PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED TO BE UNIVERSITY)
Loni, Tal. Rahata, Dist. Ahmednagar 413736
NAAC Re-accrediated with 'A' Grade

SYLLABUS

UG Programme- Pediatrics

(Competency Based Undergraduate Curriculum will be implemented from August 2019, i.e. MBBS batch admitted for first year in 2019)

Course Content

(Based on Medical Council of India,
Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. Vol. 2/ ~~3~~; page nos. 150-201)

1. Total Teaching hours: 105 hours (Lectures +Tutorials);
   15 hours (Self-directed learning);
   174hoursClinicalposting
2. A. Lectures (hours): 40 (20 hours each in III MBBS Part I & Part II)
   B. Self-directed learning (hours): 15 (5 hours in III MBBS Part I & 10 hours in III MBBS Part II)
   C. Clinical Postings (hours): 174 (2weeks/4weeks/4weeks)
   D. Small group teachings/tutorials/
   Integrated teaching/Practicals(hours)**:** 65 hours (30 hours in III MBBS Part I and 35 hours in III MBBS Part II)

- 8 symposia will be conducted from theory topics in
  - 15 hours of Self- directed Learning (3 in III MBBS (Part I) and
  - 5inIIIMBBS(Part II))
- Two(02)Full day workshops
  - IMNCI
  - NRP
- Module 4.7 AETCOM Module will be covered in III MBBS (Part II) (05 hours)

Tutorials/ Small Group Discussions III (PartI) MBBS (30 hours)

S. No	Topic	Hours	Lectures (Competency No.)	SLO	Horizontal Integration
1	Normal Growth and Development	01	Developmental milestones (PE 1.5, 1.6)	1. Definition of Development 2. Principals of development 3. Factors affecting Development 4. Domains of Development 5. Milestones in various domains 6. Developmental assessment	Psychiatry
2	Common problems related to growth	02	Failure to thrive (PE 2.1, 2.4)	1. Definition 2. Etiology 1. Clinical Features 2. Evaluation of a child with Failure to thrive 3. Management	
			Short stature (PE 2.6)	1. Definition 2. Etiology 3. Clinical Features 4. Evaluation of a child with Short stature 5. Management	
3.	Care of the Normal Newborn, and High-risk Newborn	02	Care of normal newborn (PE 20.1, 20.2, 20.6,)	1. Define the common neonatal nomenclatures including the classification 2. Describe the characteristics of a Normal Term Neonate and High-Risk Neonates. 3. Explain the care of a normal neonate	Obs & Gynae
			Temperature regulation and Neonatal hypothermia (PE 20.12)	1. Temperature regulation in neonates 2. Disorders of temperature regulation 3. Definition of hypothermia 4. Prevention of hypothermia 5. Clinical features of hypothermia 6. Management of hypothermia	

4.	To promote and support optimal Breast feeding for infants	01	Breast Feeding (PE 7.1, 7.2, 7.3, 7.4, 7.6)	1. Awareness on the cultural beliefs and practices of breast feeding. 2. Enumerate advantages of breast feeding **3.** Explain the physiology of lactation**.** 4. Technique of breast feeding 5. Problems in breast feeding 6. Enumerate the baby friendly hospital initiatives 7. Describe the composition and types of breast milk 8. Discuss the differences between cow's milk and Human milk. 9. Discuss the advantages of breast milk. 10. Overview about expressed breast milk	Obs&Gynae
5.	Complementary Feeding	01	Complementary feeding andIYCF (PE 8.1, 8.2, 8.3)	1. Define the term Complementary Feeding. 2. Discuss the principles, the initiation, attributes, frequency, techniques and hygiene related to Complementary Feeding 3. IYCF 4. Enumerate the common complimentary foods	
6.	Provide nutritional support, assessment and monitoring for common nutritional problems	01	Protein Energy Malnutrition (PE 10.1, 10.2, 10.4, 10.6)	1. Define malnutrition 2. Classify malnutrition including WHO classification, 3. Describe the etio-pathogenesis, clinical features, complication of Severe Acute Malnourishment (SAM) and Moderate Acute Malnutrition (MAM). 4. Differentiate between kwashiorkor and marasmus 5. Outline the clinical approach to a child with SAM an MAM. 6. Management of a child with SAM and MAM. 7. Enumerate the role of locally prepared therapeutic diets and ready to use therapeutic diets. 8. Strategies to prevent malnutrition	

7.	Obesity in Children	01	Obesity (PE 11.1, 11.2, 11.6)	1. Define obesity 2. Describe the common etiology, clinical features and management of obesity in children. 3. Discuss the risk approach for obesity and criteria for eferral 4. Discuss the prevention strategies	
8.	Micronutrients in health and disease 1: (Vitamins A,D,E,K,B Complex and C) Micronutrients in health and disease 2: Iron, Iodine, Calcium and Magnesium	04	Vitamin A Vitamin E, K(PE 12.1,12.2, 12.4, 12.5, 12.11,12.12, 12.13,12.14)Vitamin B, C and Iodine deficiency disorders (PE 12.15, 12.16,12.18, 12.19,12.20, 13.7, 13.8, 13.10, 13.10)	**Vitamin A** 1. RDA, dietary sources of Vitamin A and the role in Health and disease. 2. Describe the causes, clinical features, diagnosis and management of Deficiency/excess of Vitamin A. 3. Discuss the Vitamin A prophylaxis program and the ire commendations **Vitamin E** Discuss the RDA, dietary sources of Vitamin E and their role in health and disease. Describe the causes, clinical features, diagnosis and management of deficiency of Vitamin E**.** **Vitamin K** 1. Discuss the RDA, dietary sources of Vitamin K and their role in health and disease. 2. Describe the causes, clinical features, diagnosis management and 1. Prevention of deficiency of Vitamin K **Vitamin B** 1. Discuss the RDA, dietary sources of Vitamin B and their role in health and disease **2.** Describe the causes, clinical features, diagnosis and management of deficiency of B complex Vitamins**.** **Vitamin C** 1. Discuss the RDA, dietary sources of Vitamin C and their role in Health and disease 2. Describe the causes, clinical features, diagnosis and management of	

				deficiency of Vitamin C(scurvy) **Iodine deficiency Disorder** 1. Discuss the RDA , dietary sources of Iodine and their role in Health and disease. 2. Describe the causes, clinical features, diagnosis and management of deficiency of Iodine. 3. Discuss the National Goiter Control program and their recommendations.	
			Iron deficiency anemia (PE 13.1, 13.2, 13.5, 13.6)	1. Discuss the RDA, dietary sources of Iron and their role in health and disease' 2. Describe the causes, clinical features, diagnosis and management of Fe deficiency 3. Discuss the National Anemia control program and its recommendations**.**	
			Vitamin D and Calcium & Magnesium deficiency (PE 12.6, 12.7,	**Vitamin D/Ca/Mg** 1. Discuss the RDA, dietary sources of Vitamin D and their role in health and disease. 2. Describe the causes, clinical features,	
			12.9, 12.10, 13.11,13.12, 13.13,13.14)	diagnosis and management of Deficiency/ excess of Vitamin D (Rickets and Hype vitaminosis D). 3. Discuss the role of screening for Vitamin D deficiency 4. Discuss the RDA ,dietary sources of Calcium and their role in health and disease 5. Describe the causes, clinical features, diagnosis and management of Ca Deficiency **6.** Discuss the RDA, dietary sources of Magnesium and heirrolein health and disease**.** 7. Describe the causes, clinical features, diagnosis and management of Magnesium Deficiency	
29.	Anemia and other Hemato-oncologic	02	Anemia (PE 29.1)	1. Definition 2. Etiopathogenesis 3. Classification	

	disorders in children			4. Approach to a child with anemia	
			Nutritional anemia (PE 29.2, 29.3, 29.5)	**Iron def anemia/ Megaloblastic anemia** 1. Etiopathogenesis 2. Clinical features 3. Lab investigations 4. Management 5. Discuss the National Anemia Control Program	
9.	Fluid and electrolyte balance	01	Fluid and electrolytes (PE 15.1, 15.2)	1. Composition of body fluids 2. Water balance and Osmolality 3. Normal maintenance fluid and electrolyte requirements 4. Sodium balance and its disorders 5. Potassium balance and its disorders 6. Overview of Acid-Base disorders	
10.	National Programs, RCH – Universal Immunizations program	02	Vaccines in children (PE 19.1, 19.2, 19.3, 19.4)	1. Components of the Universal Immunization Program and the National Immunization program. 2. Epidemiology of Vaccine preventable diseases 3. Vaccine description with regard to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and	
				contraindications. (BCG, OPV, IPV HepB, DPT, Hib, MMR) 4. Define cold chain and discuss the methods of safe storage and handling of vaccines	
			Immunization in special situations and newer vaccines (PE 19.5, 19.16)	1. Immunization in special situations– HIV positive children, immune deficiency, pre-term, organ transplants, those who received blood and blood products, splenectomised children, adolescents, travelers. 2. Enumerate available newer vaccines and their indications including pentavalent pneumococcal, rotavirus, JE, typhoid IPV & HPV. 3. Combination vaccines 4. AEFI	

11	Respiratory system	02	RTI GEM – I (PE 28.1, 28.2, 28.3, 28.4, 28.5, 28.6, 28.7, 28.8))	**Nasopharyngitis/Pharyngo Tonsillitis/ Acute Otitis Media (AOM)** 1. Etio-pathogenesis 2. Clinical features 3. Management 4. Complications	
				Stridor/ Epiglottitis/Acute laryngotracheobronchitis/Foreign Body Aspiration 1. Etiopathogenesis 2. Clinical features 3. Management	
			RTI GEM -II (PE 28.18)	**Bronchiolitis and wheeze associated LRTI/ Empyema/Lung Abscess** 1. Etio-pathogenesis 2. Clinical features 3. Diagnosis 4. Management 5. Prevention	
12.	Vaccine preventable Diseases & Tuberculosis	02	Fever & Exanthematous Fever (PE 34.14, 34.15)	1. Enumerate the common causes of fever 2. Etiopathogenesis 3. Clinical features 4. Complications 5. Management 6. Approach to a child with Exanthematous Fever	
			Measles, Mumps, Rubella &	1. Etiopathogenesis 2. Clinical features 3. Complications	
			Chicken pox (PE 34.15)	4. Management 5. Prevention 6. Measles, Mumps, Rubella & Chicken poxvaccines	
13.	Chromosomal Abnormalities	01	Down syndrome, Turner & Klinefelters yndrome (PE 32.1, 32.3, 32.4, 32.5, 32.6, 32.8, 32.9, 32.10, 32.11, 32.13)	1. Geneticbasis 2. Riskfactors 3. Clinical features 4. Complications 5. Prenatal diagnosis 6. Management 7. Genetic counseling.	General Medicine – PE 32.3, 32.9 Obs & Gynae– PE 32.9

14.	Diarrheal diseases and Dehydration	01	Diarrheal diseases &dehydration incl Persistent diarrhea, Chronic diarrhea and dysentery (PE 24.1, 24.2, 24.3, 24.4, 24.5,24.6, 24.7, 24.8, 24.14)	1. Etio-pathogenesis 2. Classification 3. Clinical presentation 4. Management 5. Physiological basis of ORT 6. Types ofORS 7. Composition of various types of ORS 8. Classification and clinical presentation of various types of diarrheal dehydration 9. Types of fluid used in Pediatric diarrheal diseases and their composition 10. Role of antibiotics, antispasmodics, anti- secretory drugs, probiotics, anti- emetics in acute diarrheal diseases	
15.	Pediatric Emergencies – Common Pediatric Emergencies	02	Poisoning (PE 27.8, 14.1, 14.2, 14.3, 14.4)	1. Clinical approach to a child with suspected poisoning **2. Common poisonings – Hydrocarbon/OP/PCM/Lead/Envenomation** 3. Etiopathogenesis 4. Clinical features 5. Lab investigations 6. Management	General Medicine
			Child abuse (PE 27.29)	1. Causes 2. Clinical presentation Medico-legal implications	
16.	Allergic Rhinitis, Atopic Dermatitis,	01	Allergy in children (PE 31.1, 31.3, 31.12)	**Allergic Rhinitis/Atopic Dermatitis/Urticaria Angioedema** 1. Etiology 2. Clinical features	
	Bronchial Asthma, Urticaria Angioedema			3. Management 4. Complications 5. Prevention	
17.	Adolescent health and common problems related to Adolescent Health.	01	Adolescence &Puberty (PE 6.10, 6.11)	1. Visit to the Adolescent Clinic. Discuss the objectives and functions of AFHS (Adolescent Friendly Health Services) and the referral criteria.	Psychiatry

18.	Common problems related to Development-1 (Developmental delay, Cerebral palsy)	01	Developmental delay (PE 3.5,3.6, 3.7)	1. Visit a Child Developmental Unit and observe its functioning. Discuss the role of the child developmental unit in management of developmental delay. Discuss their feral criteria for children with developmental delay	
19.	Common problems related to Development-2 (Scholastic backwardness, Learning disabilities, Autism ADHD)	01	Scholastic backwardness and Learning Disabilities (LD) (PE 4.5, 4.6, 5.10,5.11)	1. Visit to child guidance linic. Discuss the role of Child Guidance clinicin children with Developmental problems & Behavioral problems.	
TOTAL		**30**			

Theory III (Part I) MBBS (20 hours)

S. No	Topic	Hours	Lectures (Competency No)	SLO	Horizontal Integration
1.	Normal Growth and Development	01	Growth & Development (PE1.1,1.2,1.3, 1.5)	1. Definition of Growth 2. Definition of Development 3. Physiology of Growth & Development 4. Normal Growth–Somatic and physical 5. Assessment of Growth	Psychiatry
				6. parameters; Growth charts Factors affecting Growth & Development 7. Overview of disorders related to Growth & Development	
2.	Common problems related to Development-1 (Developmental delay, Cerebral palsy)	02	Developmental delay (PE 3.1,3.2, 30.10)	1. Definition 2. Developmental delay vs Intellectual disability 3. Etiology 4. Clinical Features 5. Approach to developmental delay and ID 6. Prevention and management	
			Cerebral palsy (PE 3.8, 30.11)	1. Definition 2. Etiopathogenesis 3. Types of CP 4. Evaluation of a child with CP 5. Prevention and management	Physical Medicine & Rehabilitation
3.	Common problems related to Development-2 (Scholastic backwardness, Learning disabilities, Autism ADHD)	02	Scholastic backwardness and Learning Disabilities (LD) (PE 4.1,4.2)	1. Causes of Scholastic backwardness 2. Approach to a child with Scholastic backwardness 3. Definition of LD 4. Types of LD and clinical features 5. Etiology 6. Approach to a child with LD and Management	

			ADHD and Autism (PE 4.3,4.4)	1. Etiology of ADHD 2. Clinical features of ADHD 3. Diagnosis and management of ADHD 4. Etiology of Autism 5. Clinical features of Autism 6. Diagnosis and management of Autism	
4.	Common problems related to behavior	01	Behavioral problems of children include Enuresis & Encopresis (PE5.1,5.2,5.3, 5.4,5.5,5.6,5.7, 5.8, 5.9)	1. Describe the clinical features, diagnosis and management of common behavioral problems like • Thumb sucking, • Feeding problems, • Nail biting • Breath Holding spells, • Pica, • Fussy infant 2. Definition of enuresis and encopresis 3. Differentiate between primary and secondary enuresis 4. Maturation of bowel and bladder control 5. Etiology of Enuresis and Encopresis 6. Clinical features of Enuresis and Encopresis 7. Management of Enuresis and Encopresis	Psychiatry
5.	Adolescent health and common problems related to Adolescent Health.	01	Adolescence &Puberty (PE6.1,6.2,6.3, 6.4,6.5,6.6,6.7, 6.12, 6.13)	1. Define Adolescence 2. Stages of adolescence and SMR 3. Describe the physical, physiological and psychological changes during adolescence and Puberty. 4. Outline the general health problems during adolescence. 5. Describe adolescent sexuality and common problems related to it. 6. Explain the Adolescent Nutrition and common	Psychiatry

				nutritional problems. 7. Outline the common Adolescent eating disorders (Anorexia Nervosa, Bulimia). 8. Describe the common mental health problems during adolescence. 9. Enumerate the importance of obesity and other NCD in adolescents. 10. Enumerate the prevalence and the importance of recognition of sexual drug abuse in adolescents and children.	
6.	Normal nutrition, assessment and monitoring.	01	Normal Nutrition (PE9.1,9.2,9.3, 9.7)	1. Describe the age-related nutritional needs of infants, children and adolescents including micronutrients and vitamins 2. Concept of RDA and balanced diet. 3. Describe the tools and methods for assessment and classification of nutritional status of infants, children and adolescents. 4. Explains the Calorific value of common Indian foods	
7.	Vaccine preventable Diseases&Tuberculosis	8	Tuberculosis in children (PE 34.1, 34.2, 34.12, 34.13)	1. Epidemiology 2. Clinical features and clinical types 3. Complications of Tuberculosis 4. Diagnostic tools for childhood tuberculosis. 5. Indications and discuss the limitations of methods of culturing M. Tuberculosis. 6. Newer diagnostic tools for Tuberculosis including BACTEC CBNAAT and their indications	Respiratory Medicine
			Management of tuberculosis (PE 34.3, 34.4)	1. Various regimens for management of Tuberculosis as per NationalGuidelines. 2. Preventive strategies adopted andtheobjectivesandoutcomeoftheNationalTuberculosis Control Programme	Respiratory Medicine

			Diphtheria, Pertussis, Tetanus (PE 34.16)	1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention 6. Diphtheria, Pertussis, Tetanus vaccines	
			Enteric fever (PE 34.17)	1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention 6. Typhoid vaccines	
			Rickettsial diseases(PE 34.20)	1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention	
			Parasitic infections	**Common Parasitic infections - leishmaniasis, filariasis, helminthes**	
			(PE 34.19)	**infestations, amebiasis, giardiasis** 1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention	
			Malaria (PE 34.19)	1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention **6.** National Malaria Eradication Programme	
			Dengue Fever (PE 34.18)	1. Etiopathogenesis 2. Clinical features 3. Complications 4. Management 5. Prevention 6. Overview of Chikungunya	
8.	Systemic Pediatrics- Central Nervous system	01	Acute Flaccid Paralysis (AFP) and Poliomyelitis (PE 30.13)	1. Etiology 2. Approach to a child with 3. AFP Evaluation 4. Management 5. AFP Surveillance	

9.	Endocrinology	03	Hypothyroidism (PE 33.1)	1. Physiology of thyroidal 2. and Thyroid function 3. test Etiology 4. Congenital vs 5. Acquired Clinical 6. features Evaluation 7. Management 8. New-born Screening	
			Diabetes mellitus in children and DKA (PE 33.4)	1. EtiopathogenesisD 2. iagnostic criteria 3. Classification 4. Clinical features 5. Management 6. Complications incl DKA	
			Disorders of puberty (PE 33.8)	**Precocious and delayed Puberty** 1. Definition 2. Etiology 3. Clinical Features 4. Evaluation 5. Management	
TOTAL		**20**			

Self-Directed Learning III (Part I) MBBS (05 hours)

S. No	Topic	Hours	Lectures (Competency No.)	SLO	Horizontal Integration
1.	The National Health Programs, NHM The National Health Programs, RCH	02	National programs pertaining to maternal &child health, child survival & safe motherhood (PE 17.1, 17.2, 18.1, 18.2)	1. State the vision and outline the goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RMNCH A+, RBSK, RKSK, JSSK mission India Dhanush and ICDS. 2. List and explain the components, plan, outcome of Reproductive Child Health(RCH)program and appraise its monitoring and evaluation 3. Explain preventive interventions for child survival and safe motherhood	Obs&Gynae
TOTAL		**02**			

Tutorials/Small Group Discussions III (PartII) MBBS (35 hours)

S. No	Topic	Hours	Domain (Competency No.)	SLO	Horizontal Integration
1	Group Discussions	01	Fluids & Electrolytes, Nutrition (PE 15.3, 15.4, 15.5, 9.5)	1. Calculate fluid and electrolyte imbalance, Interpret electrolyte report, 2. Calculate the fluid and electrolyte requirement in health 3. Plan an appropriate diet in health & disease	
		01	Cardiac Failure (PE23.11,23.16,23.17, 23.18)	1. Develop treatment plan and prescribe appropriate drugs including fluids in cardiac diseases, anti -failure drugs, and intropicagents. 2. Discuss the indications and limitations of Cardiac catheterization. 3. Enumerate some common cardiac surgeries like BT shunt, Potts and Waterston's and corrective surgeries 4. Demonstrate empathy while dealing with cardiac disease.	
		01	Oxygen Therapy (PE 27.9, 27.10, 14.5)	1. Discuss oxygen therapy in Pediatric emergencies and modes of administration. 2. Observe the various methods of administering Oxygen. 3. Discuss oxygen toxicity and free radical injury	

		01	Counseling (PE2.3,3.4,8.5,27.32, 27.33, 28.20)	1. Counseling apparent with failing to thrive child 2. Counselling a parent with developmental delay 3. Counsel & educate mothers on the best practices in complimentary feeding 4. Obtain Informed Consent.	
				5. Counsel parents of dangerously ill/terminally ill child to break bad news 6. Counsel the child with asthma on the correct use of inhalers in a simulated environment	
		01	Hemat (PE 29.18,29.20)	1. Enumerate the referral criteria for Hematological conditions. 2. Enumerate the indications for splenectomy and precautions	
2.	Radiology	01	X-Ray/USG/Neuroimaging (PE 21.12,21.13, 23.12, 26.9,28.17, 30.21, 30.22,31.9,	1. Interprêt report of Plain X Ray of KUB 2. Enumerate the indications for and Interpret the written report of Ultra	

			34.8)	sonogram of KUB 3. Interpret a chest X ray and recognize Cardiomegaly 4. Interpret Liver USG 5. Interpret X-ray of the paranasal sinuses and mastoid; and /or use written report in case of management 6. Interpret CX R in foreign body aspiration and lower respiratory tract infection, understand the significance of thymic shadow in pediatric chest X-rays 7. Enumerate the indication and limitations & Interpret the reports of CT, MRI Brain & Spine 8. Interpret CX Ray in Asthma 9. Interpret a Chest Radiographn pediatric TB	
3.	Cards (Case Scenario based)	01	(PE21.11,23.13,23.14. 24.13, 26.9,26.11, 28.16, 29.14, 19.15, 29.16, 30.20, 30.21, 30.22,33.3,33.6,33.9, 34.9, 34.10)	1. Interpret Hemogram and Iron Panel 2. interpret the common analyses in a Urine examination 3. Interpret Pediatric ECG 4. Choose and Interpret blood reports in Cardiac illness 5. Interpret RFT and electrolyte report 6. Interpret Liver Function Tests,	

				viral markers. 7. Enumerate indications of UGI Endoscopy 8. Interpret blood tests relevant to upper respiratory problems. 9. Interpret CBC, LFT in anemia 10. Perform and interpret peripherals mear 11. Discuss the indications for Hemoglobin electrophoresis and interpret report 12. Interpret and explain the findings in a CSF analysis 13. Interpret and explain neonatal thyroid screening report 14. Perform and interpret Urine Dip Stick for Sugar. Interpret Blood sugar reports and explain the diagnostic criteria for Type 1 Diabetes 15. Interpret the reports of EEG 16. Perform Sexual Maturity Rating (SMR) and interpret 17. Interpret blood tests in the context of laboratory evidence for tuberculosis. Discuss the various samples for demonstrating the organism e.g. Gastric Aspirate, Sputum, CSF, FNAC.	

4.	Skills Lab	02	(PE 15.6, 15.7, 19.9, 19.13, 20.3,24.15, 24.16, 24.17,26.10, 27.20, 29.17,30.23)	1. Demonstrate the steps of inserting an IV cannula in a model 2. Demonstrate the steps of inserting an interosseousline in amannequin 3. Demonstrate the correct administration of different vaccines in a mannequin. 4. Describe the components of safe vaccine practice–Patient education/ counselling; adverse events following immunization, safe injection practices, documentation and Medico-legal implications 5. Perform Neonatal resuscitation	AETCOM –PE19.9
				in a manikin 6. Perform NG tube insertion in a manikin 7. Perform IV cannulation in a model 8. Demonstrate the technique of liver biopsy or perform Liver Biopsy in a simulated environment. 9. Demonstrate performance of bone marrow aspiration in manikin 10. Perform in a mannequin lumbar puncture. Discuss the indications, contraindication of the procedure	

5.	Genito-Urinary system	02	Hypertension in children (PE 21.17)	1. Definition 2. Etiopathogenesis 3. Grading 4. Clinical features 5. Management 6. Complications 7. Acute severe hypertension	
			Voiding Disorders (PE 21.15)	1. Discuss & Enumerate the referral criteria for children with genitor urinary disorder 2. Counsel & educate patients regarding referral	
6.	Cardiovascular system: Heart disease	04	Congestive cardiac failure in infants and children (PE 23.3)	1. Etiology 2. Pathogenesis 3. Clinical presentation 4. Management	
			Acyanotic congenital heart diseases (PE 23.1)	**VSD, ASD and PDA** 1. Etiology 2. Hemodynamic changes 3. Clinical features 4. Investigations 5. Management	
			Cyanotic congenital heart diseases (PE 23.2)	1. Classify Cyanotic congenital heart disease **Fallot's Physiology** 2. Etiology 3. Hemodynamic changes 4. Clinical features 5. Investigations	
				6. Management	
			Acquired Heart Disease (PE 23.4, 23.5, 23.6)	**Infective endocarditis** 1. Etio-pathogenesis 2. Clinical features 3. Diagnosis 4. Management **Acute rheumatic fever** 1. Etio-pathogenesis 2. Clinical features 3. Diagnosis 4. Management and prevention 5. Complications	

7.	Pediatric Emergencies – Common Pediatric Emergencies	03	Shock in children (PE 27.5)	1. Definition 2. BP regulation 3. Pathophysiology 4. Classification 5. Monitoring 6. Management	
			Status epilepticus(PE 27.6, 30.9)	1. Definition 2. Etiology 3. Approach to a child with status epilepticus 4. Evaluation 5. Management	
			Unconscious child and Coma (PE 27.8)	1. Definition 2. Etiopathogenesis 3. Evaluation 4. Management 5. Brain death	
8.	Care of the Normal Newborn, and High-risk Newborn	04	Care of low birth weight (LBW) babies (PE 20.11)	1. Definition 2. Etiology 3. Explain the terminologies– IUGR/SGA 4. Clinical features 5. Issues in LBW care 6. Feeding in LBW babies 7. Management of LBW babies 8. Growth monitoring of LBW babies	
			Neonatal hypoglycemia &hypocalcaemia (PE 20.13,20.14)	**Hypoglycemia and hypocalcaemia** 1. Definition 2. Etiology 3. Clinical features 4. Management	
			Neonatal Seizures (PE 20.15)	1. Etiology 2. Clinical features 3. Management	
			Perinatal infections (PE 20.17)	TORCH/Tuberculosis/HepB/Varicella 1. Etiology 2. Transmission 3. Clinical features 4. Management	

9.	Anemia and other Hemato-oncologic disorders in children	02	Hemolytic anemia (PE 29.4)	1. Etiology 2. Classification 3. Approach to a child with hemolytic anemia 4. Management 5. Overview of HS, AIHA and HUS	
			Thalassemia and Sickle Cell Anemia (PE 29.4)	1. Etiology 2. Clinical features 3. Lab investigations 4. Management in cl Iron Chelation therapy 5. Complications	
10.	Acute and chronic liver disorders	02	Acute liver disease & Fulminant hepatic failure (PE 26.1, 26.2)	**Acute hepatitis in children–Viral (Hep A,B,C), Autoimmune and Wilsons disease** 1. Etio-pathogenesis 2. Clinical features **3.** Management **Fulminant Hepatic Failure in children** 1. Etio-pathogenesis 2. Clinical features 3. Management	
			Chronic liver disease & Portal hypertension (PE26.3,26.4,26.11, 26.12)	**Chronic liver diseases in children** 1. Etio-pathogenesis 2. Clinical features 3. Evaluation 4. Complications – hepatic encephalopathy and ascites 5. management **Portal Hypertension in children** 1. Etio-pathogenesis 2. Clinical features 3. Management 4. Complications	
11.	Respiratory system	01	Pneumonia and ARDS (PE 27.3,27.4)	1. Etio-pathogenesis 2. Clinical features 3. Diagnosis 4. Management	
				5. Prevention	

4.	Mal absorption	01	Mal absorption (PE 25.1)	1. Etio-pathogenesis 2. Clinical presentation 3. Management 4. Overview of celiac disease	
TOTAL		**28**			

Theory III (Part II) MBBS (20 hours)

S. No	Topic	Hours	Lectures (Competency No.)	SLO	Horizontal Integration
1.	Care of the Normal Newborn, and High-risk Newborn	05	Birth asphyxia (PE 20.7)	1. Definition 2. Etiology 3. Clinical features 4. Management 5. Prevention	
			Respiratory distress in newborn (PE 20.8)	**RDS/TTNB/MAS** 1. Etiology 2. Clinical features inclscoring systems 3. Management	
			Birth injuries &Hemorrhagic disease of newborn (HDN) (PE 20.9, 20.10)	**Birth Injuries** 1. Etiology 2. Clinical features 3. Management **HDN** 1. Definition and classification 2. Etiology 3. Clinical features 4. Management 5. Prevention	
			Neonatal Sepsis (PE 20.16)	1. Classification 2. Etiology 3. Clinical features 4. Investigations 5. Management	

			Surgical conditions in newborn (PE 20.20)	TEF, esophageal atresia, anal atresia, cleft lip and palate, congenital diaphragmatic hernia 1. Etiology 2. Clinical presentation 3. Management 4. Causes of acute abdomen in neonates	
2.	Genito-Urinary system	03	UTI (PE 21.1)	1. Etiology and predisposing factors 2. Clinical features 3. Diagnosis 4. Management 5. VUR	
			Approach to hematuria& Acute glomerulonephritis (PE 21.2, 21.4)	Hematuria 1. Definition 2. Diagnostic evaluation 3. Referral criteria Acute Glomerulonephritis 1. Definition 2. Etiology 3. Clinical features of PSGN 4. Management of PSGN 5. Complications	
			Acute kidney injury (AKI) and Chronic kidney disease (CKD) (PE 21.5, 21.6)	1. Definition and classification 2. Etiology and pathophysiology 3. Approach to a child with AKI 4. Management 5. Complications 6. Renal replacement therapy	
3.	Approach to and recognition of a child with possible rheumatologic problem	02	Approach to Rheumatological Problems incl JIA and SLE (PE 22.1)	1. Enumerate the common Rheumatological problems in children. 2. Approach to a child with arthritis 3. Referral criteria for a child with possible rheumatologic problem **JIA/SLE** 1. Definition 2. Etiopathogenesis 3. Clinical sub types/Clinical features	

				4. Diagnosis 5. Management	
			Vasculitic disorders in children (PE 22.3)	Enumerate common Vasculitic disorders in children and its classification **Kawasaki disease/HSP** 1. Etiology 2. Clinical features 3. Diagnosis 4. Management	
4.	Anemia and other Hemato-	02	Thrombocytopenia and Hemophilia (PE 29.6, 29.7)	**Thrombocytopenia** **1.** Causes of thrombocytopenia **2.** Etiology of ITP	
	oncologic disorders in children			**3.** Clinical features and management of ITP **Hemophilia** **1.** Approach to a child with bleeding disorder **2.** Etiology and types of hemophilia **3.** Clinical features and management of hemophilia	
			Leukemia, Lymphomas and Solid Tumors in children (PE 29.8, 29.9, 21.17)	**ALL/Lymphoma/Wilm's Tumor** 1. Etiology 2. Clinical features 3. Management	

5.	Systemic Pediatrics- Central Nervous system	08	Meningitis in children (PE 30.1, 30.2)	1. Etiopathogenesis 2. Clinical features 3. Lab investigations 4. Management 5. Prevention 6. Differentiate between Bacterial, Viral and TB Meningitis 7. Approach to a child with acute febrile encephalopathy	
			Hydrocephalus (PE 30.3)	1. Etiopathogenesis 2. Clinical features 3. Investigations 4. Complications 5. Management 6. Overview of IIH	
			Microcephaly and Neural tube defects (PE 30.4, 30.5)	1. Etiopathogenesis 2. Classification/Types 3. Clinical features 4. Complications 5. Management	
			Infantile hemiplegia/ Stroke (PE 30.6)	1. Etiopathogenesis 2. Clinical features 3. Investigations 4. Management	
			Epilepsy in children (PE 30.8)	1. Definition 2. Pathogenesis 3. Types of Epilepsy 4. Clinical presentation 5. Management 6. Overview of status epilepticus	
			Muscular	**DMD/BMD**	
			dystrophy (PE 30.14)	1. Etiology 2. Clinical features 3. Differential diagnosis 4. Evaluation 5. Management	
			Ataxia in children(PE 30.15)	1. Definition 2. Etiology 3. Clinical features 4. Differential Diagnosis 5. Management	

			Approach to headache in children (PE 30.16)	1. Pathophysiology of headache 2. Approach to a child with headache 3. Types of Headache 4. Management	
TOTAL		**20**			

Self-Directed Learning III (Part II) MBBS (10 hours)

S. No	Topic	Hours	Lectures (Competency No.)	SLO	Horizontal Integration
1.	Systemic Pediatrics- Central Nervous system	04	Floppy infant (PE 30.12)	1. Etiology 2. Clinical features 3. Differential diagnosis 4. Evaluation **5.** Management	
			Febrile seizures (PE 30.7)	1. Definition 2. Types 3. Etio pathogenesis 4. Clinical features 5. Investigations 6. Complications 7. Management	
2.	Care of the Normal Newborn, and High-risk Newborn	02	Neonatal Hyperbilirubinemia (PE 20.19)	1. Physiological vs pathological jaundice 2. Etiology 3. Clinical features 4. Approach to a neonate with jaundice 5. Management 6. Follow-up	

3.	Genito-Urinary system	02	Approach to Proteinuria & Nephrotic	Proteinuria 1. Definition 2. Diagnostic evaluation	
			syndrome (PE 21.3)	3. Referral criteria Nephrotic Syndrome 1. Definition 2. Etiology 3. Terminologies – Remission / Relapse / Steroid dependence / Steroid resistance 4. Clinical features 5. Management 6. Complications 7. SDNS/SRNS/Congenital nephritic syndrome	
4.	Respiratory system	02	Asthma in children (PE 28.19, 28.20, 31.5, 31.7, 31.8, 31.10)	1. Pathophysiology incl Triggers 2. Clinical features 3. Diagnosis and differential diagnosis 4. Management 5. Inhalational therapy 6. Monitoring and modification of treatment 8. Management of acute exacerbation of bronchial asthma	
	TOTAL	**10**			

Internal Assessment
Subject – Pediatrics
Applicable w.e.f October 2020 onwards examination for batches admitted from June2019 onwards

Phase		
	Theory	Practical
Second MBBS	-	EOP Practical Examination may be conducted. However, these marks shall not be aded to the Internal Assessment.

3rd Year (III MBBS, PART I)

Phase	I-Exam			II-Exam		
	Theory	Practical	Total Marks	Theory	Practical	Total Marks
III/I MBBS	50	50	100	50	50	100

4th Year (III MBBS, PART II)
Clinical posting- 4weeks
Theory- lectures- 20, tutorials- 35, self-directed learning-10. Total 65 hrs

Phase	III-Exam			IV-Exam (Preliminary examination)		
	Theory	Practical	Total Marks	Theory	Practical	Total Marks
III/II MBBS	50	50	100	100	100	200

Assessment in CBME is ON GOING PROCESS,
No Preparatory leave is permitted.

1. There shall be 4 internal assessment examinations in Pediatrics including Prelim.
2. The suggested pattern of question paper for internal assessment examinations, except prelim examination is attached at the end. Pattern of the prelims examinations should be similar to the University examinations.
3. Internal assessment marks for theory and practical will be converted to out of 25 (theory) + 25 (practical). Internal assessment marks, after conversion, should be submitted to university within the stipulated time as per directives from the University. **Conversion Formula for calculation of marks in internal assessment examinations.**

	Theory	**Practical**
Phase II	**-**	**-**
Phase III/I	**100**	**100**
Phase III/II	**150**	**150**
Total	**250**	**250**
Conversion out of	**25**	**25**
Conversion formula	**Total marks in 4 IA theory examinations/10**	**Total marks in 4 IA Practical examinations/10**
Eligibility criteria after conversion	**10**	**10**
	Combined theory + Practical=25	

1. While preparing Final Marks of Internal Assessment, the rounding-off marks shall done as illustrated in following table.

Total Internal Assessment Marks	Final rounded marks
13.01 to 13.49	13
13.50 to 13.99	14

2. Students must secure atleast 50% marks of the total marks (combined in theory and practical / clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in order to be eligible for appearing at the final University examination of that subject.
3. Internal assessment marks will not to be added to marks of the University examinations and will be shown separately in marklist.

4. Remedial measures

A. Remedial measures for non – eligible students

i) At the end of each internal assessment examination, student securing less than 50% marks shall be identified. Such students should be counseled at the earliest and periodically. Extra classes for such students may be arranged.
ii) If majority of the students found to be weak in a particular area then extra classes must be scheduled for all such students. Even after these measures, if a student is failed to secure 50% marks combined in theory and practical (40% separately in theory and practical) after prelim examination, the student shall not be eligible for final examination.
iii) Non eligible candidates are offered to reappear for repeat internal assessment examination/s, which must be conducted 2 months before next University examination. The pattern for this repeat internal assessment examination shall be similar to the final University examination. The marks in this examination shall be considered for deciding the eligibility criteria. Following conversion formula shall be used for converting the marks.

	Theory	Practical
Remedial examination	**100**	**100**
Conversion out of	**25**	**25**
Conversion formula	**Marks in remedial theory examinations /4**	**Marks in remedial Practical examinations /4**
Eligibility criteria after conversion	**10**	**10**
	Combined theory + Practical = 25	

B. <u>Remedial measures for absent students:</u>

If any of the students is absent for any of the 4IA examinations due to any reasons, following measures shall be taken.

i. The student is asked to apply to the academic committee of the college for reexamination, through HOD, to ascertain the genuineness of the reason for absentee.

ii. If permitted by academic committee, an additional examination for such students is to be conducted after prelims examination. Marks for such additional examination shall be equal to the missed examination.

iii. Even if a student has missed more than one IA examination, he/she can appear for only one additional IA examination. In such scenario, eligibility should be determined by marks obtained in internal assessment examinations for which the candidate has appeared, without changing the denominator.

Internal Assessment Practical Examinations

Pediatrics

Internal Assessment Practical – I, II and III

Subject: Pediatrics Practical (IA – I, II and III)				
Case	OSCE 1	OSCE 2	Journal & log book	Practical Total marks
20	10	10	10	50

#OSCE Stations to include Signs of General examinations, Local examinations, Psychomotor skills and Communication skills., history taking of a particular symptom; nutrition history, developmental history, immunization history.

Prelim Practical

Subject: Pediatrics Practical (Prelims)					
Long Case (Including clinical skills demonstration)	Short Case (Including communication skills)	OSCE (4 stations x 10 marks each)	Viva	Journal & log book	Practical Total marks
25	15	40	10	10	100

OSCE1–ClinicalSkills, OSCE2–Anthropometry assessment ,OSCE3–Certifiable procedural skills , OSCE 4 – AETCOM related skills

MUHS Final Practical

Subject: Pediatrics Practical (Prelims)				
Long Case (Including clinical skills demonstration)	Short Case (Including communication skills)	OSCE (4 stations x 10 marks each)	Viva	Practical Total marks
30	20	40	10	100

OSCE1–ClinicalSkills, OSCE2–Anthropometry assessment, OSCE3–Certifiable procedural skills , OSCE 4 – AETCOM related skills

Internal Assessment Examination (I, II and III) Pediatrics

Question No.	SECTION "A" MCQ (10 Marks)	
1.	Multiple Choice Questions (Total-10 MCQ of One mark each from General Medicine) a) b) c) d) e) f) g) h) i) j)	(10x1=10)
	SECTION "B" (40 Marks)	
2.	Short Answer Questions (Five marks each) (Any 5 out of 6) a) b) c) d) e) f)	(5x5= 25)
3.	Long answer question a)	(1x15= 15)

Final Theory Examination
FORMAT / SKELETON OF QUESTION PAPER

Question No.	SECTION "A" MCQ 20 Marks)	
1.	Multiple Choice Questions (Total-20 MCQ of One mark each) a) b) c) d) e) f) g) h) i) j) l) m) n) o) p) q) r) s) t) u)	(20x1=20)
	SECTION "B" (45 Marks)	
2.	Long Answer Questions (any 2 out of 3) (Structured clinical questions) a) b) c)	(2x15= 30)
3.	Short Answer Questions (All 3) (including 1 on ARTCOM) a) b) c)	(3x5= 15)
	SECTION "C"- Allied (35 Marks)	
4	Long answer questions a)	(1x15= 15)
5	Short Answer Questions (Any 4 out of 5) (Clinical reasoning) a) b) c) e) f)	(4x5= 20)

Annexure- 1

Course Content Phase II(October 2020)
Subject: PAEDIATRICS
Theory / Practical

(Based on National Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. Vol. 2 / 3.)

1. Total Teaching hours:
   A. Lectures(hours): **No**
   B. Self-directed learning(hours):
   C. Clinical Postings(hours):
      - Weeks- 2wks
      - Hours perweek-15
      - Monday to Friday- 3 hours per day.

   D. Small group teachings/tutorials/Integrated teaching/Practical(hours)**:**No

Tentative Clinical posting schedule-

Day	Topic	Day	Topic
1	Round to Paediatric ward, Maternal ward, Kangaroo Mother Care, PICU, NICU, Labour room, OPD, Immunization room etc.	6	Systemic examinatio of child-CVS n
2	History taking in Paediatrics	7	Systemic examination of child- RS and PA
3	Assessment of growth and development	8	Neonatal examination
4	General examination of child.	9	Elicitation of neonatal reflexes
5	Systemic examination of child-CNS	10	Posting ending exam

Competency Nos.	**Topics, Subtopics and Lectures**

Annexure- 2.

Course Content Phase III-I(October 2020)

Subject: PAEDIATRICS (Theory/Practical)

(Based on National Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. Vol. 2 / 3.)

Total Teaching hours:

A. Lectures (hours):20

B. Self-directed learning (hours): 5

C. Clinical Postings(hours):

- Weeks-4
- Hours per week-15
- Monday to Friday- 3 hours per day.

D. Small group teachings/tutorials/Integrated teaching/Practical (hours)**: 30**

Tentative Clinical posting schedule-

Day	Topic	Day	Topic
1	Round to Paediatric ward, Maternal ward, Kangaroo Mother Care, PICU, NICU, Labour room, OPD, Immunization room etc.	11	Elicitation of neonatal reflexes
2	History taking in Paediatrics	12	Immunization clinic
3	Assessment of growth and development	13	Immunization clinic
4	General examination of child.	14	Immunization clinic
5	Systemic examination of child- CNS	15	Immunization clinic
6	Systemic examination of child- CNS	16	Paediatric Emergencies
7	Systemic examination of child- RS	17	Paediatric Emergencies
8	Systemic examination of child- Per Abdomen	18	Paediatric Emergencies
9	Systemic examination of child- CVS	19	Paediatric Emergencies
10	Neonatal case taking and examination.	20	Posting ending exam

Competency Nos.	**Topics, Subtopics and Lectures**

Annexure- 3.

Course Content Phase: III-II (October 2020)

Subject: PAEDIATRICS (Theory / Practical)

(Based on National Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. Vol. 2 / 3.)

Total Teaching hours:

A. Lectures(hours): 20

B. Self-directed learning (hours): 10

C. Clinical Postings(hours):

- Weeks-4
- Hours per week-15
- Monday to Friday- 3 hours per day.

D. Seminars/Small group teachings/tutorials/Integrated teaching/Practical (hours)**:**35

Tentative Clinical posting schedule-

Day	Topic	Day	Topic
1	History taking and General examination of child.	11	Neonatal case taking, examination and Elicitation of neonatal reflexes
2	Systemic examination of child- CNS	12	Demonstration of Common procedures related to Paediatrics
3	Systemic examination of child- CNS	13	Demonstration of Common procedures related to Paediatrics
4	Systemic examination of child- RS	14	Common Drugs used in Paediatrics
5	Systemic examination of child-Per Abdomen	15	Common Drugs used in Paediatrics
6	Systemic examination of child- CVS	16	Common Instruments used in Paediatrics
7	Systemic examination of child- CVS	17	X-Ray film reading related to Paediatrics.
8	Short case discussion	18	Nutrition
9	Neonatal case taking, examination and Elicitation of neonatal reflexes	19	Nutrition
10	Neonatal case taking, examination and Elicitation of neonatal reflexes	20	Posting ending exam

Competency Nos.	**Topics, Subtopics and Lectures**

Annexure- 4.

Exam Pattern – Paediatrics

Theory Paper (100 marks)

- Section A-MCQ-:
- Section B-
- Section C-

Practical exam (100 marks)

- Long case-
- Short case/ Newborn-
- Table viva- (Drugs, Instruments, Nutrition, Vaccines and X-Rays-
- OSCE-

Internal Assessment:

- 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University

University Examination

- Mandatory 50% marks separately in theory and practical (practical = practical/ clinical+ viva)

Annexure- 5
Distribution of journal marks
Total- 10 marks

Parameter	Total	Marks	Phase
Long cases	-	-	Phase: II (Second year)
	6 (CNS-2, RS-1, PA-1, CVS-2)	1	Phase: III-1 (Third Minor)
	66 (CNS-2, RS-1, PA-1, CVS-2)	1	Phase: III-II (Third Major)
Short cases	3	1/2	Phase: II (Second year)
	3	1/2	Phase: III-1 (Third Minor)
	3	1/2	Phase: III-II (Third Major)
Newborns	3	1/2	Phase: II (Second year)
	3	1/2	Phase: III-1 (Third Minor)
	3	1/2	Phase: III-II (Third Major)
Emergencies	5	1	Phase: III-1 (Third Minor)
Procedures	5	1	Phase: III-II (Third Major)
Vaccines	All vaccines as per Government of India.	1	Phase: III-I
Drugs	10	1	Phase: III-II
Instruments	10	1/2	Phase: III-II
Nutrition	10	1/2	Phase: III-II
Total- 10 marks			

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