. Vitamin Deficiencies and Excess 12. Micro-nutrient Malnutrition 13. Nutrition in Special situations – LBW, Premature, IEM, Chronic illness, Surgery, Critically ill child 14. TPN 	
<p>Patho-physiology of Body Fluids and Fluid therapy (Approach and Management)</p> <ol style="list-style-type: none"> 1. Physiology of Fluids, Electrolytes and Acid Bases 2. Dehydration and fluid management 3. Dyselectrolytemia 4. Acid Base Disorders 5. Special Situations - Pyloric stenosis, CNS 6. disorders, Burns, Perioperative, Endocrine disorders, Renal Failure 	
<p>Acutely ill child</p> <ol style="list-style-type: none"> 1. Evaluation in Emergency 2. Injury Control 3. Emergency Medical Services 4. Pediatric Critical Care <ul style="list-style-type: none"> • Respiratory Failure, Ventilation • Circulatory Failure and Shock • Acute Neurological Dysfunction • Resuscitation – Basic and Advanced, <p>NALS/PALS</p> <ul style="list-style-type: none"> • Post Resuscitation stabilization • Cold/Heat Injury <ol style="list-style-type: none"> 5. Transportation of Sick Child/neonate 6. Post-operative supportive care 	<ol style="list-style-type: none"> 1. Pediatric Anesthesia 2. Organization of a PICU/NICU <p>Equipment for Intensive care</p>

<p>Emergencies/ Critical Care Pediatrics</p> <ol style="list-style-type: none"> 1. Fluid abnormalities 2. Electrolyte abnormalities 3. Thermoregulation problems 4. Acute Renal failure 5. Hypertensive crisis 6. Congestive Cardiac failure 7. Cardiogenic shock 8. Pericardial tamponade 9. Cyanotic spells 10. Unstable and stable Arrhythmias 11. Vomiting and Diarrhea 	
<ol style="list-style-type: none"> 12. GI Bleeds - Hematemesis, Melena, Hematochezia 13. Adrenal Crisis 14. Metabolic problems – <ul style="list-style-type: none"> • hyperammonemia, • lactic acidosis, • acid base abnormalities, • Hypoglycemia 15. Septicemic shock, Viral infections and shock 16. Pneumothorax, empyema, pleural effusion, ascites 17. Severe anaemia, Bleeding child, Neutropenia 18. Pain management, Drug therapy 19. ARDS 20. Respiratory Failure 21. Burns/ electrocution 22. Animal Bites 23. Preanesthetic check-up PAC 24. Sickle cell crisis, severe complicated malaria 25. Acute severe asthma, Bronchiolitis 26. Status epilepticus 27. Febrile seizure 28. Coma, Increased intra-cranial pressure 29. Cardiopulmonary resuscitation 30. Shock 	

<ul style="list-style-type: none"> 31. Upper airway obstruction 32. Near drowning 33. Poisoning 34. Snake bite 35. Scorpion sting 36. Physical abuse 37. Sexual abuse 	
<p>Human Genetics</p> <ul style="list-style-type: none"> 1. Molecular Basis of Disorders 2. Molecular Diagnosis 3. Inheritance Patterns 4. Chromosomal/genetic clinical Abnormalities 5. Genetic Counselling 6. Dysmorphism 7. Gene therapy 	<ul style="list-style-type: none"> 1. Human Genome Project
<p>Metabolic Disorders</p> <ul style="list-style-type: none"> 1. Approach to IEM 2. Aminoacid Metabolic defects - Common 3. Porphyria 4. Lipid Metabolism - Common 5. CHO Metabolism – Common 6. Mucopolysaccharidosis 7. Hypoglycemia 	<ul style="list-style-type: none"> 1. Purine and pyrimidine metabolism defects 2. Amino acid Metabolic Defects – Rare 3. Lipid Metabolism – Rare 4. CHO Metabolism – Rare 5. Mucopolipidosis

<p>Fetus and Newborn</p> <ol style="list-style-type: none"> 1. Mortality and morbidity 2. Newborn – history, examination, routine delivery care, nursery care, bonding 3. High risk pregnancies 4. Dysmorphology 5. Fetus <ul style="list-style-type: none"> • Growth/Development • Fetal distress • Maternal diseases • Maternal medications • Detection, treatment, prevention of fetal disease • Antenatal diagnosis • Fetal therapy • Antenatal therapy 	
<ul style="list-style-type: none"> • Counseling • Teratogens, radiation <ol style="list-style-type: none"> 6. High risk infant <ul style="list-style-type: none"> • Multiple pregnancies • Prematurity • Postdated • IUGR/LBW • LFD 7. Congenital anomalies/ malformations 8. Birth injuries 9. Hypoxia - ischemia, asphyxia 10. Organization and levels of newborn care 11. Normal Newborn 12. Common problems in a normal newborn 13. Delivery room emergencies 14. Respiratory disorders 15. Oxygen therapy, toxicity 16. Ventilation 17. GI disturbances including NEC 	

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| <ol style="list-style-type: none">18. Hyperbilirubinemia19. Cardiac problems20. PPHN21. Blood disorders<ul style="list-style-type: none">• Polycythemia• Anemia• Hemorrhagic disease of newborn• Hemolytic disease of newborn• Thrombocytopenia22. Genitourinary disturbances23. Metabolic disorders24. Endocrine disorders- IDM, CAH25. Ambiguous genitalia26. Fluid and electrolytes in Newborn care27. Nutrition and feeding the newborn – term/preterm, LBW, IUGR28. Neonatal transport29. Surgical problems<ul style="list-style-type: none">• TEF• Anorectal malformations• Diaphragmatic Hernia/Eventration• Hirschsprung• Urogenital anomalies• NEC• Congenital Lobar Emphysema• Volvulus30. Thermoregulation31. Neonatal follow-up | |
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<p>Neonatal Infections</p> <ol style="list-style-type: none"> 1. Epidemiology 2. Intrauterine infections 3. Viral Infections 4. Neonatal sepsis/meningitis 5. Pneumonia 6. UTI 7. Hepatitis 8. Nosocomial 9. Universal precautions 10. Prevention of infections 11. Therapy- antimicrobials, adjuvants 	
<p>Adolescent Health</p> <ol style="list-style-type: none"> 1. Epidemiology 2. Sexual development and SMR stages 3. Deliveries of health care 4. Pregnancy 5. Contraception 6. STD 7. Menstrual problems 8. Anorexia nervosa, bulimia 	<ol style="list-style-type: none"> 1. Depression 2. Suicide 3. Substance abuse 4. Sleep disorders 5. Skin/Orthopedics
<p>Immunological system</p> <ol style="list-style-type: none"> 1. Basics of Immunology 2. Approach to immunodeficiency 3. HIV 4. Bone marrow transplantation 5. Primary B cell diseases 6. Primary T cell diseases 7. Complement and phagocytic diseases 8. Chronic granulomatous disease 9. Chediak Higashi Disease 10. Neutrophil abnormalities 11. Adhesion disorders 	

<p>Allergic disorders</p> <ol style="list-style-type: none"> 1. Allergy and Immunological basis 2. Diagnosis 3. Therapy – principles 4. Allergic Rhinitis 5. Asthma 6. Atopic dermatitis 7. Urticaria, Angioedema 8. Anaphylaxis 9. Serum sickness 10. Adverse drug reactions 	<ol style="list-style-type: none"> 1. Insect allergy 2. Ocular allergy 3. Adverse food reaction
<p>Rheumatology</p> <ol style="list-style-type: none"> 1. Autoimmunity 2. Laboratory evaluation 3. JRA 4. SLE 5. Vasculitis 6. Dermatomyositis 7. Erythema Nodosum 	<ol style="list-style-type: none"> 1. Ankylosing spondylitis 2. Neonatal Lupus 3. Scleroderma 4. Mixed connective Tissue Disease 5. Behcet’s 6. Sjogren 7. Non rheumatic conditions 8. Pain syndromes, panniculitis Polychondritis amyloidosis
<p>Infectious diseases</p> <ol style="list-style-type: none"> 1. Fever 2. Clinical use of Micro Lab 3. Fever without a focus 4. Sepsis and Shock 5. CNS Infections 6. Pneumonia 7. Gastroenteritis 8. Osteomyelitis, Septic arthritis 9. Compromised host infections 10. Bacterial Infections 11. Anaerobic infections 12. Viral Infections 13. Mycotic infections <ul style="list-style-type: none"> • Candidiasis • Aspergillosis 	

<p>14. Parasitic infections</p> <ul style="list-style-type: none"> • Helminthiasis <p>15. Protozoal</p> <ul style="list-style-type: none"> • Malaria • Kalaazar • Leishmania • Giardia • Amoeba <p>16. Antiparasitic drugs</p> <p>17. Antimicrobials</p> <p>18. Antivirals drugs, interferon</p> <p>19. Preventive measures</p> <ul style="list-style-type: none"> • Health advice for travelling • Infection control <p>20. Immunization</p> <ul style="list-style-type: none"> • Principles • Schedules • Controversies • Standard and Optional Vaccines • Recent advances in Vaccines 	
<p>Digestive system</p> <ol style="list-style-type: none"> 1. Normal tract – Physiology, Anatomy, Development 2. Clinical features of Disorders 3. Disorders of Esophagus 4. Disorders of Stomach 5. Disorders of Intestines except Food allergy 6. Disorders of Pancreas 7. Disorders of Liver and biliary system <ul style="list-style-type: none"> • Acute Hepatitis, Chronic Hepatitis, Cirrhosis, • Metabolic Liver Diseases, Cholestatic liver disease, • Neonatal Obstructive Cholangiopathy, • Complications of Liver Disease – Portal 	<ol style="list-style-type: none"> 1. Food allergy

<p>Hypertension, Encephalopathy, Coagulopathy, 8. Disorders of Peritoneum 9. GI function tests Approach to Malabsorption</p>	
<p>Respiratory system</p> <ol style="list-style-type: none"> 1. Development and function 2. Disorders of Upper Respiratory tract 3. Disorders of Lower respiratory tract 4. Pleural disorders 5. Chronic Respiratory Disease <ul style="list-style-type: none"> • Interstitial fibrosis, ILD, empyema, Lung abscess, bronchiectasis 6. Recurrent Respiratory Disease 7. Ventilation 8. Pulmonary Function tests 9. Cystic Fibrosis 10. Obstructive sleep apnea 11. Pulmonary Hemosiderosis 12. Neuromuscular skeletal disorders 13. Bronchial Asthma 	<ol style="list-style-type: none"> 1. Congenital disorders of nose[2. Hypoventilation 3. Hypostatic pneumonia 4. Kyphoscoliosis 5. Central hyperventilation 6. Obesity 7. Cough Syncope
<p>Cardiovascular System</p> <ol style="list-style-type: none"> 1. Investigations –Lab, ECG, CXR, ECHO, Cath 2. Physiology and Pathophysiology of Transitional Circulation Embryology 3. Congenital Heart Disease Epidemiology Approach Cyanotic Acyanotic 4. Cardiac Arrhythmia 5. Acquired heart disease Infective Endocarditis Rheumatic Heart Disease 6. Diseases of the Myocardium – Myocarditis, Cardiomyopathy 	<ol style="list-style-type: none"> 1. Sick Sinus 2. Tumors of Heart 3. Heart Lung, Heart Transplants 4. Aneurysms and fistulae

<p>7. Cardiac Therapeutics</p>	
<p>Blood</p> <ol style="list-style-type: none"> 1. Development of Hematopoietic system 2. Anemia <ul style="list-style-type: none"> • Inadequate production • Nutrition – Iron, Folate, B12 • Bone Marrow failure • Hemolytic • Congenital and Acquired 3. Constitutional pancytopenia 4. Polycythemia 5. Granulocyte transfusions 6. Pancytopenia 7. Blood and component transfusions 8. Thrombotic disorders 9. Hemorrhagic disorders – acquired and congenital <ul style="list-style-type: none"> • Physiology • Bleeding disorders • Coagulation disorders 10. Hyposplenism, trauma, splenectomy 11. Physiology and Disorders of the Spleen 12. Lymphatics 	<ol style="list-style-type: none"> 1. Elliptocytosis 2. Stomatocytosis 3. Other membrane defects 4. Lymphatic vessel disorders
<p>Neoplasms</p> <ol style="list-style-type: none"> 1. Principles of diagnosis 2. Principles of treatment 3. Leukemia 4. Lymphomas 5. Neuroblastomas 6. Liver neoplasm 7. Kidney tumors 8. Bone Neoplasms 9. Retinoblastoma 	<ol style="list-style-type: none"> 1. Epidemiology 2. Molecular pathogenesis 3. Soft tissue sarcomas 4. Gonadal, germ cell tumours 5. GI neoplasm 6. Carcinomas 7. Skin Cancer 8. Benign tumours

<p>Nephrology</p> <ol style="list-style-type: none"> 1. Structure and function of kidney 2. Hematuria and conditions 3. HUS 4. Evaluation 5. Nephrotic syndrome 6. Acute Glomerulonephritis 7. Tubular disorders <ul style="list-style-type: none"> • Function • RTA • DI 8. Renal Failure 9. RPGN 10. Renal Replacement therapy 11. Bartter syndrome 12. Investigations 13. Toxic nephropathy 	<ol style="list-style-type: none"> 1. Membranous GN 2. Lupus nephritis 3. Membrano Proliferative GN 4. Chronic infn GN 5. Proteinuria 6. Goodpasture 7. Interstitial nephritis 8. Cortical necrosis
<p>Urological disorders</p> <ol style="list-style-type: none"> 1. UTI 2. Congenital anomalies, dysgenesis kidney 3. Vesicoureteral reflux 4. Bladder anomalies 5. Obstructions 6. Penis, urethra anomalies 7. Voiding dysfunction 8. Scrotal anomalies 9. Genitourinary trauma 10. Urinary lithiasis 11. Investigations – imaging, renal function tests 12. Neurogenic bladder 	

<p>Gynecological problems</p> <ol style="list-style-type: none"> 1. Menstrual Problems 2. Vulvovaginitis 3. Developmental anomalies 4. A child with special gynea needs 	<ol style="list-style-type: none"> 1. Neoplasms 2. Breast Disorders 3. Hirsuitism, polycystic ovaries 4. Gynea imaging 5. Athletic problems
<p>Endocrine</p> <ol style="list-style-type: none"> 1. Hypothalamus and pituitary <ul style="list-style-type: none"> • Hypopituitarism • Growth hormone • DI • ADH • Physiology of Puberty • Disorders of puberty • Precocious Puberty • Delayed puberty 2. Thyroid <ul style="list-style-type: none"> • Thyroid studies • Hypothyroidism • Thyroiditis • Goitre • Hyperthyroidism 3. Parathyroid and disorders 4. Diabetes mellitus 5. Adrenal Disorders <ul style="list-style-type: none"> • CAH • Cushing • Addisons • Excess mineralocorticoids • Feminizing adrenal tumours • Pheochromocytoma 	<ol style="list-style-type: none"> 1. Carcinoma of thyroid 2. Tumours of testis/ovary 3. Multiple Endocrine Disorders

<p>CNS</p> <ol style="list-style-type: none"> 1. Examination, Localization of lesions 2. Congenital anomalies 3. Seizures 4. Headaches 5. Neurocutaneous disorders 6. Coma 7. Brain death 8. Head Injury 9. Neurodegenerative disorders- Approach, Grey/white 10. Acute Stroke 11. Brain abscess 12. Tumors 13. Spinal cord disorders 14. Investigations 15. Antiepileptic drugs 16. SSPE 17. Rabies Vaccine Encephalomyelitis, 18. Acute Demyelinating Encephalomyelitis 19. Approach, Investigations of UMN, LMN, Extrapyramidal, Cerebellar lesions 20. Cerebral Palsy 21. Neuroinfections 22. Encephalopathies 	<ol style="list-style-type: none"> 1. Movement disorders
<p>Neuromuscular</p> <ol style="list-style-type: none"> 1. Evaluation, investigations 2. Muscular Dystrophies, Congenital Myopathy, Myositis 3. Neuromuscular transmission and motor neuron abnormalities 4. GB syndrome 5. Bell's palsy 6. Floppy Infant 7. Myasthenia Gravis 	<ol style="list-style-type: none"> 1. Development disorders of muscle 2. Endocrine 3. Metabolic 4. Motor sensory neuropathy 5. Autonomic

<p>Eye</p> <ol style="list-style-type: none"> 1. Examination of eye 2. Diseases of Eye movement and alignment disorders 3. Diseases of Conjunctiva - Conjunctivitis 4. Diseases of Lens – Cataracts 5. Diseases of Optic nerve – Papillitis, Neuritis, Papilledema 6. Diseases of Cornea - Clouding 7. Vitamin A deficiency 8. Lacrimal problems - Dacrocystitis 9. Retinopathy of Prematurity 10. VER 	<ol style="list-style-type: none"> 1. Refraction, accommodation 2. Vision 3. Pupils and iris 4. Lids 5. Uveal tract 6. Retina and vitreous 7. Glaucoma 8. Orbital abnormalities 9. Injuries to eye
<p>Ear</p> <ol style="list-style-type: none"> 1. Clinical manifestations 2. Hearing loss 3. External Otitis 4. Otitis media 5. BAER 	<ol style="list-style-type: none"> 1. Congenital malformations 2. Inner ear dis 3. Trauma 4. Tumors
<p>Skin</p> <ol style="list-style-type: none"> 1. Morphology 2. Evaluation 3. Principles of therapy 4. Diseases of the neonate 5. Ectodermal dysplasia 6. Vascular disorders 7. Cutaneous nevi 8. Pigment Disorders <ul style="list-style-type: none"> • Hyperpigmentation • Hypopigmentation 9. Vesiculobullous dis 10. Eczema 11. Cutaneous Infections – Bacterial, Viral, Fungal 12. Arthropod bites, infestations 	<ol style="list-style-type: none"> 1. Cutaneous defects 2. Hypersensitivity 3. Epidermis dis 4. Keratinization dis 5. Dermis dis 6. Subcutn dis 7. Sweat glands 8. Hair 9. Nails 10. Mucous membranes 11. Tumors

<ul style="list-style-type: none"> 13. Acne 14. Nutritional diseases 15. Drug Reactions 	
<p>Bone/Joint</p> <ul style="list-style-type: none"> 1. Evaluation 2. Diseases of Foot, toes 3. Torsional, angular deformities 4. Leg length discrepancy 5. Diseases of Knee 6. Diseases of Hip 7. Diseases of Spine 8. Diseases of Neck 9. Upper limb 10. Arthrogyrosis 11. Common Fractures 12. Arthritis – approach, investigations, Management 13. Congenital Dislocation of Hip 14. Osteomyelitis 15. Septic Arthritis 16. Rickets – Nutritional and non-nutritional 	<ul style="list-style-type: none"> 1. Sports medicine 2. Pseudoachondroplasia 3. Diagnosis, assessment of genetic skeletal disorders 4. Dysplasias- Thantophoric, diastrophic, camptomelic 5. Ellis van Creveld 6. Osteochondrodysplasia 7. Inherited osteoporosis 8. Hypophosphatasia 9. Primary Chondrodystrophy 10. Idiopathic hypercalcemia 11. Hyperphosphatasia
<p>Genetic skeleton</p> <ul style="list-style-type: none"> 1. Lethal and nonlethal bone dysplasias 2. Achondroplasia 3. Osteopetrosis 4. Marfans 	

Metabolic Bone disease <ol style="list-style-type: none"> 1. Bone and vitamin D 2. Familial Hypophosphatemia 3. Rickets – Nutritional and non-nutritional 	
Unclassified disease <ol style="list-style-type: none"> 1. SIDS 2. Histiocytosis 3. Cystic fibrosis 	<ol style="list-style-type: none"> 1. Sarcoidosis 2. Progeria 3. Chronic fatigue syndrome
Environmental <ol style="list-style-type: none"> 1. Lead poisoning 2. Envenomation 3. Mammalian bites 4. Common Poisonings – OP, Kerosene, Phenobarbitone, Iron, etc. 	<ol style="list-style-type: none"> 1. Radiation 2. Chemical pollutants 3. Mercury 4. Nonbacterial poisoning

PEDAGOGY

Principles of learning, objectives, teaching learning methods, evaluation

HEALTH STATISTICS, NATIONAL PROGRAMS

ORGANIZATION OF OFFICE PRACTICE

Equipment, Documentation, Records, Space and functioning

RECENT ADVANCES IN PEDIATRICS

DURATION 5 years

ALLIED SUBJECTS

Anatomy

Applied Embryology, Development of major organ systems

Physiology

Applied Physiology with regard to major organ systems

Biochemistry

Biochemical basis or diseases in children – Nutritional and metabolic

Pathology

Pathophysiology of diseases in children, Pathogenesis, Basic Histo-pathology

Microbiology

Clinical Microbiology applied to investigations for diseases in childhood, serology, staining, cultures

Pharmacology

Clinical Pharmacology, Therapeutics of childhood diseases, drug interactions, Rational drug therapy, Adverse Drug Reactions,

Community Medicine

Health Care Delivery Systems – structure and function, Health Statistics, National Programs

Pediatric Surgery

Recognition and referral of surgical conditions in Pediatrics

Radiology

Clinical Indications and interpretations of X-ray, Ultrasound, CT, MRI

Legal and Ethical Medicine

Rights and protection of children, Consumer Protection Act, Basic Principles of Ethics

C. Postgraduate skills

Please note code:

PI: Perform Independently

PA: Perform with assistance

O: Observe

Number at end of item indicates minimum number of supervised and documented skills.

a. Psychomotor skills

Procedural

Procedures: List of PI Skills

Procedures	List of PI Skills
Clinical History and Physical examination	-
Human Lactation management (counseling and practical skills)	20
Neonatal resuscitation	30
Pediatric resuscitation	30
Teaching encounters	5
Intravenous injections	50
Intravenous cannulation	50
Lumbar puncture	50
Test dose	10
Infusions	10
Blood transfusions	10
Neonatal Exchange transfusions	10
ABG	10
Central line, CVP	10
Intraosseous	10
Bone marrow aspiration, trephine biopsy	10
Pleural tap	10
Paracentesis – diagnostic and therapeutic	10
Mantoux test	10
Sampling for Fluid cultures	10
Liver biopsy	10

Neonatal, Pediatric Partial exchange	5
Respiratory management (All PI)	
Nebulization	50
Inhaler therapy	10
Oxygen delivery	50
Critically Ill child (All PI)	
Monitoring a sick child	50
Pulse oximetry	10
Infant feeding tube/ Ryles tube, stomach wash	10
Urinary catheterization	10
Restraining a child for a procedure	10
ORS and ORT	10
Prognostication	10
Laboratory- Diagnostic (All PI)	
Urine Protein, sugar, microscopy	10
Peripheral blood smear	10
Malarial smear	10
Ziehl Neelsen smear – sputum, gastric aspirate	10
Grams smear – CSF, pus	10
Stool pH, reducing substances, microscopy	10
KOH smear	2
Neonatal tests (All PI)	
Apt test	5

Shake test	5
Clinical Assessment skills (All PI)	
Clinical History and Physical examination	
Anthropometry	50
Dietary recall, calorie and protein estimation	50
Nutritional advice	50
Gestational assessment	10
Neurological examination of newborn	10
Primitive reflexes	10
Fundoscopy	10
Otoscopy	10
Examination of external genitalia – male and female	10
Tanner’s SMR scales	5
DDST or Baroda scales, TDS	5
Amiel- Tison angles	5
Per rectal examination	2
Interpretation (All PI)	
Clinical History and Physical examination	
Blood, Urine, CSF and Fluid investigations – hematology	
Biochemistry	50
Chest X-ray	50
ECG	20
ABG interpretation	20
Abdominal X-ray	20
Bone and joint X-ray	20

CT scan Brain	20
Barium studies	10
IVP, VUR studies	10
Ultrasound abdomen	10
Neurosonogram	10
Communication skills (All PI)	
Clinical History and Physical examination	
Communicating health, disease	
Communicating about a seriously ill or mentally abnormal child	
Communicating death	
Empathy with a family	
Referral letters, Replies	
Discharge summaries	
Death Certificates	
Pre-counseling for HIV	
Post counseling for HIV	
Basic Pedagogy sessions – teaching students, adults Lectures, bedside clinics, discussions	
Medline search, internet, Computer usage	
List of Observations:	
Genetic counseling	2
Classification of diseases	2
List of PA skills	
Sedation	10
Analgesia	10

Brain death	10
Intercostal tube placement with underwater seal	5
Peritoneal dialysis	2
Subdural, Ventricular tap	5

b. Teaching Learning Activities

Methods suggested for Pediatric Postgraduate Training Programs:

i. Didactic Lectures: (Faculty lectures)

- **Objective:** To introduce a broad-based concept in an important area of learning to orient the postgraduate student.
- **Examples:** Potential introductory topics to Pediatrics like Fluid and Electrolytes, Early recognition of Shock and Respiratory Failure, DTTU management, recent advances, Basic Science/ Concepts and ARI program.
- **Frequency:** Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

ii. Seminars:

- **Objective:** To enable a student to study in depth an important area of learning important to the training of the student.
- **Examples:** Examples of potential seminar topics would be Protein Energy Malnutrition, Pediatric Tuberculosis, Pediatric HIV, Bronchial Asthma, Chronic Liver Disease and its complications.
- **Frequency:** Three times a month. Topics to rotate once every 2-3 years (DCh, MD). Topic to be shared among 2-3 students and to be equally distributed depending upon the number of postgraduate students in the department.

iii. Journal Club:

- **Objective:** To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals – studies, reviews.
- **Examples:** Articles like the study on prophylactic Zidovudine to HIV positive pregnant women in prevention of vertical transmission to the fetus, Digoxin versus Captopril in VSD in CCF, etc.
- **Frequency:** Ideally, once in 1-2 months. MDs get the first opportunity and juniors begin after their first year in the course.

iv. Undergraduate Teaching Clinics

- **Objective:** To teach effectively undergraduate and colleagues utilizing simple educational methods.
- **Methodology:** During the third year of MD course, postgraduate students should be given opportunities to teach undergraduates.
- **Examples:** Bedside Clinic, Didactic lecture, skill workshop (e.g. NALS, PALS)
- **Frequency:** During undergraduate postings in the department each postgraduate should have a minimum of 2 opportunities per year after the first year of the postgraduate course is completed.

v. Bedside Clinics

- **Objective:** To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
- **Examples:** Child with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.
- **Frequency:** Once in a week is the minimum as it forms the basis of good clinical training activities.

vi. Mortality Review Meeting

- **Objective:** To analyze, discuss and learn from mortalities.
- **Frequency:** Once in a month preferably in the first week to allow the previous months mortality to be presented for discussion.

vii. **Grand Rounds**

- **Objective:** To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.
- **Examples:** The child with pyrexia of unknown origin, undiagnosed hepatosplenomegaly, multi-systemic disease.
- **Frequency:** Once in a week presuming the Head of Unit or Department does not daily interfere with the day to day management of the ward except in special circumstances.

viii. **Inter-departmental Meetings**

- **Objective:** To experience inter-departmental cooperation and develop a healthy professional respect for each other's opinions in addition to the subject learning experience.
- **Methodology:** Case discussions or students present investigations to members of both faculties. The discussion is a learning experience and improves communications between departments.
- **Examples:** Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of intra-cranial pathology, Tracheo-esophageal fistulae and supportive care.
- **Frequency:** Once or twice in a month and rotated between departments – Radiology, Pediatric Surgery, Cardiology, Nephrology, Neurology, Clinical Hematology, etc.

ix. **Clinical Pathological Conference CPC**

- **Objective:** To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.
- **Frequency:** Once in two months. First choice is a senior MD student. All are encouraged to participate.

x. **Records Round**

- **Objective:** To appreciate the importance of documentation of facts and record keeping.

- **Methodology:** Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.
- **Frequency:** Once a week with the entire team present at the session.

D. Dissertation

- a. Every candidate pursuing degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.
- b. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.
- c. Every candidate shall submit to the Registrar (Academic), SDMPU, in the prescribed proforma, a synopsis containing particulars of proposed dissertation work six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.
- d. Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.
- e. The dissertation should be written under the following headings:
 - i. Introduction
 - ii. Aims or Objectives of study
 - iii. Review of Literature

- iv. Material and Methods
- v. Results
- vi. Discussion
- vii. Conclusion
- viii. Summary
- ix. References (Vancouver style)
- x. Tables
- xi. Annexures

f. The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

g. Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

h. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination

i. For some more details regarding Guide etc. please see Chapter I and for books on research methodology, ethics, etc., see Chapter IV.

E. Rotation Postings

Core

General Pediatrics	-- 12	months
Neonatology	-- 9	months

Intensive Care/Emergency

-- 9 months

Optional Specialities (optional subject to availability) - months

Oncology -

Neurology

Pediatric Surgery - 1 month

Nephrology - 1 month

Cardiology

Clinical Hematology - 1 month

Dermatology

Pulmonology

Gastroenterology

Clinical Microbiology

Community/Rural

Labour Room Posting - 1 month

F. Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

The learning out comes to be assessed should include: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

a. Personal Attitudes. The essential items are:

- i. Caring attitudes
- ii. Initiative
- iii. Organisational ability
- iv. Potential to cope with stressful situations and undertake responsibility

- v. Trust worthiness and reliability
- vi. To understand and communicate intelligibly with patients and others
- vii. To behave in a manner which establishes professional relationships with patients and colleagues
- viii. Ability to work in team
- ix. A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

b. Acquisition of Knowledge: The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

- i. **Journal Review Meeting (Journal Club):** The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist. (see Model Checklist – I, Chapter IV)
- ii. **Seminars / Symposia:** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter IV)
- iii. **Clinico-pathological conferences:** This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

c. Clinical skills

- i. Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter IV).
- ii. Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter IV).
- iii. Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter IV)

d. Teaching skills: Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter IV).

e. Dissertation in the Department: Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work (See Model Checklist VI & VII, Chapter IV)

f. Periodic tests: The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

g. Work diary / Log Book- Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

h. Records: Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

G. Log book

The log book is a record of the important activities of the candidates during his training; internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in Tables 1, 2 and 3 of Chapter IV. Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

H. Scheme of Examination

a. Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. **Questions on recent advances may be asked in any or all the papers.**

Details of distribution of topics for each paper will be as follows.

Sr. No	Content	Marks
Paper I	Fetal and newborn	100
Paper II	General Pediatrics I* and Basic Sciences General Paediatrics I includes: Respiratory, CNS, Hematology, Nutrition, Growth and Development, Oncology, Endocrine, Metabolic, Allergy/Immunology, and Psychiatry.	100
Paper III	General Paediatrics II** (System wise Pediatrics). Includes: Infection, Gastroenterology, Hepatology, Immunization, Renal, CVS, Surgical, Adolescent, Collagen Vascular, Miscellaneous	100
Paper IV	Ambulatory (OPD) Pediatrics, Community and Social Pediatrics, Emergency and Critical Care Pediatrics, Recent Advances.	100

Note: The distribution of chapters / topics shown against the papers is suggestive only.

Basic Sciences and Recent Advances as applied to clinical paediatric disorders should be incorporated into relevant and appropriate question papers covering the respective areas.

b. Clinical Examination 200 Marks

	No. of Cases	Marks
Long case	1	80

Short Case	1	45
OPD case	1	25
Emergency case	1	25
Newborn	1	25
Total	5	200

c. Viva – voice: 100 marks

i. Viva-Voce Examination: (80 Marks)

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may also be given case reports, charts, gross specimens, pathology slides, instruments, X- rays, ultrasound, and CT scan images, for interpretation. It includes discussion on dissertation also.

ii. Pedagogy Exercise: (20 Marks)

A topic is given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

Maximum marks for M.D. degree course	Theory	Practical	Viva	Grand Total
	400	200	100	700

I. Recommended Books and Journals

Textbooks:

Essential (Latest Editions)

1. Nelson's Textbook of Pediatrics, Harcourt Asia Saunders

2. Cloherty's Manual of Neonatal Care
3. Meharban Singh's Care of the Newborn, PG Text Book of Pediatrics
Piyushgupta
4. Harriat Lane
5. Manual of Pediatric Therapeutics, Little Brown's Children's Hospital, Boston.
6. O.P. Ghai's Textbook of Pediatrics
7. Clinical Manual by Piyushgupta

Reference books

1. Rudolf's Pediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Pediatrics, ELBS
3. Frank Oski's Principles and Practice of Pediatrics
4. Avery's Disease of the Newborn
5. Robertson's Textbook of Neonatology
6. Illingworth's The normal child
7. Guha's Textbook of Neonatology
8. IAP Textbook of Pediatrics
9. Nadas' Pediatric Cardiology
10. Perloff's Approach to Congenital Heart Disease
11. Moss and Adam's Heart Disease in Infants, children and Adolescent
12. Miller's Blood Diseases of Infancy and Childhood
13. DeGruchy's Clinical Hematology in Medical Practice
14. Barret and Holiday's Pediatric Nephrology
15. Caffey's Pediatric X-Ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Pediatric Surgery
20. Cherry and Feigen's Pediatric Infectious Diseases
21. Fenichel's Pediatric Neurology
22. Kendig's Respiratory Diseases in Pediatrics
23. Alex Mowat's Liver Disease in Children

24. Roger's Pediatric Critical Care
25. H.P.S. Sachdev's Principles of Pediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations

Indexed Journals

1. Indian Pediatrics
2. Indian Journal of Pediatrics
3. Pediatric Clinics of North America
4. New England Journal of Medicine
5. Lancet
6. British Medical Journal
7. Journal of Pediatrics
8. Archives Disease of Childhood and Adolescence
9. Pediatrics
10. Perinatal Clinics of North America
11. Indian Journal of Practical Pediatrics

Reference Series

1. Suraj Gupta's Recent Advances in Pediatrics
2. David's Recent Advances in Pediatrics
3. Advances in Pediatrics
4. Year Book of Pediatrics

ADDITIONAL READING

1. Indian Council of Medical Research, "Ethical Guidelines for Biomedical Research on Human Subjects", I.C.M.R, New Delhi, 2000.
2. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
3. Francis C M, Medical Ethics, J P Publications, Bangalore, 1993.

4. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
5. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8.
6. Kirkwood B R, Essentials of Medical Statistics, 1st Ed., Oxford: Blackwell Scientific Publications 1988.
7. Mahajan B K, Methods in Bio statistics for medical students, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
8. Compendium of recommendations of various committees on Health and Development (1943-1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, min. of Health and Family Welfare, Govt. of India, Nirman Bhawan, New Delhi. P - 335.
9. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
10. Srinivasa D K et al, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry.
11. Advances in pediatrics, 2015 onwards.
12. AAP Text Book of pediatrics, 2016
13. Indian pediatrics, Best of Editor's choice.

J. Additional Scientific Paper

- a. 1 paper and 1 poster presentation for PG Student during the courses is compulsory.
- b. 1 Paper publication for PG Student is compulsory for PG Student during the course.
- c. Representation and participation in the quiz at suitable zonal level is appreciated.

Annexure

Record to be maintained by Post graduate students

Name Responsibility		Academics		Service			Skills		
Name	Teaching Programs	Discussion	Patient work up	Patient Care	Procedures	Communication	Discipline	Punctuality	Anecdotal events +/-

Pediatric Postgraduate Training Log book

Contents:

1. Personal Data:

- a. Name
- b. Institution
- c. Dates of Post-graduation studies
 - Joining
 - Completion
- d. Degree
- e. University
- f. Dissertation Title
- g. Name and Designation of Guide
- h. Signature of candidate

- i. Signature of Supervisor
- j. Signature of Head of Department

2. Professional Education: (e.g. MBBS, DCh)

Degree	Institution	University	Dates of Training

3. Professional Experiences: (e.g. SHO Pediatrics, CMO, Tutor)

Professional Post	Institution	Dates of Work period

4. Clinical Postings: (e.g. General Pediatrics, PICU, NICU, Oncology, Neurology)

Specialty	Duration	Dates of Posting

5. Case Presentations: (e.g. Clinics, tutorials)

Date	Name/age/sex	Problem/ Diagnosis	Grade	Supervisor

6. Seminars: (e.g. Seminar on TB)

Date	Topic of Presentation	Grade	Supervisor

7. Mortality Meetings (e.g. Mortality case discussion)

Date	Name/age/sex	Problem/ Diagnosis	Supervisor

8. Multi-disciplinary Meetings (e.g. Urinary Lithiasis with Urology and Nephrology)

Date	Topic	Departments involved

9. Community Activity: (eg. Pulse polio, Education programs, Rural visits, Slum visits)

Date	Description of Activity	Supervisor

10. Paper Presentation (Local, State, National, International Forum- e.g. IAP local meetings, NNF meetings)

Date	Title of Paper presented	Supervisor

11. Undergraduate Classes taken by MD candidate (e.g. Didactic lecture or clinic)

Date	Topic	Supervisor

12. Academic Meetings, CMEs and Conferences attended (Extra mural: Local, State, National, International Forum- e.g. IAP local meetings, NNF meetings)

Date	Title	Organization

13. Training Courses (eg. BFHI Lactation course, PALS, NALS, Research Methodology)

Date	Title	Supervisor

14. Chapter IV

K. Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Model Checklists are given in this Chapter which may be copied and used.

The learning out comes to be assessed should include:

- a. Personal Attitudes
- b. Acquisition of Knowledge
- c. Clinical and operative skills
- d. Teaching skills
- e. Periodic tests
- f. Work diary / Log Book
- g. Records

a. Personal Attitudes. The essential items are:

- i. Caring attitudes
- ii. Initiative
- iii. Organisational ability
- iv. Potential to cope with stressful situations and undertake responsibility
- v. Trust worthiness and reliability

- vi. To understand and communicate intelligibly with patients and others
- vii. To behave in a manner which establishes professional relationships with patients and colleagues
- viii. Ability to work in team
- ix. A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

b. Acquisition of Knowledge: The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

- i. **Journal Review Meeting (Journal Club):** The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist. (see Model Checklist – I, Chapter IV)
- ii. **Seminars / Symposia:** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist. (see Model Checklist-II, Chapter IV)
- iii. **Clinico-pathological conferences:** This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

iv. **Medical Audit:** Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

c. Clinical skills

i. **Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter IV).

ii. **Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list. (see Model checklist IV, Chapter IV)

iii. **Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter IV)

d. **Teaching skills:** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter IV)

e. **Periodic tests:** In case of degree courses of three years duration, the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

f. **Work diary / Log Book-** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department

such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

- g. Records-** Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

L. Log book

The log book is a record of the important activities of the candidates during his training; internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in Tables 1, 2 and 3 of Chapter IV. Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

CHAPTER IV (Contd.)

Format of Model Check Lists

Check List -I

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sr No	Items for observation during presentation	Poor	Below Average	Average	Good	Very Good
		0	1	2	3	4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

Check List – II
MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sr No	Items for observation during presentation	Poor	Below Average	Average	Good	Very Good
		0	1	2	3	4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall Performance					

10.	Any other observation					
	Total Score					

Check List - III

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Name of the Unit Head:

Date:

Sr. No.	Points to be considered:	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Bedside manners					
8.	Rapport with patients					

9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of Ward work					
	Total Score					

Check List - IV
EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student:

Name of the Faculty:

Date:

Sr. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					

10	Investigations required					
	▪ Complete list					
	▪ Relevant order					
	▪ Interpretation of investigations					
11.	Ability to react to questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

Check List - V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Sr. No.	Points to be considered	Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		

9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		

Check list VI

MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name:

Faculty/observer:

Date:

Sr. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of protocol					
5.	Preparation of proforma					
	Total Score					

Checklist-VII

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO-GUIDE

Name of the Student:

Name of the Faculty/Observer:

Date:

Sr. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

LOG BOOK

Table 1: Academic activities attended

Name:

Admission Year:

College:

Date	Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching	Particulars

LOG BOOK

Table 2: Academic presentations made by the student

Name:

Admission Year:

College:

Date	Topic	Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching etc.

LOG BOOK

Table 3: Diagnostic and Operative procedures performed

Name:

Admission Year:

College:

Date	Name	ID No.	Procedure	Category O, A, PA, PI*

* **Key:** O - Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior surgeon

PI - Performed independently

Model Overall Assessment Sheet

Name of the College:

Academic Year:

Sl. No	Faculty Member & Others	Name of Student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
1											
2											
3											
4											
5											
Total Score											

Note: Use separate sheet for each year.

Chapter V

Medical Ethics Sensitization and Practice

Introduction

There is now a shift from the traditional individual patient, doctor relationship, and medical care. With the advances in science and technology and the needs of patient, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems.

It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal (i), General Objective (ii) stated in Chapter II (pages 2.1 to 2.3), and develop human values it is urged that **ethical sensitisation** be achieved by lectures or discussion on ethical issues, clinical case discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

Course Contents

1. **Introduction to Medical Ethics**

What is Ethics?

What are values and norms?

Relationship between being ethical and human fulfillment

How to form a value system in one's personal and professional life

Heteronomous Ethics and Autonomous Ethics

Freedom and personal Responsibility

2. **Definition of Medical Ethics**

Difference between medical ethics and bio-ethics

Major Principles of Medical Ethics

- Beneficence = fraternity

- Justice = equality
- Self-determination (autonomy) = liberty

3. *Perspective of Medical Ethics*

The Hippocratic Oath

The Declaration of Helsinki

The WHO Declaration of Geneva

International code of Medical Ethics (1993)

Medical Council of India Code of Ethics

4. *Ethics of the Individual*

The patient as a person

The Right to be respected

Truth and Confidentiality

The autonomy of decision

The concept of disease, health and healing

The Right to health

Ethics of Behaviour modification

The Physician – Patient relationship

Organ donation

5. *The Ethics of Human life*

What is human life?

Criteria for distinguishing the human and the non-human

Reasons for respecting human life

The beginning of human life

Conception, contraception

Abortion

Prenatal sex-determination

In vitro fertilization (IVF), Artificial Insemination by Husband (AIH)

Artificial Insemination by Donor (AID),

Surrogate motherhood, Semen Intrafallopian Transfer (SIFT),

Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian Transfer (ZIFT),

Genetic Engineering

6. *The Family and Society in Medical Ethics*

The Ethics of human sexuality

Family Planning perspectives

Prolongation of life

Advanced life directives – The Living Will

Euthanasia

Cancer and Terminal Care

7. *Profession Ethics*

Code of conduct

Contract and confidentiality

Charging of fees, Fee-splitting

Prescription of drugs

Over-investigating the patient

Low – Cost drugs, vitamins and tonics

Allocation of resources in health cares

Malpractice and Negligence

8. *Research Ethics*

Animal and experimental research / humanness

Human experimentation

Human volunteer research – Informed Consent

Drug trials

9. *Ethical workshop of cases*

Gathering all scientific factors

Gathering all human factors

Gathering all value factors

Identifying areas of value – conflict, setting of priorities,

Working out criteria towards decisions

- **Recommended Reading**

Francis C.M., **Medical Ethics**, 1 Ed, 1993, Jaypee Brothers, New Delhi, p 189,
Rs. 60/-



SDM College of Medical Sciences & Hospital



SDM College of Dental Sciences & Hospital



SDM College of Physiotherapy &
SDM Institute of Nursing Sciences



Shri Dharmasthala Manjunatheshwara University



SDM Research Institute for Biomedical Sciences



Panoramic View of Campus