

स्वास्थ्य एवं परिवार कल्याण मंत्रालय के तहत सांविधिक निकाय  
Statutory Body under the Ministry of Health & Family Welfare

**F.No. 11-1/2024-INC (IX)**

Dated: 23 OCT 2024

**Draft Notification of Nurse Practitioner in Pediatric Nursing (NPPN) -Postgraduate  
Residency Program**

General Public is hereby informed that the Indian Nursing Council has drafted “**Nurse Practitioner in Pediatric Nursing (NPPN) -Postgraduate Residency Program**” Accordingly, draft notification has been prepared and is attached for comments of the General Public/Stakeholders. Comments may be furnished via email [secy.inc@gov.in](mailto:secy.inc@gov.in) within 15 (Fifteen) days of uploading of this notice.

Yours faithfully,

**Encl: As above**



**Lt Col (Dr) Sarvjeet Kaur  
Secretary, INC**

**THE GAZETTE OF INDIA EXTRAORDINARY**  
**PART III—SECTION 4**  
**PUBLISHED BY AUTHORITY**  
**(TO BE GAZETTE)**

**INDIAN NURSING COUNCIL**  
**8<sup>th</sup> Floor, NBCC Centre, Plot No. 2, Community Centre**  
**Okhla Phase-1, New Delhi-110020**

**NOTIFICATION**

New Delhi, Dated \_\_\_\_\_, 2024

**INDIAN NURSING COUNCIL {NURSE PRACTITIONER IN PEDIATRIC NURSING (NPPN) -  
POSTGRADUATE RESIDENCY PROGRAM} REGULATIONS, 2024**

**F.No. 11-1/2024-INC (X):**—In exercise of the powers conferred by sub-section (1) of Section 16 of Indian Nursing Council Act, 1947 (XLVIII of 1947), as amended from time to time, the Indian Nursing Council hereby makes the following regulations, namely:—

**1. SHORT TITLE AND COMMENCEMENT**

- i. These Regulations may be called the **Indian Nursing Council {Nurse Practitioner in Pediatric Nursing (NPPN) - Postgraduate Residency Program} Regulations, 2024.**
- ii. These shall come into force on the date of notification of the same in the Official Gazette of India.

**2. DEFINITIONS**

In these Regulations, unless the context otherwise requires,

- i. 'the Act' means the Indian Nursing Council Act, 1947 (XLVIII of 1947) as amended from time to time;
- ii. 'the Council' means the Indian Nursing Council constituted under the Act;
- iii. 'SNRC' means the State Nurse and Midwives Registration Council, by whichever name constituted, by the respective State Governments;
- iv. 'RN & RM' means a Registered Nurse and Registered Midwife (RN & RM) and denotes a nurse who has completed successfully, recognised Bachelor of Nursing (B.Sc. Nursing) or Diploma in General Nursing and Midwifery (GNM) course, as prescribed by the Council and is registered in a SNRC as Registered Nurse and Registered Midwife;
- v. 'Nurses Registration & Tracking System (NRTS)' means a system developed by the Council and software developed in association with National Informatics Centre (NIC), Government of India, and hosted by NIC for the purpose of maintenance and operation of the Indian Nurses Register. It has standardised forms for collection of the data of Registered Nurse and Registered Midwife (RN & RM)/Registered Auxiliary Nurse Midwife (RANM)/Registered Lady Health Visitor (RLHV) upon Aadhar based biometric authentication;
- vi. 'NUID' is the Nurses Unique Identification Number given to the registrants in the NRTS system;
- vii. 'General Nursing and Midwifery (GNM)' means Diploma in General Nursing and Midwifery qualification recognized by the Council under Section 10 of the Act and included in Part-I of the Schedule of the Act.

**NURSE PRACTITIONER IN PEDIATRIC NURSING (NPPN) -  
POSTGRADUATE RESIDENCY PROGRAM**

**I. Introduction and Background**

**1.1 Introduction**

WHO defines the children within the age group from birth to 18 years. India is home to over 444 million children, which is one of the world's largest child and adolescent populations (Children in India: Statistics & Facts, 2023). Children are a vulnerable and at-risk age group. The health and well-being of children are central to commitments made by the Government of India as children are the future of the country. In 2015, India became one of the 193 countries to commit to the Sustainable Development Goals (SDGs) and aims to transform the world by 2030 to a more prosperous, more equal, and more secure planet for all. India's responsibility is immense as these ambitious goals cannot be achieved without addressing the major health indicators. The current infant mortality rate is as high as 26.62 deaths per 1000 live births with a 3.89% decline in 2022 (United Nations' Projections, 2023). Enhancing the health systems in all dimensions of health in the country has been recognized as an important need in the National Health Policy, 2017. Accelerating advances in shaping the health system and

empowering the health personnel caring for children will improve the quality of health services in the pediatric age group. The Government of India recognizes significant expansion in the health care services of children in all settings, both in public and private health sectors.

Capacity building of pediatric health care professionals is highly significant in managing children and it requires advanced educational preparation/training for the health care and management of this population. To support the health system, pediatric nurses with advanced preparation as Nurse Practitioner in Pediatric Nursing (NPPN) can contribute significantly to the care and management of children in the respective health facilities. Developing pediatric nursing professional in the advanced role is critical. The preparation/training focuses on child survival, child health, child well-being, child safety, reduction in child morbidity and mortality and improved health and illness outcomes.

### ***1.2 Preparing Nurse Practitioner in Pediatric Nursing (NPPN) with advanced roles for the future of India***

Quality education is essential to prepare nurses with competencies, knowledge, and skills to function within the full scope of nursing practice. The professional role of the nurse has been advancing in developed countries with the specialized extended and expanded roles. Pediatric nurses with advanced preparation as Nursing Practitioners in Pediatric Care will be able to meet this demand for the health and disease management of children, provided they are well-trained and empowered to practice. With the establishment of new cadres in the Center and State level, master-level prepared NPPN will be able to provide cost-effective, competent, safe, and quality-driven specialized nursing care to children in a variety of facilities/settings, where children are admitted. Nurse practitioners have been prepared and functioning in the USA and Canada since the 1960s, UK since the 1980s, Australia since the 1990s, and the Netherlands since 2010. It is timely that in India we move ahead with our partners in the nursing profession as in developed countries.

The Nurse Practitioner in Pediatric Nursing can be prepared by rigorous educational preparation/training which will enable them to assess and manage children for prevention and promotion and curative domains of health and function in outpatient services and acute care settings in collaboration and coordination with the medical team. A curricular structure/framework is proposed by the Council for the preparation of NPPN at the master's level.

The special feature of the NPPN program is that it is a clinical residency program emphasizing a strong clinical component with 15% theoretical instruction and 85% practicum. The major approach for the NPPN program will be Competency Based Training. The NPPN education is based on competencies adapted from the International Council of Nurses (ICN, 2020), Society of Pediatric Nurses (2020) and National Organization of Nurse Practitioners U.S. (NONPF) Competencies (2022). Every course is based on achievement of competencies.

#### **Scope of Practice**

The Nurse Practitioner in Pediatric Nursing (NPPN) Program is intended to prepare registered B.Sc. Nurses to provide advanced nursing care to children in Pediatric OPDs, Pediatric wards, Emergency units/PICUs, Community Health Centers and District Hospital settings. Nurse Practitioners are required to practice both in the community and clinical care settings such as Pediatric OPDs, Pediatric wards, Community Health Centers and District Hospitals. Nursing care is focused on in-depth assessment of children's stabilization of the child in acute conditions, performing basic investigations, diagnosis of the condition in consultation with doctors, and therapeutic management of the child minimizing acute complications and maximizing restoration of health. On completion of the program and registration with the respective State Council, they are permitted to practice all competencies listed in the logbook of the Council syllabus and independently prescribe, administer drugs, and order diagnostic tests, procedures, medical equipment, and therapies as per institutional protocols/standing orders at an advanced level. The NPPN when exercising this authority with accepted levels of autonomy, are highly accountable for the following competencies: The NPPN will be competent to

- a) Perform in-depth comprehensive assessment and problem identification of children
- b) Diagnose the condition by consulting with the pediatrician/physician
- c) Perform the required diagnostic tests and interpretation of the diagnostic tests
- d) Manage the illness according to the therapeutic protocol in collaboration with the pediatricians/physicians
- e) Transfer patients from OPD to the wards using the criteria of selection/admission of the child from OPD and Pediatric emergencies to the wards
- f) Discharge in consultation with the pediatrician/physician
- g) Select/administer of medication or devices or therapies
- h) Educate child and parents for use of therapeutics
- i) Demonstrate knowledge of interactions of therapeutics
- j) Provide health education to children and their families
- k) Evaluate outcomes
- l) Recognize and manage complications and untoward reactions
- m) Conduct clinical projects for contribution towards evidence-based innovations in clinical practice.

The NPPN is prepared and qualified to assume responsibility and accountability for the care of children under his/her care. The said postgraduate degree will be registered as an additional qualification by the SNRC.

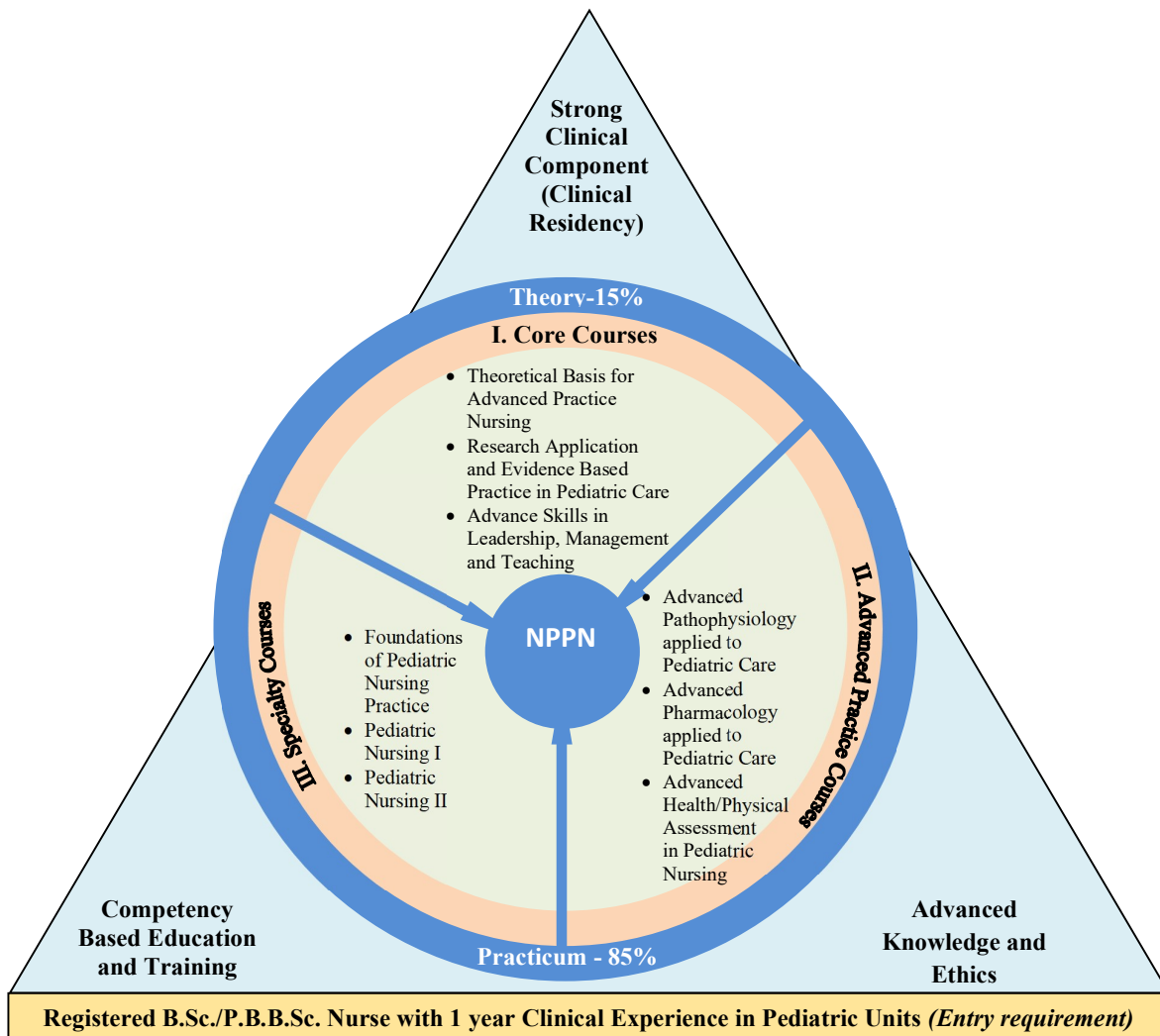
**Philosophy**

The Council believes that strengthening education to International Standards in nursing is a key step to address the challenges and demands of health care needs of children and thereby improve the health care of children in India. Establishing the Nurse Practitioner in Pediatric Nursing Program at postgraduate level with an advanced level of preparation will be able to meet the aspiration of the Government of India reflected in the National Health Policy 2017 (NHP, 2017) to provide safe and quality care to children and their families in their autonomous role.

The Council believes that the NPPN program focused on strong clinical components and competency-based training must be able to demonstrate clinical competence based on sound theoretical and evidence-based knowledge. The teaching-learning approach should focus on adult learning principles, competency-based education, collaborative learning, clinical learning with medical and nursing preceptors, experiential learning, and self-directed learning. Education providers/preceptors/mentors must update their current knowledge and practices. Medical faculty are involved in participating as preceptors in the training.

The Council also believes that a variety of educational strategies can be used in clinical settings to address the lack of qualified and specialized pediatric nursing clinical practitioners who will provide safe and quality patient care to the pediatric population. It is hoped to facilitate developing policies towards registration/licensure and create cadre positions for appropriate placement of these postgraduate level NPPN to function in OPDs, acute and chronic care units of primary, secondary, and tertiary care settings.

An educational framework for the NPPN-curriculum is proposed (See **Figure 1**).



**Figure 1. Nurse Practitioner in Pediatric Nursing (NPPN) - An Educational Curricular Framework**

## II. Program Description

The Nurse Practitioner in Pediatric Nursing (NPPN) program is a nursing residency program with a focus on competency based training. The duration is of two years with the curriculum consisting of theory that includes core courses, advanced practice courses and clinical courses besides clinical practicum which is a major component (Refer **Curricular framework**).

## III. Aim

The NPPN program prepares registered B.Sc. nurses for advanced practice roles as clinical experts, managers, educators and consultants leading to M.Sc. Nursing (Nurse Practitioner in Pediatric Nursing-NPPN).

## IV. Objectives

On completion of the program, the Nurse Practitioner in Pediatric Nursing will be able to -

1. Assume responsibility and accountability to provide competent care to children and their families in the primary, secondary and tertiary care settings.
2. Demonstrate clinical competence/expertise in providing care to children which includes diagnostic reasoning, monitoring, and therapeutic management.
3. Apply theoretical, pathophysiological, and pharmacological principles and evidence base in implementing therapies/interventions in the care of children.
4. Assess and participate in treating pediatric patients, stabilize and restore towards improved clinical outcomes and minimize or manage complications independently or collaboratively in partnership with the health care team.
5. Collaborate with other health care professionals, across the illness to health continuum of care of the children.

## V. Minimum requirements to start the Nurse Practitioner in Pediatric Nursing (NPPN) Program

The institution must accept the accountability for the NPPN program and its students and offer the program congruent with the Council standards. It must fulfill the following requirements -

### 1. *Essentiality Certificate*

- a. Institution who wishes to start the NPPN program shall obtain an essentiality certificate/Government order from State.
- b. The following institutions are exempted from obtaining an essentiality certificate -
  - (i) Institutions/Universities already offering B.Sc. Nursing or M.Sc. Nursing programs approved by the Council.
  - (ii) Institutions/Universities offering MBBS/DNB programs.

### 2. *Hospital*

The hospital should be a parent tertiary care center, with a minimum of 200 beds with pediatric wards, emergency unit/PICU, pediatric OPD and pediatric operating room. It may be attached to either a Medical College or Nursing College.

### 3. *Pediatric Beds*

The parent hospital should have a minimum of 50 pediatric beds, run a pediatric OPD preferably a pediatric emergency unit with 3-5 beds and PICU/PHDU with a minimum of 5 beds as well.

### 4. *OPD and Ward staffing*

- a. OPD needs to have one charge nurse or staff in charge with B.Sc. or M.Sc. qualification.
- b. The nurse-patient ratio should be 1:4 for every shift in general wards and 1:2 in sick cubicles in the wards.
- c. The staffing for PICU is 1:1 for ventilated patients and in PHDU 1:2.
- d. In pediatric emergency services it should be 1:2.
- e. There must be provision of additional 45% trained nursing staff towards leave reserve.

### 5. *Faculty/Staff resources*

#### a) *Clinical area*

- i. *Nursing Preceptor*: Full-time qualified GNM (preferably qualification in Post Basic Diploma in Pediatric Nursing/Neonatal Nursing) with 6 years of experience in Pediatric Unit or B.Sc. Nursing with 2 years of experience in Pediatric Unit or M.Sc. (Pediatric Nursing) with one year experience in Pediatric Unit.
- ii. *Medical Preceptor*: MD Pediatrics.
- iii. *Preceptor Student Ratio*: Nursing 1:10, Medical 1:10 (Every student must have a medical and a nursing preceptor).

- b) *Teaching faculty*: Fulltime faculty qualified M.Sc. in Pediatric Nursing (1 faculty for every 10 students):
- Professor/Associate Professor: 1 {Teaching experience: 5 years post PG-M.Sc. (Pediatric Nursing)} (One faculty for every 10 students)
  - Assistant Professor: 1 (Teaching experience: 3 years post M.Sc. Nursing)
  - The above faculty shall perform dual role or be a senior nurse with the above qualification and experience employed in the same hospital
  - Guest Lecturers for Pharmacology, Pathophysiology, Pediatric Surgery, Neonatology, Pediatric emergencies/critical care and therapies

**6. Physical and Learning Resources at the Institute/Hospital**

- One classroom/conference room in the clinical setting
- Skill lab for simulated learning (hospital/college)
- Library and computer facilities with access to online/offline journals
- E-learning facilities

**7. List of equipment for Pediatric ward (enclosed **Appendix 1**)**

**8. Student Recruitment/Admission Requirements**

- The applicants must be a registered nurse with B.Sc. Nursing/P.B.B.Sc. Nursing qualification and have a minimum of one-year clinical experience, preferably in any pediatric care setting prior to enrollment.
- Must have undergone B.Sc. Nursing in an institution found suitable by the Council and have been registered by the respective SNRC.
- Must have scored not less than 55% aggregate marks in the B.Sc. Nursing program.
- Selection must be based on the merit of an entrance examination and interview held by the competent authority.
- Must be physically fit.

**Number of candidates:** One candidate for every 10 pediatric beds.

**Salary**

- In-service candidates will get regular salary.
- Stipend/Salary for the other candidates as per the salary structure of the hospital where the course is conducted.

**VI. EXAMINATION REGULATIONS**

*Eligibility for appearing for the examination*

*Attendance:* Minimum 80% for theory and practical before appearing for final University examination but must complete 100% in practical before the award of degree.

There is no minimum cut off for the internal assessment marks, as internal and external marks are added together for declaring pass.

*Examining and Degree Awarding Authority:* Respective University

*Declaration of Results*

The candidate is declared to have passed the exam if the score is 60% and above. This score is the aggregate of both internal and external university examination in theory and practical in every course/subject and less than 60% is fail.

For calculating the rank, the aggregate of the two years' marks will be considered.

If a candidate fails in theory or practical, he/she must appear for the paper in which he/she has failed.

Rank will not be declared for candidates who fail in any subject. Maximum period to complete the program is 4 years.

*Practical Examination*

OSCE type of examination is to be conducted alongside viva - Refer OSCE Guidelines found in **Appendix 2**.

Maximum number of students per day will be 10 students.

Examination should be held in the clinical area only.

The team of practical examiners will include one internal examiner {M.Sc. Nursing faculty with two years of experience in teaching the Nurse Practitioner in Pediatric Nursing/M.Sc. (Pediatric Nursing Specialty) Nursing faculty with 5 years of post PG experience}, one external examiner (same as above) and one medical internal examiner who should be preceptor for Nurse Practitioner in Pediatric Nursing program.

*Dissertation*

*Research Guide:* Main guide: Nursing faculty (3 years post PG experience) teaching NPPN program

*Co-guide:* Medical preceptor

*Submission of Research Proposal:* 6 to 9 months after date of admission in the first year.

*Guide Student Ratio:* 1:5

#### Research Committee

There shall be a separate research committee in the college/hospital to guide and oversee the progress of the research (minimum of 5 members with principal or CNO who is M.Sc. Nursing qualified).

*Ethical Clearance:* It must be obtained by the hospital ethics committee since it involves clinical research.

*Topic Selection:* The topic should be relevant to pediatric nursing that will add knowledge or evidence for nursing intervention. The research should be conducted in pediatric care settings.

*Data Collection:* 7 weeks are allotted for data collection, which can be integrated during clinical experience after 6 months in first year and before 6 months in second year.

*Writing the Research Report:* 6-9 months in second year.

*Submission of Dissertation Final:* 3 months before completion of the second year.

#### Dissertation Examination

*Internal assessment:* Viva and dissertation report = 50 marks.

*University Examination:* Viva and dissertation report = 50 marks. (Marking guide used for other M.Sc. Nursing specialties can be used for evaluation).

\*EBP project can be conducted in place of dissertation and report submitted for evaluation.

### VII. Assessment (Formative and Summative)

- Quiz
- Seminar
- Written assignments/Term papers
- Case/Clinical presentation
- Clinical or care pathway/Case study report
- Clinical performance evaluation
- Logbook (Procedural Competency list and clinical requirements) counter signed by the pediatric/nursing faculty preceptor
- Objective Structured Clinical Examination (OSCE)
- Test papers
- Final examination

**Assessment Guidelines: Appendix 2**

#### Scheme of Final Examination

S.No.	Title	Theory %			Practical %		
		Hours	Internal	External	Hours	Internal	External
<b>I<sup>st</sup> year</b>							
<b>Core Courses</b>							
1	Theoretical Basis for Advanced Practice Nursing	2 hours	50				
2	Research Application and Evidence Based Practice in Pediatric Care	3 hours	30	70			
3	Advanced Skills in Leadership, Management and Teaching	3 hours	30	70			
<b>Advanced Practice Courses</b>							
4	Advanced Pathophysiology & Advanced Pharmacology applied to Pediatric Care	3 hours	30	70			
5	Advanced Health/Physical Assessment in Pediatric Nursing	3 hours	30	70		50	50
<b>II<sup>nd</sup> year</b>							
<b>Specialty Courses</b>							
1	Foundations of Pediatric Nursing Practice	3 hours	30	70		100	100
2	Pediatric Nursing I	3 hours	30	70		100	100
3	Pediatric Nursing II	3 hours	30	70		100	100
4	Dissertation/EBP Project and Viva		-	-		50	50

## VIII. COURSES OF INSTRUCTION

S.No.	Title	Theory (hours)	Lab/Skill Lab (hours)	Clinical (hours)
<b>I<sup>st</sup> year</b>				
<b>Core Courses</b>				
I	Theoretical Basis for Advanced Practice Nursing	40		
II	Research Application and Evidence Based Practice in Pediatric Care	56	24	336 (7 weeks)
III	Advanced Skills in Leadership, Management and Teaching	56	24	192 (4 weeks)
<b>Advanced Practice Courses</b>				
IV	Advanced Pathophysiology applied to Pediatric Care	60		336 (7 weeks)
V	Advanced Pharmacology applied to Pediatric Care	54		336 (7 weeks)
VI	Advanced Health/Physical Assessment in Pediatric Nursing	70	48	576 (12 weeks)
TOTAL = 2208 hours		336 (7 weeks)	96 (2 weeks)	1776 (37 weeks)
<b>II<sup>nd</sup> year</b>				
<b>Specialty Courses</b>				
VII	Foundations of Pediatric Nursing Practice	96	48	576 (12 weeks)
VIII	Pediatric Nursing I	96	48	576 (12 weeks)
IX	Pediatric Nursing II	96	48	624 (13 weeks)
TOTAL = 2208 hours		288 (6 weeks)	144 (3 weeks)	1776 (37 weeks)

Number of weeks available in a year = 52-6 (Annual leave, Casual leave, Sick leave = 6 weeks) = 46 weeks × 48 hours = 2208 hours

Two years = 4416 hours (Examination during clinical posting)

**Instructional Hours:** Theory = 624 hours, Skill lab = 240 hours, Clinical = 3552 hours

TOTAL = 4416 hours

I<sup>st</sup> year: 336-96-1776 hours (Theory-Skill Lab-Clinical) [Theory = 15%, Practicum (Skill Lab + Clinical) = 85%]

II<sup>nd</sup> year: 288-144-1776 hours (Theory-Skill Lab-Clinical) [Theory = 15%, Practicum (Skill Lab + Clinical) = 85%]

I<sup>st</sup> year = 46 weeks/2208 hours (46×48 hours) (Theory + Lab: 7.5 hours per week for 44 weeks = 336 + 96 hours\*)

\*Theory + Lab = 96 hours can be given for 2 weeks in the form of introductory block classes and workshops

II<sup>nd</sup> year = 46 weeks/2208 hours (46×48 hours) (Theory + Lab: 8.5 hours per week for 45 weeks = 384 + 48 hours) (1 week Block classes = 48 hours)

### CLINICAL PRACTICE

A. **Clinical Residency experience:** A minimum of 48 hours/week is prescribed, however, it is flexible with different shifts and week Off followed by on call duty.

B. **8 hours duty with one day OFF in a week and ON CALL duty one per week.**

### Clinical placements

**I<sup>st</sup> year: 44 weeks** (excludes 2 weeks of introductory block classes and workshop)

- Pediatric Medical Wards - 10 weeks
- Pediatric Surgical Wards - 6 weeks
- Pediatric OPD - 6 weeks
- Pediatric Emergency Unit - 4 weeks
- Pediatric ICU - 2 weeks
- Neonatal ICU - 2 weeks
- Pediatric Orthopedics - 2 weeks
- Immunization Clinic including Storage, Cold Chain Management - 2 weeks
- Nursery - 4 weeks
- Secondary Care Hospital/CHC - 3 weeks
- District Hospital - 2 weeks
- Field Visits - 1 week



**II year: 45 weeks** (excludes one week of block classes)

- Pediatric Medical Wards - 9 weeks
- Pediatric Surgical Wards - 4 weeks
- Pediatric OPD - 2 weeks
- Pediatric Operation Theatre - 4 weeks
- Pediatric Oncology Ward - 2 weeks
- Pediatric Neurology Ward - 2 weeks
- Pediatric Nephrology Ward - 2 weeks
- Burns Unit/Ward - 1 week
- Pediatric Psychiatry OPD - 1 week
- Special School - 1 week
- PICU - 2 weeks
- NICU - 2 weeks
- Pediatric Emergency Unit - 4 weeks
- Communicable Diseases Ward/Isolation Ward - 3 weeks
- Secondary Care Hospital/CHC - 2 weeks
- District Hospital - 2 weeks
- Special School - 1 week
- Field Visits - 1 week

**C. Teaching methods**

Teaching - theoretical, lab & clinical can be done in the following methods and integrated during clinical posting:

- Experiential learning
- Reflective learning
- Simulation
- Clinical conference
- Case/clinical presentation
- In depth drug study, presentation and report
- Nursing rounds
- Clinical seminars
- Journal clubs
- Case study/Clinical or care pathway
- Advanced health assessment
- Faculty lecture in the clinical area
- Directed reading
- Assignments
- Case study analysis
- Workshops

**D. Procedures/Logbook**

At the end of each clinical posting, clinical logbook (Specific Procedural Competencies/Clinical Skills) (**Appendix 3**) and Clinical Requirements (**Appendix 4**) have to be signed by the preceptor/faculty every fortnight.

**E. NPPN Competencies** (Adapted from NONPF, 2022 & SPN, 2020)

1. Uses advanced comprehensive assessment, diagnostic, treatment planning, implementation and evaluation skills
2. Applies sound advanced clinical reasoning and decision making to inform, guide and teach in practice
3. Uses applicable communication, counseling, advocacy and interpersonal skills to initiate, develop and discontinue therapeutic relationships
4. Administer drugs and treatments according to institutional protocols
5. Practices independently where authorized and the regulatory framework allows in the interest of the patients, families and communities
6. Works in collaboration with health team members in the interest of the patient
7. Develops a practice that is based on current scientific evidence and incorporated into the health management of children and their families and communities
8. Uses research to produce evidence-based practice to improve the safety, efficiency and effectiveness of care through independent and inter-professional research

9. Engages in ethical practice in all aspects of the role and responsibility of Nurse Practitioner in Pediatric Nursing
10. Accepts accountability and responsibility for own advanced professional judgement, actions, and continued competence
11. Creates and maintains a safe therapeutic environment through the use of risk management strategies and quality improvement
12. Assumes leadership and management responsibilities in the delivery of efficient advanced practice at all levels of health care services in a changing health care system
13. Acts as an advocate for children and their families in the health care systems and the development of health policies that promote, protect and empower the child, family and community
14. Adapts practice to the contextual and cultural milieu

**F. Institutional Protocol/Standing Orders-based administration of drugs & ordering of investigations and therapies**

The students will be trained to independently administer drugs and order diagnostic tests, procedures, medical equipment and therapies as per institutional protocols/standing orders (*Appendix 5 Standing Orders*). Administration of emergency drugs is carried out in consultation with concerned pediatrician/physician and endorsed later by written orders.

**Implementation of Curriculum - A tentative plan**

I <sup>st</sup> year Courses	Introductory classes	Workshop	Theory integrated into clinical practicum	Methods of teaching (Topic can be specified)
1. Theoretical Basis for Advanced Practice Nursing (40)	8 hours		1×32=32 hours	<ul style="list-style-type: none"> <li>• Seminar/Theory application</li> <li>• Lecture (faculty)</li> </ul>
2. Research Application and Evidence Based Practice in Pediatric Care (56+24)	8 hours	40 (5 days) + 8 hours	1×24=24 hours	<ul style="list-style-type: none"> <li>• Research study analysis</li> <li>• Exercise/Assignment (lab)</li> </ul>
3. Advanced Skills in Leadership, Management and Teaching (56+24)	12+2 hours		1×26=26 hours 2.5×16=40 hours	<ul style="list-style-type: none"> <li>• Clinical conference</li> <li>• Seminar</li> <li>• Exercise/Assignment (lab)</li> </ul>
4. Advanced Pathophysiology applied to Pediatric Care (60)			1.5×40=60 hours	<ul style="list-style-type: none"> <li>• Case presentation</li> <li>• Seminar</li> <li>• Clinical conference</li> </ul>
5. Advanced Pharmacology applied to Pediatric Care (54)	10 hours		1×44=44 hours	<ul style="list-style-type: none"> <li>• Nursing rounds</li> <li>• Drug study presentation</li> <li>• Standing orders/ presentation</li> </ul>
6. Advanced Health/ Physical Assessment in Pediatric Nursing (70+48)	8 hours		2×26=52 hours 1.5×18=27 hours 1×15=15 hours 2×6=12 hours 2×2=4 hours	<ul style="list-style-type: none"> <li>• Clinical demonstration (faculty)</li> <li>• Return demonstration</li> <li>• Nursing rounds</li> <li>• Physical assessment (all systems)</li> <li>• Case study</li> </ul>
<b>TOTAL</b>	<b>48 hours</b>	<b>48 hours</b>	<b>336 hours</b>	

**I<sup>st</sup> year:** Introductory classes = 1 week (48 hours), Workshop = 1 week (48 hours), 44 weeks = 7.5 hours per week (330/336 hours)

II <sup>nd</sup> year courses 1 week Block classes (48 hours)	Theory & skill lab integrated into clinical practicum	Methods of teaching
7. Foundations of Pediatric Nursing Practice (96+48) = 144 hours	9×16=144 hours	<ul style="list-style-type: none"> <li>• Demonstration (lab)</li> <li>• Return demonstration (lab)</li> <li>• Clinical teaching</li> <li>• Case study</li> <li>• Seminar</li> <li>• Clinical conference</li> </ul>

<b>II<sup>nd</sup> year courses 1 week Block classes (48 hours)</b>	<b>Theory &amp; skill lab integrated into clinical practicum</b>	<b>Methods of teaching</b>
		<ul style="list-style-type: none"> <li>• Faculty lecture</li> </ul>
8. Pediatric Nursing I (96+48 hours) = 144 hours	9×16=144 hours	<ul style="list-style-type: none"> <li>• Demonstration (lab)</li> <li>• Return Demonstration (lab)</li> <li>• Clinical conference/journal club</li> <li>• Seminar</li> <li>• Case presentation</li> <li>• Drug study (including drug interaction)</li> <li>• Nursing rounds</li> <li>• Faculty lecture</li> </ul>
9. Pediatric Nursing II (96+48 hours) = 144 hours	9×16=144 hours	<ul style="list-style-type: none"> <li>• Demonstration (lab)</li> <li>• Return Demonstration</li> <li>• Nursing rounds</li> <li>• Clinical conference/journal club</li> <li>• Seminar</li> <li>• Faculty lecture</li> </ul>
<b>II<sup>nd</sup> year:</b> Block classes = 1 week, 45 weeks = 8.5/9 hours per week		

Topic for every teaching method will be specified in the detailed plan by the respective teacher/institution concerned.

## CORE COURSES

### I. Theoretical Basis for Advanced Practice Nursing

#### COMPETENCIES

1. Analyses the global health care trends and challenges in child health
2. Analyses the impact of health care and education policies for children in India on nursing consulting the literature and documents available
3. Develops in depth understanding of the health care delivery system in India, and its challenges related to child care
4. Applies economic principles relevant to delivery of health care services in child health
5. Manages and transforms health information to impact health outcomes for children and their families such as cost, quality and consumer satisfaction
6. Accepts the accountability and responsibility in practicing the roles and competencies in child health settings
7. Participates in collaborative practice within the interdisciplinary health care team members in pediatric units and performs the prescriptive roles within the licensed scope of practice
8. Engages in ethical practice having a sound knowledge of law, ethics and regulations in pediatric nursing practice
9. Uses the training opportunities provided through well planned preceptorship and performs safe and competent care applying nursing process/care pathways or clinical pathways
10. Applies the knowledge of nursing theories in providing competent care to children and their families
11. Predicts future challenges of roles of Nurse Practitioners in Pediatric Nursing in variety of health care settings for children in India

#### Hours of Instruction: Theory: 40 hours

<b>S.No.</b>	<b>Topic</b>	<b>Hours</b>
1.	Global Health Care Challenges and Trends in Pediatric Care (Competency 1)	2
2.	Health System in India Health Care Delivery System in India - Changing Scenario (Competency 3)	2
3.	National Health Planning - Five-Year Plans, National Health Policy and National Health Mission (Competency 2)	2
4.	Health Economics and Health Care Financing (Competency 4)	4
5.	Health Information System including Nursing Informatics (Use of Computers) (Competency 5)	4

S.No.	Topic	Hours
	<b>Advanced Practice Nursing in Pediatric Care</b>	
6.	APN - Definition, Scope, Philosophy, Accountability, Roles and Responsibilities (Collaborative Practice and Nurse Prescribing Roles) (Competency 6 and 7)	3
7.	Regulation (Accreditation of Training Institutions/Hospitals and Credentialing) and Ethical Dimensions of Advanced Practice Nursing Role (Competency 8)	3
8.	Nurse Practitioner - Roles, Types, Competencies, Clinical Settings for Practice, Cultural Competence (Competency 6)	3
9.	Training for NPs - Preceptorship (Competency 9)	2
10.	Future Challenges of Practice by NPs (Competency 11)	4
11.	Theories of Nursing applied to APN (Competency 10)	3
12.	Nursing Process/Care Pathway applied to APN (Pediatric Nursing) (Competency 9)	2
	<b>Self-Learning Assignments</b>	6
1.	Identify Health Care and Education Policies and analyze its impact on Nursing and NP practice	
2.	Describe the legal position related to NPs and NP Pediatric Nursing in India. What is the future of nurse prescribing policies in India with relevance to these policies in other countries?	
3.	Examine the nursing protocols relevant to the practice of NPs in Pediatric care units found in various levels of health care systems	
	<b>Total</b>	<b>40 hours</b>

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## II. Research Application and Evidence-based Practice in Pediatric Care

### COMPETENCIES

1. Applies sound research knowledge and skills in conducting independent research in pediatric settings
2. Participates in collaborative research to improve the safety and quality of care of children
3. Interprets and uses research findings in advanced practice in pediatric nursing to produce evidence based practice
4. Tests/Evaluates current practice to develop best practices and health outcomes and quality care in advanced practice in pediatric nursing
5. Analyzes the evidence for nursing interventions carried out in pediatric nursing practice to promote safety and effectiveness of care
6. Develops skill in writing scientific research reports by writing simple projects

**Hours of Instruction: Theory: 56 + Lab/Skill Lab: 24 hours = 80 hours**

S.No.	Topic	Hours
1.	Research and Advanced Practice in Pediatric Nursing: Significance of Research and inquiry related to Advanced pediatric nursing role (Competency 1)	2
2.	Research Agenda for APN practice: Testing current practice to develop best practice, health outcomes and indicators of quality care in Pediatric nursing practice (Competency 3,4,5), promoting research culture	5
3.	Research Knowledge and Skills: - Research competencies essential for APNs (interpretation and use of research, evaluation of practice, participation in collaborative research) - Introduction to Evidence Based Practice (EBP) Project - PICOT question, steps of planning, implementation, evaluation and dissemination (project proposal and project report) Research Methodology - Phases/steps (research question, review of literature, conceptual framework, research designs, sampling, data collection, methods & tools, Analysis and Reporting) - Writing research proposal and research report (Competency 1 & 2)	40 (5 days workshop)
4.	Writing for Publication (writing workshop - Manuscript preparation and finding funding sources) (Competency 6)	5 (workshop)
5.	Evidence based practice - Concepts, principles, importance, and steps - Integrating EBP to pediatric clinical environment - Areas of evidence in care of children - Barriers to implement EBP - Strategies to promote EBP (Competency 3,4,5)	4
<b>Total</b>		<b>56 hours</b>

**Practical/Lab & Assignments: 24 hours**

- Identifying research priorities
- Writing exercises on research question, objectives and hypothesis
- Writing research proposal/EBP project proposal
- Scientific paper writing - preparation of manuscript for publication
- Writing systematic review/literature review - analyze the evidence for a given nursing intervention in pediatric settings

**Practicum**

- Research practicum: Dissertation (336 hours=7weeks)

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### III. Advanced Skills in Leadership, Management and Teaching

#### COMPETENCIES

1. Applies principles of leadership and management in pediatric units
2. Manages stress and conflicts effectively in a pediatric setting using sound knowledge of principles
3. Applies problem solving and decision-making skills effectively
4. Uses critical thinking and communication skills in providing leadership and managing family centered patient care in pediatric settings
5. Builds teams and motivates others in pediatric setting
6. Develops unit budget, manages supplies and staffing effectively
7. Participates appropriately in times of innovation and change
8. Uses effective teaching methods, media and evaluation based on sound principles of teaching
9. Develops advocacy role in children and their families, maintaining quality and ethics in pediatric clinical environment
10. Provides age specific counseling to children and their families particularly end of life care

**Hours of Instruction: Theory: 56 + Lab/Skill Lab: 24 hours = 80 hours**

S.No.	Topic	Hours
1.	Theories, styles of leadership and current trends	2
2.	Theories, styles of management and current trends	2
3.	Principles of leadership and management applied to pediatric care settings	4
4.	Stress management and conflict management - principles and application to pediatric clinical environment, effective time management	4
5.	Quality improvement and audit	4
6.	Problem solving, critical thinking and decision making, communication skills applied to pediatric nursing practice	5
7.	Team building, motivating and mentoring within the pediatric set up	2
8.	Budgeting and management of resources including human resources in the pediatric setting - budget, material management, staffing, assignments	5
9.	Change and innovation	2
10.	Staff performance and evaluation (performance appraisals)	6
11.	Teaching-Learning theories and principles applied to pediatric Nursing	2
12.	Competency based education and outcome-based education	2
13.	Teaching methods/strategies, media: educating patients and staff in clinical settings for children	8
14.	Staff education and use of tools in evaluation	4
15.	NP in Pediatric Nursing - Role as a teacher	2
16.	Advocacy roles of the NPs in Pediatric Nursing in pediatric clinical setting	2
	<b>Total</b>	<b>56 hours</b>

**Practical/Lab: 24 hours**

- Preparation of staff patient assignment
- Preparation of unit budget
- Preparation of staff duty roster
- Patient care audit
- Preparation of nursing care standards and protocols
- Management of equipment and supplies
- Monitoring, evaluation, and writing report of infection control practices
- Development of teaching plan
- Micro teaching/patient education sessions
- Preparation of teaching method and media for patients and staff
- Planning and conducting OSCE/OSPE
- Construction of tests
- Child abduction mock drill
- Conducting CPR mock drill

### Assignment

- Work place violence: policies and protocols

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- Bastable S.B. (2010) Nurse as educator: Principles of teaching and learning for nursing practice (3<sup>rd</sup> ed), New Delhi: Jones & Bartlett Publishers
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## ADVANCED PRACTICE COURSES

### IV. A. Advanced Pathophysiology Applied to Pediatric Care

#### COMPETENCIES

1. Integrates the knowledge of pathophysiological process in pediatric conditions in developing diagnosis and plan of care
2. Applies the pathophysiological principles in symptom management and secondary prevention of childhood illnesses
3. Analyzes the pathophysiological changes relevant to each disease condition, recognizing the value of diagnosis, treatment, care and prognosis

#### Hours of Instruction: Theory: 30 hours

Unit	Hours	Content
I	4	<b>Pulmonary function</b> Advanced pathophysiological process of pulmonary conditions <ul style="list-style-type: none"><li>• Respiratory infections - pneumonia, bronchopneumonia, laryngo-trachea bronchitis</li><li>• Asthma</li><li>• Cystic fibrosis</li><li>• Tuberculosis</li><li>• Pleural effusion</li><li>• Lung abscess</li><li>• Empyema, Emphysema</li><li>• ENT conditions</li><li>• Tonsillitis</li><li>• Epistaxis</li><li>• Otitis media</li><li>• Choanal atresia</li><li>• Respiratory distress and respiratory failure</li><li>• Chest trauma</li></ul>
II	6	<b>Gastrointestinal function</b> Advanced pathophysiological process of GI conditions <ul style="list-style-type: none"><li>• Malnutrition - Protein - energy malnutrition, vitamin and mineral deficiencies, trace elements and antioxidants, iron deficiency anemia, obesity</li><li>• Failure to thrive</li><li>• Malabsorption Syndrome</li><li>• GERD</li><li>• Acute gastroenteritis</li><li>• Lactose intolerance</li></ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Chronic diarrhea</li> <li>• Acute hepatitis, hepatitis, childhood cirrhosis. hepatic failure</li> <li>• Gastritis</li> <li>• Peptic ulcer</li> <li>• Celiac disease</li> <li>• IBD</li> <li>• Gastrointestinal bleeding</li> <li>• Intestinal obstruction</li> <li>• IBS</li> <li>• Pancreatitis</li> <li>• Helminthic infestations</li> </ul>
<b>III</b>	<b>6</b>	<p><b>Cardiovascular function</b> Advanced pathophysiological process of cardiovascular conditions</p> <p>Acyanotic Heart Diseases</p> <ul style="list-style-type: none"> <li>• ASD</li> <li>• VSD</li> <li>• PDA</li> <li>• Coarctation of Aorta</li> <li>• Aortic stenosis</li> </ul> <p>Cyanotic Heart Diseases</p> <ul style="list-style-type: none"> <li>• TOF and Cyanotic Spell</li> <li>• Transposition of great vessels</li> <li>• Total Anomalous Pulmonary Venous Connection</li> <li>• Truncus arteriosus</li> <li>• Hypoplastic left heart syndrome</li> </ul> <p>Acquired Heart Disease</p> <ul style="list-style-type: none"> <li>• Infective Endocarditis</li> <li>• Rheumatic Fever</li> <li>• Rheumatic Heart Disease</li> <li>• Congestive Heart Failure (CHF)</li> </ul>
<b>IV</b>	<b>4</b>	<p><b>Neurological function</b> Advanced pathophysiological process of neurological conditions</p> <ul style="list-style-type: none"> <li>• Meningitis</li> <li>• Encephalitis</li> <li>• Brain abscess</li> <li>• Febrile seizures</li> <li>• Seizure disorder</li> <li>• Degenerative neurological diseases</li> <li>• Head trauma</li> <li>• Tumors of the brain</li> <li>• Hydrocephalus</li> <li>• Coma, unconsciousness</li> <li>• Neural tube defects - spina bifida, meningocele, meningomyelocele</li> </ul>
<b>V</b>	<b>4</b>	<p><b>Renal function</b> Advanced pathophysiological process of renal conditions</p> <ul style="list-style-type: none"> <li>• Urinary tract infections</li> <li>• Nephrotic Syndrome</li> <li>• Post Streptococcal Glomerular Nephritis</li> <li>• Lupus Nephritis</li> <li>• Hemolytic Uremic Syndrome</li> <li>• Renal tubular acidosis</li> <li>• Polycystic kidneys</li> <li>• Acute renal failure</li> <li>• Chronic renal failure</li> <li>• Bladder trauma</li> </ul>



Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Incontinence</li> <li>• Hydronephrosis</li> <li>• Congenital conditions of urogenital system - PUV, Reflux, Cystoceles</li> </ul>
<b>VI</b>	<b>6</b>	<p><b>Endocrine functions</b> Advanced pathophysiological process of endocrine conditions</p> <ul style="list-style-type: none"> <li>• Inborn Errors of metabolism</li> </ul> <p>Disorders of Pituitary function</p> <ul style="list-style-type: none"> <li>• Hypopituitarism</li> <li>• Pan hypopituitarism</li> <li>• Growth hormone deficiency</li> <li>• Pituitary hyperfunction</li> <li>• Diabetic insipidus and syndrome of inappropriate antidiuretic hormone secretion</li> <li>• Precocious puberty</li> </ul> <p>Disorders of Thyroid function</p> <ul style="list-style-type: none"> <li>• Juvenile hypothyroidism</li> <li>• Lymphocytic thyroiditis</li> <li>• Hyperthyroidism</li> </ul> <p>Disorders of Parathyroid function</p> <ul style="list-style-type: none"> <li>• Hypoparathyroidism</li> <li>• Hyperparathyroidism</li> </ul> <p>Disorders of Adrenal function</p> <ul style="list-style-type: none"> <li>• Acute adrenocortical insufficiency</li> <li>• Chronic adrenocortical insufficiency (Addisons Disease)</li> <li>• Cushing syndrome</li> <li>• Congenital adrenal hyperplasia</li> <li>• Pheochromocytoma</li> </ul> <p>Disorders of Pancreatic Hormone Secretion</p> <ul style="list-style-type: none"> <li>• Insulin Dependent Diabetes Mellitus</li> <li>• Hyperglycemia</li> <li>• Hypoglycemia</li> <li>• Diabetic ketoacidosis</li> </ul>
<b>Total</b>	<b>30 hours</b>	

#### IV. B. Advanced Pathophysiology applied to Pediatric Care

Hours of Instruction: Theory: 30 hours

Unit	Hours	Content
<b>I</b>	<b>8</b>	<p><b>Hematological function</b></p> <ul style="list-style-type: none"> <li>• Advanced pathophysiological process of hematological conditions</li> </ul> <p>Disorders of red blood cells</p> <ul style="list-style-type: none"> <li>• Anemias</li> <li>• Polycythemia</li> <li>• Sickle cell diseases</li> <li>• Thalassemia</li> </ul> <p>Disorders of white blood cells</p> <ul style="list-style-type: none"> <li>• Leucopenia</li> <li>• Neoplastic disorders <ul style="list-style-type: none"> <li>- Leukemias</li> <li>- Solid tumors</li> </ul> </li> </ul> <p>Disorders of hemostasis</p> <ul style="list-style-type: none"> <li>• Platelet disorders</li> <li>• Coagulation disorders - hemophilia</li> <li>• Disseminated intravascular coagulation</li> </ul>

Unit	Hours	Content
II	3	<p><b>Musculoskeletal disorders</b> Advanced pathophysiological process of musculoskeletal disorders</p> <ul style="list-style-type: none"> <li>• Soft tissue injuries - contusions, dislocations, sprains and strains</li> <li>• Fractures</li> <li>• Osteomyelitis</li> <li>• Developmental Hip Dysplasia</li> <li>• Club foot</li> <li>• Osteogenesis/Imperfecta</li> <li>• Skeletal Limb deficiency</li> <li>• Avascular necrosis of the femoral head (Legg - Calve - Perthes Disease)</li> <li>• Kyphosis and Lordosis</li> </ul>
III	2	<p><b>Immunological Disorders</b> Advanced pathophysiological process of immunological disorders</p> <ul style="list-style-type: none"> <li>• Juvenile rheumatoid arthritis</li> <li>• Systemic lupus erythematosus</li> <li>• Allergies in children</li> </ul>
IV	4	<p><b>Integumentary function</b> Advanced pathophysiological process of integumentary conditions</p> <ul style="list-style-type: none"> <li>• Scabies</li> <li>• Impetigo</li> <li>• Childhood psoriasis</li> <li>• Wound healing</li> <li>• Burns</li> <li>• Steven Johnson Syndrome</li> </ul>
V	6	<p><b>Multisystem dysfunction</b> Advanced pathophysiological process of neurological conditions</p> <ul style="list-style-type: none"> <li>• Shock <ul style="list-style-type: none"> <li>○ Anaphylactic</li> <li>○ Hypovolemic</li> <li>○ Cardiogenic</li> <li>○ Distributive</li> <li>○ Neurogenic</li> </ul> </li> <li>• Systemic inflammatory syndrome</li> <li>• Multiple organ dysfunction syndrome</li> <li>• Trauma <ul style="list-style-type: none"> <li>○ Thoracic</li> <li>○ Abdominal</li> <li>○ Musculoskeletal</li> <li>○ Maxillofacial</li> </ul> </li> <li>• Drug overdose and poisoning</li> <li>• Envenomation - stings and bites</li> <li>• Poisoning</li> </ul>
VI	5	<p><b>Specific infections</b> Advanced pathophysiological process of specific communicable diseases</p> <p>Airborne infections</p> <ul style="list-style-type: none"> <li>• Diphtheria</li> <li>• HIV</li> <li>• Chicken pox</li> <li>• Measles</li> <li>• Mumps</li> <li>• SARS</li> <li>• Chikungunya</li> <li>• Avian flu</li> <li>• Swine flu</li> <li>• Covid 19</li> </ul> <p>Water borne infections</p>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Polio</li> <li>• Hepatitis A</li> <li>• Cholera</li> <li>• Typhoid</li> </ul> Blood borne infections <ul style="list-style-type: none"> <li>• HIV</li> <li>• Tetanus</li> <li>• Rickettsiosis</li> <li>• Leptospirosis</li> <li>• Dengue</li> <li>• Malaria</li> <li>• Chikungunya</li> <li>• Rabies</li> </ul>
<b>VII</b>	<b>2</b>	<b>Child abuse</b> Advanced concepts and processes in child abuse <ul style="list-style-type: none"> <li>• Physical abuse</li> <li>• Psychological abuse</li> <li>• Sexual abuse</li> <li>• Child Protection Acts</li> <li>• POCSO Act</li> </ul>
<b>Total</b>	<b>30 hours</b>	

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### V. Advanced Pharmacology applied to Pediatric Care

#### COMPETENCIES

1. Applies the pharmacological principles in providing care to children
2. Analyzes pharmaco-therapeutics and pharmacodynamics relevant to drugs used in the treatment of pediatric conditions
3. Performs safe drug administration based on principles and institutional protocols
4. Documents accurately and provides follow up care
5. Applies sound knowledge of drug interactions in administration of drugs to pediatric patients and guiding their families in self-care management
6. Analyzes the drug specific nursing interventions

#### Hours of Instruction: Theory: 54 hours

Unit	Hours	Content
<b>I</b>	<b>2</b>	<b>Introduction to Pharmacology in Pediatrics</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Classification of drugs and schedules</li> </ul>

<b>Unit</b>	<b>Hours</b>	<b>Content</b>
<b>II</b>	<b>4</b>	<b>Pharmacokinetics and Pharmacodynamics</b> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Absorption, Distribution, Metabolism, Distribution and Excretion</li> <li>• Plasma concentration, half life</li> <li>• Loading and maintenance dose</li> <li>• Therapeutic index and drug safety</li> <li>• Potency and efficacy</li> <li>• Principles of drug administration <ul style="list-style-type: none"> <li>▪ The rights of drug administration</li> <li>▪ Systems of measurement</li> <li>▪ Enteral drug administration</li> <li>▪ Topical drug administration</li> <li>▪ Parenteral drug administration</li> </ul> </li> </ul>
<b>III</b>	<b>5</b>	<b>Pharmacology and Cardiovascular alterations</b> <ul style="list-style-type: none"> <li>• Vasoactive Medications <ul style="list-style-type: none"> <li>▪ Vasodilator</li> <li>▪ Vasopressor</li> <li>▪ Inotropes <ul style="list-style-type: none"> <li>- Cardiac glycosides - digoxin</li> <li>- Sympathomimetics - dopamine, dobutamine, epinephrine, isoproterenol, norepinephrine, phenylephrine</li> <li>- Phosphodiesterase inhibitors - amrinone, milrinone</li> </ul> </li> </ul> </li> <li>• Antiarrhythmic Medications</li> <li>• Medications used in cardiac conditions <ul style="list-style-type: none"> <li>▪ Hypertension</li> <li>▪ Pulmonary hypertension</li> <li>▪ Valvular heart disease, cardiomyopathy</li> <li>▪ Peripheral artery disease</li> <li>▪ Deep vein thrombosis</li> </ul> </li> <li>• Standing orders for cardiac emergencies</li> </ul>
<b>IV</b>	<b>4</b>	<b>Pharmacology and Pulmonary alterations</b> <ul style="list-style-type: none"> <li>• Medications in the management of pulmonary conditions <ul style="list-style-type: none"> <li>▪ Pneumonia</li> <li>▪ Pleural effusion</li> <li>▪ Pulmonary edema</li> <li>▪ Pulmonary embolism</li> <li>▪ Acute respiratory distress</li> <li>▪ Acute respiratory failure</li> <li>▪ Acute respiratory distress syndrome</li> <li>▪ Atelectasis</li> </ul> </li> <li>• Standing orders for pulmonary emergencies</li> </ul>
<b>V</b>	<b>6</b>	<b>Pharmacology and Neurological alterations</b> <ul style="list-style-type: none"> <li>• Pain <ul style="list-style-type: none"> <li>▪ NSAID</li> <li>▪ Opioid analgesia</li> </ul> </li> <li>• Sedation <ul style="list-style-type: none"> <li>▪ Gamma amino butyric acid stimulants</li> <li>▪ Dexmedetomidine</li> <li>▪ Analgosedation</li> </ul> </li> <li>• Delirium <ul style="list-style-type: none"> <li>▪ Haloperidol</li> <li>▪ Atypical antipsychotics</li> </ul> </li> <li>• Medications used for local and general anesthesia <ul style="list-style-type: none"> <li>▪ Local - Amides, esters and miscellaneous agents</li> <li>▪ General - Gases, Volatile liquids, IV anesthetics</li> <li>▪ Non anesthetic drugs adjuncts to surgery</li> </ul> </li> <li>• Autonomic drugs <ul style="list-style-type: none"> <li>▪ Adrenergic agents/Sympathomimetics</li> </ul> </li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>▪ Adrenergic blocking agents</li> <li>▪ Cholinergic agents</li> <li>▪ Anti-cholinergic agents</li> <li>• Anxiety and insomnia</li> <li>• Antidepressants <ul style="list-style-type: none"> <li>▪ Benzodiazepines</li> <li>▪ Barbiturates</li> </ul> </li> <li>• Medications in the management of neurological conditions <ul style="list-style-type: none"> <li>▪ Acute head and spinal cord injury with elevated intracranial pressure</li> <li>▪ Muscle spasm</li> <li>▪ Spasticity</li> <li>▪ Encephalopathy</li> <li>▪ Gillian Bare syndrome</li> <li>▪ Brain herniation syndrome</li> <li>▪ Seizure disorder</li> <li>▪ Coma, unconsciousness and persistent vegetative state</li> </ul> </li> <li>• Standing orders for neurological emergencies</li> </ul>
VI	5	<p><b>Pharmacology and Renal alterations</b></p> <ul style="list-style-type: none"> <li>• Diuretics</li> <li>• Fluid replacement <ul style="list-style-type: none"> <li>▪ Crystalloids</li> <li>▪ Colloids</li> </ul> </li> <li>• Electrolytes <ul style="list-style-type: none"> <li>▪ Sodium</li> <li>▪ Potassium</li> <li>▪ Calcium</li> <li>▪ Magnesium</li> <li>▪ Phosphorus</li> </ul> </li> <li>• Medications in the management of renal conditions <ul style="list-style-type: none"> <li>▪ Acute/Chronic renal failure</li> <li>▪ Acute tubular necrosis</li> <li>▪ Bladder trauma</li> <li>▪ Electrolyte imbalances</li> <li>▪ Acid base imbalances</li> <li>▪ Dialysis</li> </ul> </li> <li>• Standing orders for nephrology emergencies</li> </ul>
VII	5	<p><b>Pharmacology and Gastrointestinal alterations</b></p> <ul style="list-style-type: none"> <li>• Anti-ulcer drugs</li> <li>• Laxatives</li> <li>• Anti diarrhea</li> <li>• Anti-emetics</li> <li>• Pancreatic enzymes</li> <li>• Nutritional supplements, vitamins and minerals</li> <li>• Medications in the management of GI conditions <ul style="list-style-type: none"> <li>▪ Acute GI bleeding, hepatic failure</li> <li>▪ Acute pancreatitis</li> <li>▪ Abdominal injury</li> <li>▪ Hepatic encephalopathy</li> <li>▪ Acute intestinal obstruction</li> <li>▪ Perforation and peritonitis</li> <li>▪ Gastrointestinal surgeries and liver transplant</li> </ul> </li> <li>• Standing orders for gastrointestinal emergencies</li> </ul>
VIII	4	<p><b>Pharmacology and Endocrine alterations</b></p> <ul style="list-style-type: none"> <li>• Hormonal therapy</li> <li>• Insulin and other hypoglycemic agents</li> <li>• Medications in the management of Endocrine conditions <ul style="list-style-type: none"> <li>▪ Diabetic ketoacidosis, hyperosmolar non ketonic coma</li> <li>▪ Hypoglycemia</li> </ul> </li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>▪ Hypo and hyperthyroidism</li> <li>▪ Adrenal crisis</li> <li>▪ SIADH</li> <li>• Standing orders for endocrine emergencies</li> </ul>
<b>IX</b>	<b>5</b>	<p><b>Pharmacology and Hematology alterations</b></p> <ul style="list-style-type: none"> <li>• Anticoagulants</li> <li>• Antiplatelet drugs</li> <li>• Thrombolytics</li> <li>• Hemostatic/antifibrinolytics</li> <li>• Hematopoietic growth factors <ul style="list-style-type: none"> <li>▪ Erythropoietin</li> <li>▪ Colony stimulating factors</li> <li>▪ Platelet enhancers</li> </ul> </li> <li>• Blood and blood products <ul style="list-style-type: none"> <li>▪ Whole blood, packed red blood cells, leukocyte-reduced red cells, washed red blood cells, fresh frozen plasma, cryoprecipitate</li> <li>▪ Albumin</li> <li>▪ Transfusion reactions, transfusion administration process</li> </ul> </li> <li>• Vaccines</li> <li>• Immunostimulants</li> <li>• Immunosuppressant</li> <li>• Chemotherapeutic drugs - alkylating agents, anti-metabolites, anti-tumor antibiotics, alkaloids, hormones and hormone antagonist, corticosteroids, gonadal hormones, anti-estrogens, androgen antagonists, biologic response modifiers</li> <li>• Medications in the management of hematology conditions <ul style="list-style-type: none"> <li>▪ Anemia in critical illness</li> <li>▪ DIC</li> <li>▪ Thrombocytopenia and acute leukemia</li> <li>▪ Heparin induced thrombocytopenia</li> <li>▪ Sickle cell anemia</li> <li>▪ Tumor lysis syndrome</li> </ul> </li> <li>• Standing orders for hematology emergencies</li> </ul>
<b>X</b>	<b>3</b>	<p><b>Pharmacology and Dermatological alterations</b></p> <ul style="list-style-type: none"> <li>• Medications used in burn and wound management</li> <li>• Standing orders for skin emergencies</li> </ul>
<b>XI</b>	<b>5</b>	<p><b>Pharmacology and Multisystem alterations in acute conditions</b></p> <p>Medications in the management of</p> <ul style="list-style-type: none"> <li>• Shock, sepsis,</li> <li>• Systemic inflammatory response syndrome, anaphylaxis</li> <li>• Hanging, Near drowning</li> <li>• Bites, drug overdose and poisoning</li> <li>• Fever <ul style="list-style-type: none"> <li>▪ Antipyretics</li> <li>▪ NSAIDS</li> <li>▪ Corticosteroids</li> </ul> </li> <li>• Standing orders for multisystem emergencies</li> </ul>
<b>XII</b>	<b>6</b>	<p><b>Pharmacology and Infections</b></p> <ul style="list-style-type: none"> <li>• Antibacterial drugs <ul style="list-style-type: none"> <li>▪ Introduction</li> <li>▪ Beta lactams - penicillin's, cephalosporins, monobactams, carbapenems</li> <li>▪ Aminoglycosides</li> <li>▪ Anti MRSA</li> <li>▪ Macrolides</li> <li>▪ Quinolones</li> <li>▪ Miscellaneous - lacosamide group, nitroimidazole, tetracyclines and chloramphenicol, polymyxins, anti-malarial, anti-fungal, anti-viral</li> </ul> </li> <li>• Anti-fungal drugs</li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Anti protozoal drugs</li> <li>• Anti-viral drugs</li> <li>• Choice of antimicrobials</li> <li>• Medications in the management of infectious conditions <ul style="list-style-type: none"> <li>▪ HIV, Tetanus, SARS, Rickettsiosis, Leptospirosis, Dengue, Malaria, Chikungunya, Rabies, Avian flu and Swine flu, Covid-19</li> </ul> </li> <li>• Standing orders for infectious emergencies</li> </ul>
<b>Total</b>	<b>54 hours</b>	

### Bibliography

- Eisen H.J. (2020) Pharmacology of Immunosuppression (1<sup>st</sup> ed), Springer
- McKay G.A. & Walters M.R. (2021) Clinical Pharmacology and Therapeutics (10<sup>th</sup> ed), Wiley-Blackwell
- Wynne A.L., Woo T.M. & Olyaei A.J. (2007) Pharmacotherapeutics for nurse practitioner prescribers (2<sup>nd</sup> ed), Philadelphia: Davis

### VI. Advanced Health/Physical Assessment in Pediatric Nursing

#### COMPETENCIES

1. Applies the physical assessment principles in developing appropriate system wise examination skills
2. Uses advanced health assessment skills to differentiate between variations of normal and abnormal findings
3. Orders for screening and diagnostic tests based on the examination findings and institutional protocols
4. Analyzes the physical examination findings and results of various investigations and works collaboratively with physicians for development of diagnoses
5. Documents appropriate assessment, diagnosis, and management and monitors follow up care in partnership with health care team members, the child according to their understanding and the family

**Hours of Instruction: Theory: 70 hours + Lab/Skill Lab: 48 hours = 118 hours**

Unit	Hours	Content
<b>I</b>	<b>4</b>	<b>Introduction</b> <ul style="list-style-type: none"> <li>• History taking</li> <li>• Physical examination</li> </ul>
<b>II</b>	<b>6</b>	<b>Respiratory system</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Respiratory monitoring - arterial blood gases, pulse oximetry</li> <li>• Respiratory diagnostic tests - Gastric Juice AFB, sputum culture, preparing child for chest radiography (Xray), pulmonary function test</li> </ul>
<b>III</b>	<b>6</b>	<b>Nutritional status</b> <ul style="list-style-type: none"> <li>• Dietary history</li> <li>• Physical assessment of nutritional status</li> <li>• Monitoring of nutritional status</li> <li>• Lab tests for nutritional status</li> </ul>
<b>IV</b>	<b>6</b>	<b>Gastrointestinal system</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Laboratory studies - liver function studies, blood parameters, stool test</li> <li>• Diagnostic studies - radiological and imaging studies, endoscopic studies</li> </ul>
<b>V</b>	<b>6</b>	<b>Cardiovascular system</b> <ul style="list-style-type: none"> <li>• Cardiac history</li> <li>• Physical examination</li> <li>• Cardiac laboratory studies - biochemical markers, hematological studies</li> <li>• Cardiac diagnostic studies - electrocardiogram, echocardiography, radiological imaging cardiac catheterization</li> </ul>
<b>VI</b>	<b>4</b>	<b>Nervous system</b> <ul style="list-style-type: none"> <li>• Neurological history</li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• General physical examination</li> <li>• Assessment of cognitive function</li> <li>• Assessment of cranial nerve function</li> <li>• Motor assessment - muscle strength, power, and reflexes</li> <li>• Sensory assessment - dermatome assessment</li> <li>• Neurodiagnostic studies - CT scan, MRI, PET</li> </ul>
VII	4	<b>Renal system</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Assessment of renal function by lab tests</li> <li>• Assessment of electrolytes and acid base balance</li> <li>• Assessment of fluid balance</li> </ul>
VIII	4	<b>Endocrine system</b> (hypothalamus and pituitary gland, thyroid gland, parathyroid gland, endocrine gland adrenal gland) <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Laboratory studies</li> <li>• Diagnostic studies</li> </ul>
IX	3	<b>Hematological system</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Laboratory studies - blood parameters</li> <li>• Diagnostic studies - bone marrow aspiration</li> <li>• Radiological assay</li> </ul>
X	6	<b>Musculoskeletal system</b> (soft tissue, bones and joints) <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination - gait assessment, joint assessment</li> <li>• Laboratory studies - blood parameters (inflammatory enzymes, uric acid)</li> <li>• Diagnostic studies - radiological and imaging studies, endoscopic studies</li> </ul>
XI	5	<b>Integumentary system</b> <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Pathological examination - tissue biopsy and examination</li> </ul>
XII	4	<b>Reproductive system</b> (Male and Female - CSA) Relevant - <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Laboratory studies</li> <li>• Diagnostic studies</li> </ul>
XIII	6	<b>Sensory Organs</b> (vision, hearing, balance, touch and taste) Relevant - <ul style="list-style-type: none"> <li>• History</li> <li>• Physical examination</li> <li>• Laboratory studies</li> <li>• Diagnostic studies - radiological and imaging studies, endoscopic studies</li> </ul>
XIV	6	<b>Assessment of Growth and Development of Children</b> <ul style="list-style-type: none"> <li>• Newborn</li> <li>• Infant</li> <li>• Toddler</li> <li>• Preschool</li> <li>• School age</li> <li>• Adolescent</li> </ul>
<b>Total</b>	<b>70 hours</b>	



**List of skills to be practiced in the skill lab** (46 hours include *demonstration by the faculty and practice by the students*)

- Comprehensive history taking
- Focused history taking (system wise)
- Comprehensive physical examination
- Focused physical examination (system wise)
- Problem identification
- Monitoring clinical parameters (system wise)  
Invasive BP monitoring, multi-parameter monitors, ECG, Peripheral vascular status, ABG, Pulse Oximetry, Intracranial Pressure (ICP), Glasgow Coma Scale (GCS), Cranial nerve assessment, Pain and Sedation score for children, Motor assessment, Sensory assessment, Renal function tests, Fluid balance, Acid Base balance, electrolytes, Bowel sounds, Abdominal pressure, Residual gastric volume, Liver function tests, GRBS, Lab tests, Radiological and Imaging tests (system wise)
- Ordering and interpretation of screening and diagnostic tests (system wise) (enclosed **Appendix 3**)

### **Bibliography**

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- Datta Parul (2023) Pediatric Nursing (6<sup>th</sup> ed), New Delhi: Jaypee Brothers Medical Publishers
- Hockenberry Marilyn J., Rodgers Cheryl C. & Wilson David (2022) Wong's Essentials of Pediatric Nursing (11<sup>th</sup> ed), St. Louis: Elsevier
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- Singh Meharban (2021) Care of the Newborn (9<sup>th</sup> ed), New Delhi: CBS Publishers & Distribution Pvt Ltd
- Wilson S.F. & Giddens J.F. (2006) Health assessment for nursing practice (4<sup>th</sup> ed), St. Louis, Missouri: Saunders Elsevier
- Verklan Terese M., Walden Marlene & Forest Sharron (2021) Core curriculum for Neonatal Intensive Care Nursing (6<sup>th</sup> ed), St. Louis: Elsevier

## **SPECIALTY COURSES**

### **(Foundations of Pediatric Nursing Practice, Pediatric Nursing I and Pediatric Nursing II)**

#### **COMPETENCIES**

1. Applies advanced concepts of pediatric nursing based on sound knowledge of these concepts
2. Uses noninvasive technology and interventions to assess, monitor and promote physiologic stability
3. Works in collaboration with other health care team members and prepares care/clinical pathways in assessment and management of pediatric patients
4. Consults with and is consulted by other health care professionals
5. Provides nursing care related to health protection, disease prevention, anticipatory guidance, counseling, therapeutic care, palliative care and end of life care
6. Uses advanced skills in complex and unstable environments
7. Applies ethically sound solutions to complex issues related to individual children, their families, populations and systems of care
8. Practices principles of infection control in pediatric units
9. Practices independently within the legal framework of the country towards the interest of children, their families and communities
10. Develops practice that is based on scientific evidence
11. Uses applicable communication, counseling, child and family advocacy and interpersonal skills to initiate, develop and discontinue therapeutic relationships
12. Creates and maintains a safe therapeutic environment using risk management strategies and quality improvement in pediatric settings
13. Adapts practice to the social, cultural and contextual milieu of the child and family

## VII. Foundations of Pediatric Nursing Practice

Hours of Instruction: Theory: 96 hours + Lab/Skill Lab: 48 hours = 144 hours

Unit	Hours	Content
I	10	<p><b>Introduction to Pediatric Nursing</b></p> <ul style="list-style-type: none"> <li>• Introduction to the course</li> <li>• Review of anatomy and physiology of all organ systems</li> <li>• Historical review of Child Health and Pediatric Nursing globally and in India</li> <li>• Differences of adults and children in physical, mental, social, spiritual &amp; cultural domains</li> <li>• Concepts of advanced practice in pediatric nursing</li> <li>• Principles of advanced practice in pediatric nursing</li> <li>• Scope of the role of Nurse Practitioner in Pediatric Care</li> <li>• Designing and planning of a pediatric setting in the primary, secondary and tertiary centers (bed strength as per protocol, child friendly environment, play room, medication room, equipment, supplies, beds and accessories, use and care of various type of monitors &amp; ventilators, flow sheets, supply lines and the environment)</li> <li>• Personnel in pediatric wards, units, emergency settings/PICUs, OPDs               <ul style="list-style-type: none"> <li>▪ Nursing staff</li> <li>▪ Doctors</li> <li>▪ Ancillary staff</li> </ul> </li> <li>• Technology in a pediatric unit</li> <li>• Healthy, positive, supportive work environment</li> <li>• Future challenges in the advancement in NP's role</li> </ul>
II	7	<p><b>Concept of holistic care applied to care of children</b></p> <p>Application of nursing process and integrated care/clinical pathways in pediatric nursing in different disease conditions</p> <ul style="list-style-type: none"> <li>• Hospitalization of the child - An overview</li> <li>• Overview of therapeutic management of the child               <ul style="list-style-type: none"> <li>▪ Conducive, friendly and safe environment</li> <li>▪ Child specific and age-appropriate approach</li> <li>▪ Family centered care, family participant care and empowerment</li> <li>▪ Atraumatic care</li> <li>▪ Ongoing monitoring</li> <li>▪ Adequate respiration, ventilation and tissue oxygenation</li> <li>▪ Thermoregulation</li> <li>▪ Nutritional support</li> <li>▪ Therapeutic care</li> <li>▪ Infection control</li> <li>▪ Play and diversional needs of children</li> <li>▪ Physiotherapy and rehabilitation</li> <li>▪ Psychosocial support</li> <li>▪ Information and health education</li> <li>▪ Family visiting hours</li> <li>▪ Spiritual support</li> <li>▪ Quality indicators - prevention of falls, pressure sores, medication errors, extravasation</li> </ul> </li> <li>• End of life care/care of dying and care of family at the death of their child, organ donation</li> <li>• Transportation during transfer in and out of the unit</li> <li>• Stress and coping among health team members</li> </ul>
III	10	<p><b>Appraisal of the acutely ill child</b></p> <p><i>Triaging concept, process and principles</i></p> <p><i>Assessment of the sick child</i></p> <ul style="list-style-type: none"> <li>• General assessment</li> <li>• Respiratory assessment</li> <li>• Cardiac assessment</li> <li>• Renal assessment</li> <li>• Neurological assessment</li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Gastrointestinal assessment</li> <li>• Nutritional assessment</li> <li>• Endocrine assessment</li> <li>• Musculoskeletal assessment</li> <li>• Integumentary assessment</li> </ul> <p><b><i>Monitoring of the acutely ill child</i></b></p> <ul style="list-style-type: none"> <li>• Vital signs</li> <li>• PACS/PEWS</li> <li>• Arterial blood gas (ABG)</li> <li>• Electrocardiography (ECG)</li> <li>• Glasgow Coma Scale (GCS)</li> <li>• Richmond agitation sedation scale (RASS)</li> <li>• Pain score</li> <li>• Braden score</li> </ul> <p><b><i>Evaluation of the acutely ill child</i></b></p> <ul style="list-style-type: none"> <li>• Evaluation of progress of illness</li> <li>• Outcome related to scoring systems</li> </ul>
IV	14	<p><b>Advanced Concepts and Principles of Acute Care in Children</b></p> <ul style="list-style-type: none"> <li>• Principles of cardio-pulmonary-brain resuscitation</li> <li>• Emergencies <ul style="list-style-type: none"> <li>▪ CPR</li> <li>▪ BLS</li> <li>▪ PALS</li> </ul> </li> <li>• Airway management</li> <li>• Oxygenation and oximetry, care of child with oxygen delivery devices</li> <li>• Assisting with intubation, bag and mask ventilation</li> <li>• Circulation and perfusion (including hemodynamic evaluation and waveform graphics)</li> <li>• Fluids and electrolytes (review), care of the fluid and electrolyte imbalance</li> <li>• Evaluation of acid base status</li> <li>• Thermoregulation, care of the child with hyper/hypothermia</li> <li>• Care of children with glycemic imbalances</li> </ul>
V	8	<p><b>Pediatric Pain and Management</b></p> <ul style="list-style-type: none"> <li>• Pain experience in children</li> <li>• Pain - Types, Theories</li> <li>• Physiology, Systemic responses to pain and psychology of pain - Review</li> <li>• Pain assessment - Pain scales, behavior and verbalization</li> <li>• Pain management - Pharmacological (Opioids, benzodiazepines, propofol, Alpha agonist, Tranquilizers, Neuromuscular blocking agents)</li> <li>• Nonpharmacological management</li> <li>• Acute pain services for children</li> </ul>
VI	4	<p><b>Nutrition Alterations and Management</b></p> <ul style="list-style-type: none"> <li>• Nutrient metabolism and alterations</li> <li>• Assessing nutritional status</li> <li>• Nutrition support for all pediatric conditions</li> <li>• Nutrition and systemic alterations</li> <li>• Care of patient on enteral and parenteral nutrition</li> </ul>
VII	4	<p><b>Psychosocial and spiritual alterations: Assessment and Management</b></p> <ul style="list-style-type: none"> <li>• Stress</li> <li>• Post traumatic stress reaction</li> <li>• Collaborative management</li> <li>• Sedation and Relaxants</li> <li>• Spiritual challenges in children and their parents and caregivers</li> <li>• Coping with stress and illness</li> <li>• Care of family in acute illness of the child</li> <li>• Counseling and communication</li> </ul>

Unit	Hours	Content
VIII	4	<b>Family and age-related education and counseling</b> <ul style="list-style-type: none"> <li>• Challenges of patient and family education</li> <li>• Process of adult learning</li> <li>• Factors affecting teaching learning process</li> <li>• Informational needs of families in pediatric unit</li> <li>• Counseling needs (age appropriate for the child) and family</li> <li>• Counseling techniques</li> </ul>
IX	4	<b>Sleep alterations and management</b> <ul style="list-style-type: none"> <li>• Sleep patterns in children</li> <li>• Sleep pattern disturbance</li> <li>• Sleep apnea syndrome</li> </ul>
X	5	<b>Infection control in pediatric unit</b> <ul style="list-style-type: none"> <li>• Nosocomial infection in pediatric care units; methyl resistant staphylococcus aureus (MRSA) and other recently identified strains</li> <li>• Disinfection, Sterilization</li> <li>• Standard safety measures</li> <li>• Prophylaxis for staff</li> <li>• Antimicrobial therapy - review</li> </ul>
XI	4	<b>Legal and ethical issues in pediatric settings - Role of the NPPN</b> <i>Legal issues</i> <ul style="list-style-type: none"> <li>• Issues giving raise to civil litigation</li> <li>• Related laws in India</li> <li>• Medical futility</li> <li>• Administrative law: professional regulation</li> <li>• Tort law: negligence, professional malpractice, intentional torts, wrongful death, defamation, assault and battery</li> <li>• Constitutional law: patient decision making</li> </ul> <i>Ethical issues</i> <ul style="list-style-type: none"> <li>• Difference between morals and ethics</li> <li>• Ethical principles</li> <li>• Ethical decision making in the care of children</li> <li>• Strategies for promoting ethical decision making</li> <li>• Ethical issues relevant to care of children: withholding and withdrawing treatment</li> <li>• Managing scarce resource</li> <li>• Brain death, Organ donation &amp; Counseling</li> <li>• Do Not Resuscitate (DNR) - Role of NPPN</li> </ul>
XII	4	<b>Quality assurance</b> <ul style="list-style-type: none"> <li>• Design of pediatric unit</li> <li>• Quality assurance models applicable to pediatric settings</li> <li>• Standards, Protocols, Policies, Procedures</li> <li>• Infection control policies and protocols</li> <li>• Nursing audit relevant to pediatric nursing</li> <li>• Staffing</li> <li>• Patient satisfaction</li> </ul>
XIII	3	<b>Evidence based practice in pediatric nursing</b> <ul style="list-style-type: none"> <li>• Barriers to implementation</li> <li>• Strategies to promote implementation</li> </ul>
XIV	4	<b>IMNCI - Review</b>
XV	6	Community health nursing practice roles include <ul style="list-style-type: none"> <li>• Home based care for newborns and young children in the community</li> <li>• Educating families/community members about maintaining their health and preventing diseases</li> <li>• Administering vaccines and coordinating immunization clinics</li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Advocating Government health programs/schemes and disseminating health-related information</li> <li>• Conducting premarital, breastfeeding, and immunization counselling</li> <li>• Organizing orientation/training of concerned groups</li> <li>• Performing clinical duties - mobile clinics</li> <li>• Community child health service programs</li> </ul>
	5	Class tests
Total	96 hours	

List of skills to be practiced in the skill lab (46 hours include demonstration by the faculty and practice by the students)

- CPR (BLS and PALS)
- Airway Management
  - Nebulization
  - Tracheostomy care
  - Suctioning - open/closed
  - Chest physiotherapy
  - Laryngeal mask airway
  - Cuff inflation and anchoring the tube
- Oxygenation and oximetry, care of child with oxygen delivery devices
  - Devices to measure oxygen/oxygenation
    - ✓ Oximetry - Pulse oximetry
  - High flow oxygen
    - ✓ Oxygen head box newborn and infant (6 liters and above)
    - ✓ Non rebreathing mask with reservoir bag (15 liters of oxygen)
  - Low flow variable performance devices:
    - ✓ Nasal catheters/cannula/double nasal prongs, face mask, face mask
  - Postural drainage
- Circulation and perfusion (including hemodynamic evaluation)
  - Non-invasive BP monitoring
  - Insertion and removal of central line
  - Pulse index Continuous Cardiac output (PiCCO)
  - Electrocardiography (ECG)
  - Waveforms
- Fluids and electrolytes
  - Fluid calculation and administration (crystalloids and colloids)
  - Administration of blood and blood products
  - Inotrope calculation, titration and administration
    - ✓ Cardiac glycosides - Digoxin
    - ✓ Sympathomimetics - Dopamine, dobutamine, epinephrine, norepinephrine, phenylephrine
  - Electrolyte correction (Sodium, potassium, calcium, phosphorus, magnesium)
  - Use of fluid dispenser and infusion pumps
- Evaluation of acid base status
  - Arterial blood gas (ABG)
- Thermoregulation, care of patient with hyper/hypothermia
  - Temperature probes
  - Management of hyper and hypothermia
- Glycemic control, care of patient with glycemic imbalances
  - Monitoring GRBS
  - Insulin therapy (sliding scale and infusion)
  - Management of Hyperglycemia - IV fluids, insulin therapy, potassium supplementation
  - Management of hypoglycemia - Dextrose IV
- Pharmacological management of pain, sedation, agitation, and delirium
  - Calculation, loading and infusion of - Morphine, Fentanyl, Midazolam, Lorazepam, Diazepam, Propofol, Clonidine, Haloperidol
  - Epidural analgesia
    - ✓ epidural PCA
    - ✓ sensory and motor block assessment

- ✓ removal of epidural catheter after discontinuing therapy
- ✓ change of epidural catheter site dressing
- ✓ intermittent catheterization for urinary retention for children on epidural analgesia/PCA
- ✓ dose titration for epidural infusion
- ✓ epidural catheter adjustment
- ✓ purging epidural drugs to check patency of catheter and also for analgesia
- ✓ management in trouble shooting
- Counseling
  - Family education
  - Quality improvement audit

### VIII. Pediatric Nursing I

**Hours of Instruction: Theory: 96 hours + Practical: 48 hours = 144 hours**

Unit	Hours	Content
I	6	<b>Introduction</b> <ul style="list-style-type: none"> <li>• Review of anatomy and physiology of vital organs specific to children</li> <li>• Review of system wise assessment and monitoring of children across age groups</li> </ul>
II	15	<b>Pulmonary alterations</b> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies</li> <li>• Pulmonary conditions and its management               <ul style="list-style-type: none"> <li>▪ Pneumonia</li> <li>▪ Bronchopneumonia</li> <li>▪ Bronchiolitis</li> <li>▪ Pleural effusion</li> <li>▪ Cystic fibrosis</li> <li>▪ Atelectasis</li> <li>▪ Lung abscess</li> <li>▪ Pyopneumothorax</li> <li>▪ Status asthmaticus</li> <li>▪ Pulmonary edema</li> <li>▪ Pulmonary embolism</li> <li>▪ Acute respiratory failure</li> <li>▪ Acute respiratory distress syndrome</li> <li>▪ Chest trauma</li> <li>▪ Chronic obstructive pulmonary disease</li> </ul> </li> <li>• Pulmonary therapeutic management               <ul style="list-style-type: none"> <li>▪ Nebulization, spirometry chest physiotherapy, deep breathing and coughing exercise, and postural drainage</li> <li>▪ Chest tube insertion and care of child with chest drainage</li> </ul> </li> <li>• Recent trends and developments</li> </ul>
III	15	<b>Gastrointestinal alterations</b> <ul style="list-style-type: none"> <li>• Review of Clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies</li> <li>• Gastrointestinal conditions requiring acute care management               <ul style="list-style-type: none"> <li>▪ Diarrhea and dehydration</li> <li>▪ Acute GI bleeding</li> <li>▪ Failure to thrive</li> <li>▪ Acute pancreatitis</li> <li>▪ Hepatic failure</li> <li>▪ Abdominal injury</li> <li>▪ Hepatic encephalopathy</li> <li>▪ Acute intestinal obstruction</li> <li>▪ Performative peritonitis</li> </ul> </li> <li>• Gastrointestinal therapeutic management</li> <li>• Gastrointestinal surgeries</li> <li>• Recent trends and developments</li> </ul>

<b>Unit</b>	<b>Hours</b>	<b>Content</b>
<b>IV</b>	<b>15</b>	<p><b>Neurological alterations</b></p> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology and pharmacology</li> <li>• Diagnostic studies</li> <li>• Neurological conditions requiring acute care management <ul style="list-style-type: none"> <li>▪ Meningitis and encephalitis</li> <li>▪ Active seizures</li> <li>▪ Febrile seizures</li> <li>▪ Encephalopathy</li> <li>▪ Gillian Bare syndrome and Myasthenia gravis</li> <li>▪ Brain herniation syndrome</li> <li>▪ Seizure disorder</li> <li>▪ Coma, unconsciousness</li> <li>▪ Persistent vegetative state</li> <li>▪ Head injury and first aid</li> <li>▪ Spinal cord conditions - TB, injury</li> <li>▪ Thermoregulation</li> </ul> </li> <li>• Neurologic therapeutic management <ul style="list-style-type: none"> <li>▪ Increased intracranial pressure - assessment and management</li> </ul> </li> <li>• Recent trends and developments</li> </ul>
<b>V</b>	<b>15</b>	<p><b>Nephrology alterations</b></p> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies</li> <li>• Nephrology conditions requiring acute and ongoing care and management <ul style="list-style-type: none"> <li>▪ Nephrotic syndrome</li> <li>▪ Post Streptococcal Glomerular Nephritis</li> <li>▪ Nephritis - in SLE</li> <li>▪ UTI</li> <li>▪ HUS</li> <li>▪ Renal tubular acidosis</li> <li>▪ Acute renal failure</li> <li>▪ Chronic renal failure</li> <li>▪ Acute tubular necrosis</li> <li>▪ Hydronephrosis</li> <li>▪ Bladder trauma</li> <li>▪ Alport syndrome and renal vasculitis</li> <li>▪ Congenital problems of the urinary system</li> </ul> </li> <li>• Nephrology therapeutic management <ul style="list-style-type: none"> <li>▪ Renal replacement therapy: peritoneal dialysis, hemodialysis plasmapheresis</li> <li>▪ Renal transplant</li> </ul> </li> <li>• Recent trends and development</li> </ul>
<b>VI</b>	<b>15</b>	<p><b>Cardiovascular alterations</b></p> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies <ul style="list-style-type: none"> <li>▪ Cardiac conditions in children requiring and the management</li> <li>▪ Cyanotic heart disease</li> <li>▪ Acyanotic heart disease</li> <li>▪ Acquired heart diseases</li> <li>▪ Pericarditis</li> </ul> </li> <li>• Cardiovascular therapeutic management <ul style="list-style-type: none"> <li>▪ Cardioversion with defibrillation</li> <li>▪ Thrombolytic therapy</li> <li>▪ Radiofrequency catheter ablation</li> <li>▪ Mechanical circulatory assistive devices - Intra cardiac balloon pump</li> <li>▪ Effects of cardiac medications</li> </ul> </li> <li>• Recent advances and development</li> </ul>
<b>VII</b>	<b>10</b>	<p><b>Endocrine alterations</b></p> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology, and pharmacology</li> <li>• Special diagnostic studies</li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Endocrine conditions <ul style="list-style-type: none"> <li>▪ Pituitary - SIADH, hypopituitarism, craniopharyngioma</li> <li>▪ Thyroid - Hypothyroidism, hyperthyroidism, goiter</li> <li>▪ Pancreas - IDDM, Diabetic ketoacidosis, hypoglycemia</li> <li>▪ Adrenals - Congenital Adrenal Hyperplasia,</li> <li>▪ Pheochromocytoma, adrenal crisis</li> <li>▪ IEM</li> </ul> </li> <li>• Endocrine therapeutic management - insulin therapy, hormone replacement, surgical management</li> <li>• Recent advances and development</li> </ul>
	5	Class tests
<b>Total</b>	<b>96 hours</b>	

List of skills to be practiced in the skill lab (69 hour include demonstration by the faculty and practice by the students)

- **Pulmonary alterations**
  - High flow and low flow oxygen therapy
  - Nebulization
  - Chest physiotherapy
  - Chest tube insertion
  - Assisting with chest tube insertion
  - Chest drainage
  - Tracheostomy care
- **Gastrointestinal alterations**
  - Calculation of calorie and protein requirements
  - 24 hour nutritional assessment
  - Measurement of abdominal girth
  - Assisting with abdominal paracentesis
  - Special diets - malnutrition, hepatic failure, pancreatic diet
  - Enteral feeding - Palade feeds, NG/Gastrostomy/Jejunostomy feeds, drip feeds
  - Total parenteral nutrition (TPN)
- **Neurological alterations**
  - Monitoring GCS
  - Conscious and coma monitoring
  - Monitoring ICP
  - Sedation score
  - Assisting for Lumbar Puncture
- **Nephrology alterations**
  - Calculation of fluid and fluid plan
  - Automated Peritoneal Dialysis
  - Peritoneal Equilibrium Test
  - Peritoneal dialysis
  - PD site dressing
  - Training of parents for PD
  - Preparing child for renal biopsy
  - Plasmapheresis
  - Preparation for transplant
  - Renal diet, nephrotic diet
  - Dialysis
    - Priming of dialysis machine
    - Preparing patient for dialysis
    - Cannulating for dialysis
    - Starting and closing dialysis
- **Cardiovascular alterations**
  - ECG and reporting of ECG findings
  - Preparation for cardiac catheterization



- Use of equipment and their settings
  - Defibrillator
  - Intra-aortic balloon pump (IABP)
- **Endocrine alterations**
  - Collection of blood samples for cortisol levels, sugar levels, and thyroid hormone levels
  - Calculation and administration of corticosteroids
  - Calculation and administration of Insulin - Review
  - Diabetic diet
  - Teaching of diabetic regime

## IX. Pediatric Nursing II

**Hours of Instruction: Theory: 96 hours + Practical: 48 hours = 144 hours**

Unit	Hours	Content
I	13	<b>Hematological alterations</b> <ul style="list-style-type: none"> <li>• Review of clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies</li> <li>• Hematology conditions requiring acute care management               <ul style="list-style-type: none"> <li>▪ Hemophilia</li> <li>▪ DIC</li> <li>▪ Thrombocytopenia</li> <li>▪ Pancytopenia</li> <li>▪ Heparin induced thrombocytopenia</li> <li>▪ Sickle cell anemia</li> <li>▪ Tumor lysis syndrome</li> <li>▪ Anemia</li> </ul> </li> <li>• Hematology therapeutic management               <ul style="list-style-type: none"> <li>▪ Administration of blood products</li> <li>▪ Bone marrow transplantation</li> </ul> </li> <li>• Recent trends and development</li> </ul>
II	8	<b>Skin alterations</b> <ul style="list-style-type: none"> <li>• Review of Clinical assessment, pathophysiology and pharmacology</li> <li>• Special diagnostic studies</li> <li>• Conditions requiring care management               <ul style="list-style-type: none"> <li>▪ Scabies</li> <li>▪ Atopic dermatitis</li> <li>▪ Impetigo</li> <li>▪ Psoriasis</li> <li>▪ Epidermolysis bullosa</li> <li>▪ Pruritis</li> <li>▪ Pemphigus</li> <li>▪ Hemangioma</li> <li>▪ Tinea</li> <li>▪ Steven Johnsons Syndrome</li> <li>▪ Chicken pox</li> <li>▪ Hyperimmunoglobulin E Syndrome</li> <li>▪ Burns</li> <li>▪ Wounds</li> </ul> </li> <li>• Therapeutic management               <ul style="list-style-type: none"> <li>• Management of dermatological conditions                   <ul style="list-style-type: none"> <li>▪ Burn wound dressing</li> <li>▪ Post op STSG management</li> </ul> </li> </ul> </li> <li>• Recent trends and development</li> </ul>
III	20	<b>Acute care in emergency conditions</b> <ul style="list-style-type: none"> <li>A. Systemic emergencies           <ul style="list-style-type: none"> <li>• Sepsis</li> <li>• Dehydration</li> <li>• Shock</li> <li>• Systemic shock - hypovolemic, cardiogenic, obstructive</li> </ul> </li> </ul>

Unit	Hours	Content
		<ul style="list-style-type: none"> <li>• Distributive - septic anaphylaxis, neurogenic</li> <li>• Systemic inflammatory response syndrome</li> <li>B. Respiratory emergencies <ul style="list-style-type: none"> <li>• ARDS</li> <li>• Foreign body aspiration</li> <li>• Stridor</li> <li>• Acute bronchopneumonia</li> <li>• Status asthmaticus</li> </ul> </li> <li>C. Metabolic emergencies <ul style="list-style-type: none"> <li>• Hypoglycemia</li> <li>• Diabetic ketoacidosis</li> <li>• Liver failure</li> <li>• Acute pancreatitis</li> <li>• Acute kidney injury</li> </ul> </li> <li>D. CNS <ul style="list-style-type: none"> <li>• Active seizures</li> <li>• Status epilepticus</li> <li>• Encephalopathy</li> </ul> </li> <li>E. Cardiac emergencies <ul style="list-style-type: none"> <li>• Hypertension</li> <li>• Hypotension</li> <li>• CCF</li> <li>• Cyanotic spell</li> </ul> </li> <li>F. Gastrointestinal emergencies <ul style="list-style-type: none"> <li>• Congenital hypertrophic pyloric stenosis</li> <li>• Tracheoesophageal fistula</li> <li>• Intestinal obstruction</li> <li>• Appendicitis</li> <li>• Imperforate anus</li> </ul> </li> <li>G. Hematological emergencies <ul style="list-style-type: none"> <li>• Severe anemia</li> <li>• DIC</li> <li>• Bleeding</li> <li>• Intracranial hemorrhage</li> <li>• Intra-abdominal</li> </ul> </li> <li>H. Oncological emergencies <ul style="list-style-type: none"> <li>• Febrile neutropenia</li> <li>• Tumor lysis syndrome</li> <li>• Spinal cord compression</li> <li>• Leukemic crisis</li> <li>• Superior vena cava syndrome</li> </ul> </li> <li>I. Injuries <ul style="list-style-type: none"> <li>• Near Hanging</li> <li>• Near drowning</li> <li>• Burn injuries (Heat, Electrical)</li> <li>• Trauma - RTA</li> </ul> </li> <li>J. Envenomation <ul style="list-style-type: none"> <li>• Snake bite</li> <li>• Scorpion sting</li> </ul> </li> <li>K. Poisoning and drug overdose <ul style="list-style-type: none"> <li>• Asphyxia neonatorum</li> <li>• Neonatal sepsis</li> <li>• Trauma in children</li> </ul> </li> <li>L. Ophthalmic emergencies <ul style="list-style-type: none"> <li>• Eye injuries</li> <li>• Glaucoma</li> <li>• Retinal detachment</li> </ul> </li> </ul>

Unit	Hours	Content
		M. Allergic reactions in children <ul style="list-style-type: none"> <li>• Allergy related to foods</li> <li>• Allergy related to drugs</li> <li>• Other allergies</li> </ul> I. Psychiatric emergencies <ul style="list-style-type: none"> <li>• Abuse - emotional, physical sexual</li> <li>• Suicide</li> <li>• Out of control aggressive behavior</li> </ul>
IV	10	<b>Infectious Diseases in Children</b> Respiratory <ul style="list-style-type: none"> <li>• Tuberculosis</li> <li>• Measles</li> <li>• Diphtheria</li> <li>• Pertussis</li> <li>• Mumps</li> <li>• Chickenpox</li> <li>• Avian flu</li> <li>• Swine flu</li> <li>• Covid 19</li> <li>• SARS</li> </ul> Blood-borne <ul style="list-style-type: none"> <li>• HIV</li> <li>• Hepatitis B</li> <li>• Tetanus</li> <li>• Ebola</li> </ul> GI borne <ul style="list-style-type: none"> <li>• Typhoid</li> <li>• Cholera</li> <li>• Hepatitis A, C</li> </ul> Arthropod borne <ul style="list-style-type: none"> <li>• Rickettsiosis</li> <li>• Leptospirosis</li> <li>• Dengue</li> <li>• Malaria</li> <li>• Chikungunya</li> </ul> Neurological <ul style="list-style-type: none"> <li>• Rabies</li> </ul> Management of infectious conditions
V	30	<b>Acute care in neonatal conditions</b> <ul style="list-style-type: none"> <li>• Essential newborn care</li> <li>• Characteristics of normal newborn</li> <li>• Congenital anomalies</li> <li>• High risk babies - preterm, LBW, SGA, LGA</li> <li>• Birth injuries</li> <li>• Respiratory - birth asphyxia and HIE</li> <li>• Bronchopulmonary dysplasia, ARDS hyaline membrane disease</li> <li>• Hypothermia</li> <li>• Metabolic disorders in newborn - hypoglycemia, hypothyroidism, infant of diabetic mother</li> <li>• Infections - HIV, neonatal sepsis and others infections</li> <li>• GI - NEC, poor feeding and lactational problems</li> <li>• Hyperbilirubinemia - physiological jaundice, pathological jaundice</li> <li>• Bleeding disorders in newborns</li> <li>• Neonatal seizures</li> </ul>

Unit	Hours	Content
VI	10	<b>Other special situations in acute care</b> <ul style="list-style-type: none"> <li>• Resuscitation of the newborn and acutely ill child</li> <li>• Rapid response teams and transport of the sick child</li> <li>• Disaster management and intervention</li> </ul>
	5	<b>Class tests</b>
<b>Total</b>	<b>96 hours</b>	

*List of skills to be practiced in the skill lab (69 hours include demonstration by the faculty and practice by the students)*

- **Hematological alterations**
  - ✓ Blood products transfusion
  - ✓ Preparation for bone marrow transplantation
  - ✓ Central line catheter site care
  - ✓ Bone marrow aspiration
- **Skin alterations**
  - ✓ Burn wound assessment
  - ✓ Burn fluid resuscitation
  - ✓ Burn feeds calculation
  - ✓ Burn dressing
  - ✓ Burns bath
  - ✓ Wound dressing
- **Emergency unit**
  - ✓ Triage
  - ✓ BLS, PALS and NALS
  - ✓ CART call activation
  - ✓ IV access
  - ✓ Fluid correction and maintenance
  - ✓ Sample collection
    - Blood
    - Urine
    - Stool
  - ✓ GJ AFB
  - ✓ Gastric lavage
  - ✓ Administration of anti-snake venom
  - ✓ Antidotes
  - ✓ Emergency drugs
  - ✓ Receiving and transporting sick child
  - ✓ Trauma team activation
- **Specific infections in children**
  - ✓ Universal precautions
  - ✓ Barrier and reverse barrier techniques
  - ✓ Donning, doffing
  - ✓ PPE
  - ✓ Isolation precautions
  - ✓ Disinfection and disposal of equipment
  - ✓ Biomedical waste segregation
- **Availability, care, maintenance, cleanliness, safety and functioning of equipment and articles**
  - Electronic - Monitors, weighing scales, digital thermometer, torch light, infusion pumps, incubators, warmers, refrigerator, suction apparatus
  - Non-electronic - Height scale, inch tape, manual BP apparatus, oxygen devices, wall oxygen, wall suction, oxygen cylinders, IV stand, wheel chairs, trolleys, alpha mattress, foot stool, side rails
  - CART trolley articles - laryngoscope, ET tubes, stilet, ambu bag with mask
- **Other special situations in**
  - Disaster preparedness and protocols
  - Child abduction
  - Medico legal incidents
  - Sentinel events
  - CART call

- Fire
- Mob Violence

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### **WEBSITES**

- <https://main.mohfw.gov.in>
- <https://medlineplus.gov>
- <https://pubmed.ncbi.nlm.nih.gov>

**The skills listed under the specialty courses such as Foundations of Pediatric Nursing Practice, Pediatric Nursing I and Pediatric Nursing II are taught by the faculty in skill lab. The students after practicing them in the lab, will continue to practice in the respective clinical areas. The log book specifies all the requirements to be completed and the list of skills that are to be signed by the preceptor/faculty once the students develop proficiency in doing the skills independently.**

## **APPENDIX 1 EQUIPMENT LIST FOR A PEDIATRIC WARD**

### **Equipment and articles**

1. Pediatric and adult cots with mattress - 40
2. High cradle with warmer - 4
3. IV stand with basket - 25
4. Bed side locker - 40 (10 – patients, 1 - stock)
5. Over bed trolley - 8
6. Digital thermometer - 10
7. Thermometer tray - 8
8. Manual BP apparatus
9. Stethoscope pediatric size - 5
10. Stethoscope adult size - 2
11. Stainless steel injection trays (small) - 10
12. Electronic weighing scale (adult) - 1
13. Electronic weighing scale (child) - 2
14. Bathroom weighing scale - 2
15. Stainless steel injection trays (big) - 5
16. Plastic trays (for sterile cotton, gauze, dressing pack)
17. Injection trolleys - 4
18. Dressing trolley (small) - 5
19. Dressing trolley (medium) - 8
20. Monitor trolley
21. Theatre trolley
22. Stretcher adjustable - 1
23. Stretcher nonadjustable - 1
24. Syringe pump - 15
25. Infusion pump - 20
26. Monitors - 20

27. Transport monitor/pulse oximeter
28. ECG machine - 1
29. Defibrillator - 1
30. Blood warmer - 1
31. Radiant warmer - 3
32. Alpha mattress with motor - 5
33. LEAD shield - 1
34. Crash cart - 1
35. McGill's forceps adult - 1
36. McGill's forceps pediatric - 1
37. Transfer trolley - 3
38. OR trolley - 2
39. Safe slider - 1
40. Computer - 4
41. Printers - 2
42. Bain circuit - 2
43. Oxygen flowmeter with humidifier - 40
44. Suction port with jar - 40
45. Air flowmeter/pulmonic - 10
46. Refrigerator - 3 (1 - feeds, 1 - drugs, 1 - other use)
47. Metal foot step/foot stool - 10
48. Ambulation chair - 3
49. UPS - 4
50. Flat trolley - 1
51. Dialysis machine - 1
52. Spot light - 2
53. Labelling machine - 1
54. Glucometer - 4
55. Laryngoscope - 3 adult, 3 pediatric, miller 0,1,2,3 Mac - 4 & 5
56. Stylet - 2
57. ET Tubes - 2.5 up to 8 (2 each) cuffed 3.5×3, 3×3, 4.5×2-7.5×2
58. Ambu bag with different sizes - 10 sets
59. Trays with sterile sets/disposable sets for various procedures (e.g. insertion of central venous catheter, tracheostomy etc.)
60. Back rest
61. Plastic basin - 15
62. Stainless basin - 20
63. General notice board
64. White board - 4
65. Patient roster board
66. Key holder board
67. Bowls steel - 10
68. Plastic bowls - 8
69. Medication container (bread box) - 40
70. Breast pump - 2
71. Buckets aluminum (2 - big, 2 - small)
72. Plastic buckets (2 - big, 22 - medium)
73. Chart holder - aluminum - 40
74. Staff belonging cupboard
75. Fire extinguisher - 2
76. Geezer - 1 each unit
77. Hamper - 3
78. Pantry items
79. Mortar and pestle
80. Nail cutter
81. K Basin - 40
82. Ophthalmoscope
83. Otoscope
84. Proctoscope
85. Oxygen key - 1
86. Spanner - 1
87. Cylinder flowmeter - 3

88. Chart rack - 1
89. Sand bags - 8
90. Scissors - 4
91. Stainless steel jug - 4
92. Portable oxygen cylinder stands - 4
93. Chest drainage one way and two-way stand
94. Cardiac table - 2
95. Examination table - 1
96. Tin opener
97. Wall clock
98. Hand drier - 1
99. Dome light - 1
100. Emergency kit

#### **Minimum Standards for Pediatric unit**

1. Bed space as per NABH standards
  - Ward/Acute care unit
    - 2 meters between bed and minimum (ward/acute care unit)
    - 100 sq ft/bed (PES)
  - PES
    - 125-200 sq meters/bed
  - OPD
    - 1-2 meter distance between beds
2. Mandatory for clinical work space
  - Nurses' office room
  - Nurses' station
  - Medication room
  - Laminar flow (for loading drugs and TPN in an aseptic environment)
  - Play room
  - Patient wash room (minimum 1 for 5 beds)
  - Pantry
  - Treatment room
  - Store room for electronic items
  - Store room for other storage items
  - Doctors room and circulation space
  - Clean utility room
  - Dirty utility room
  - Nurses lounge
  - Staff rest rooms with lockers
  - Breast feeding room
  - Patient waiting room
  - Counselling room
  - Class room

#### **Other essential functioning facilities**

- Oxygen outlets - 40
- Vacuum outlets - 20
- Compressed air outlets - 5
- Electric outlets (2 on each side of patients)
- With 5-amp and 15-amp pins -2
- Computers - 2
- Cupboards
- Essential furniture for the whole unit

#### **Recommended Drugs to be kept in Pediatric unit**

1. Antibiotics (as per institution protocol)
2. Diuretics
  - Frusemide 10 mg/ml (2 ml) × 5 ampoules
3. Antihistamines
  - Avil 22.75 mg/ml × 4 ampoules
4. Steroids

- Hydrocortisone 100 mg × 4 vials
- Dexamethasone 4 mg/ml (2 ml) × 5 vials
- 5. Antiemetics
  - Ondansetron 5 mg/ml (2 ml) × 5 ampules
- 6. Anticoagulant
  - Vitamin K 10 mg/ml (1 ml) × 10 ampules
- 7. Adrenergic agent (Catecholamines)
  - Adrenaline 1 mg/1 ml (1 ml) × 5 ampules
- 8. Antimuscarinic agent
- 9. Anticholinergic agent
  - Atropine 0.6 mg/ml (1 ml) × 5 ampules
- 10. Cardiac smooth muscle counteractant
  - Calcium gluconate 100 mg/ml (10 ml) × 2 ampules
- 11. Systemic alkalizer
  - Sodium bicarbonate - 7.5% (25 ml) × 2 ampules
- 12. 10% Dextrose (10 ml) × 5 vial
- 13. Neuromuscular blocking agent
  - Atracurium 25 mg/ml (2,5 ml) × 3 ampules
- 14. Sedative
  - Midazolam 5 mg/ml (1 ml) × 5 ampules
- 15. Opioid
  - Ketamine 1 ml (50 mg) × 5 ampules
- d. Propofol
- 16. Inotropes
  - Dopamine 200 mg/5 ml (5 ml) × 2 ampule
- 17. Antiarrhythmic agent
  - Adenosine 3 mg/ml (2 ml) × 2 ampules
  - Amiodarone 5 mg/ml (2 ml) × 2 ampules
  - Xylo card/Lidocaine × 1 ampule
- 18. Bronchodilators
  - Aminophylline
  - Deriphylline
- 19. IV FLUIDS - (Plasmolytes, Dextrose Normal Saline, 5% Dextrose, Normal Saline)
- 20. Colloids: Human Albumin 2% 25 ml bottle
- 21. Anticonvulsants:
  - Sodium valproate
  - Phenytoin
  - Phenobarbitone
  - Levitacetram
- 22. Other drugs:
  - Magnesium sulphate
  - KCL

## APPENDIX 2 ASSESSMENT GUIDELINES (including OSCE guidelines)

### INTERNAL ASSESSMENT (Theory and Practical)

#### 1<sup>st</sup> year

#### 1. Theoretical Basis for Advanced Nursing Practice

**College examination of theory only: 50 marks**

**Internal assessment:**

Test paper/Quiz: 10 marks

Written assignment/term paper: 10 marks (Global and national health care trends & policies for children)

Clinical seminar: 5 marks (Clinical/Care pathway in specific clinical condition/Application of specific nursing theory)

**Final theory college exam: 25 marks**

**Total: 50 marks**

#### 2. Research Application and Evidence Based Practice in Pediatric Care

**Theory:**

Test papers: 20 marks



Written assignment: 5 marks (Literature review/Preparation of research instrument)  
Journal club: 5 marks (Analysis of research evidence for OPD, Acute Care and Pediatric Emergency nursing competencies)

**Total: 30 marks**

**3. Advanced Skills in Leadership, Management and Teaching**

**Theory:**

Test paper: 15 marks

Journal club: 5 marks (Trends in Leadership/Management/Teaching)

Written assignment: 5 marks (Standards of Care in Pediatric Nursing and Quality Indicators)

Microteaching: 5 marks

**Total : 30 marks**

**4. Advanced Pathophysiology & Advanced Pharmacology applied to Advanced Practice in Pediatric Care**

**Theory:**

Test papers and Quiz: 20 marks (Pathophysiology - 10, Pharmacology - 10)

Drug studies: 5 marks (Drug study and presentation)

Case presentation and case study report (Pathophysiology): 5 marks

**Total : 30 marks**

**5. Advanced Health/Physical Assessment in Pediatric Nursing**

**Theory:**

Test papers: 20 marks

Written assignment: 10 marks (Diagnostic/investigatory reports - interpretation and analysis of findings)

**Total: 30 marks**

**Practicum:**

Clinical performance evaluation: 10 marks

End of posting exam (OSCE): 10 marks

Case presentation and case study report: 5 marks

Internal OSCE: 25 marks

Total Internal practical: 50 marks

End of posting exam can be conducted in Pediatric Emergency Services (PES)/Acute Pediatric care setting in the ward.

**II<sup>nd</sup> year**

**1. Foundations of Pediatric Nursing Practice**

**Theory:**

Test papers and Quiz: 20 marks

Written assignment: 10 marks (protocols in acute pediatric care settings - Ward and PES)

**Total: 30 marks**

**Practicum:**

Clinical Performance evaluation: 20 marks

End of posting exam (OSCE): 10 marks

Drug studies (Drug study and presentation): 10 marks

Case presentation and case study report (Family education/counseling): 5 marks

Case presentation (Application of Clinical/Care Pathway): 5 marks

Internal OSCE: 50 marks

**Total Internal practical: 100 marks**

**2. Pediatric Nursing I**

**Theory:**

Test papers and Quiz: 20 marks

Clinical seminar and Journal club: 10 marks

**Total: 30 marks**

**Practicum:**

Clinical performance evaluation: 20 marks

End of posting exam (OSCE): 10 marks

Clinical presentation: 10 marks

Case study report: 10 marks

Internal OSCE: 50 marks

**Total Internal practical: 100 marks**

### 3. Pediatric Nursing II

#### Theory:

Test papers: 20 marks

Clinical Seminar: 10 marks

**Total: 30 marks**

#### Practicum:

Clinical performance evaluation: 20 marks

End of posting exam (OSCE): 10 marks

Clinical presentation: 10 marks

Case study report (Developed clinical/care pathway): 10 marks

Internal OSCE: 50 marks

Total Internal practical: 100 marks

End of posting exam can be conducted in the PES or ward.

Dissertation/EBP project

Practicum: 50 marks

EXTERNAL (FINAL) EXAMINATION (As per schedule in syllabus)

Theory: Short answer and essay type questions (Weightage can be decided by the University)

{Essay 2×15 = 30 marks, Short answers 5×6 = 30 marks, Very short 5×2 = 10 marks}

### OSCE GUIDELINES FOR INTERNAL AND EXTERNAL PRACTICAL EXAMINATION

Ist year

#### I. ADVANCED HEALTH ASSESSMENT

##### INTERNAL

**OSCE: 25 marks**

##### CORE COMPETENCY DOMAINS TO BE EXAMINED

1. Focused history taking and physical examination of pediatric patient
2. Interpretation of findings and results
3. Monitoring of clinical parameters

**Number of stations: 5 (4+1 Rest station)**

**Time for each station: 10 minutes**

**Marks for each station: 5 marks (As per competency Check list and allotted marks)**

**Total: 4×5 = 20 marks**

**Oral exam = 5 marks**

**Total = 25 marks**

##### EXTERNAL

**OSCE: 50 marks**

##### CORE COMPETENCY DOMAINS

1. Focused history taking of pediatric patient
2. Family assessment
3. Focused physical examination of pediatric patient
4. Interpretation of history and physical exam findings
5. Interpretation of results of lab and diagnostic tests
6. Monitoring clinical parameters

**Number of stations: 10 (8+2 Rest stations)**

**Time for each station: 10 minutes**

**Marks for each station: 5 marks (As per competency check list and allotted marks)**

**Total: 8×5 = 40 marks**

**Oral exam = 10 marks**

**Total = 50 marks**

**On completion of procedural competencies in log book and clinical requirements, the NPPN student is qualified to appear for final practical examination.**

## II<sup>nd</sup> year

### I. FOUNDATIONS OF PEDIATRIC NURSING PRACTICE

#### INTERNAL

**OSCE: 50 marks**

#### CORE COMPETENCY DOMAINS TO BE EXAMINED

1. Focused history taking and physical examination and interpretation of findings and results
2. Family assessment
3. Monitoring competencies (Invasive and noninvasive)
4. Therapeutic interventions (Emergency procedural competencies) including drug administration
5. Family education and counseling

**Number of stations: 5 (4+1 Rest station)**

**Time for each station: 10 minutes**

**Marks for each station: 10 marks (As per competency check list and allotted marks)**

**Total: 10×4 = 40 marks**

**Oral exam = 10 marks**

**Total = 50 marks**

#### EXTERNAL

**OSCE: 100 marks**

#### CORE COMPETENCY DOMAINS

1. Focused history taking, physical examination and interpretation of results of pediatric patient
2. Family assessment
3. Monitoring competencies (Invasive and noninvasive)
4. Development of care plan
5. Family education and counseling
6. Therapeutic interventions (Emergency procedures) including drug administration

**Number of stations: 10 (8+2 Rest stations)**

**Time for each station: 10 minutes**

**Marks for each station: 10 marks (As per competency check list and allotted marks)**

**Total: 8×10 = 80 marks**

**Oral exam = 20 marks**

**Total = 100 marks**

### PEDIATRIC NURSING I & II

#### INTERNAL

**OSCE: 50 marks**

#### CORE COMPETENCY DOMAINS

1. Focused history and physical examination and interpretation of findings and results
2. Monitoring competencies
3. Development of plan of care/care pathway
4. Therapeutic interventions (Emergency procedural competencies) including drug administration

**Number of stations: 5 (4+1 Rest station)**

**Time for each station: 10 minutes**

**Marks for each station: 10 marks (As per competency check list and allotted marks)**

**Total: 10×4 = 40 marks**

**Oral exam = 10 marks**

**Total = 50 marks**

#### EXTERNAL

**OSCE: 100 marks**

#### CORE COMPETENCY DOMAINS

1. Focused history taking, physical examination and interpretation of results of pediatric patient
2. Family assessment
3. Monitoring competencies (Invasive and noninvasive)
4. Family education and counseling

5. Development of plan of care/care pathway
6. Drug administration
7. Therapeutic interventions (Emergency procedures)

**Number of stations: 10 (8+2 Rest stations)**

**Time for each station: 10 minutes**

**Marks for each station: 10 marks (As per competency check list and allotted marks)**

**Total: 8×10 = 80 marks**

**Oral exam = 20 marks**

**Total = 100 marks**

**On completion of procedural competencies in log book and clinical requirements, the NPPN student is qualified to appear for final practical examination**

**APPENDIX 3**  
**CLINICAL LOG BOOK FOR NURSE PRACTITIONER IN PEDIATRIC NURSING (NPPN) -**  
**POSTGRADATE RESIDENCY PROGRAM**  
**(Specific Procedural Competencies/Clinical Skills)**

**I<sup>st</sup> year**

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
<b>I</b>	<b>RESEARCH APPLICATION AND EVIDENCE BASED PRACTICE</b>			
1	Preparation of research instrument			
2	Writing systematic review/literature review			
3	Preparation of a manuscript for publication (I <sup>st</sup> or II <sup>nd</sup> year)			
4	Research Project/EBP project (II <sup>nd</sup> year) <i>Topic:</i>			
<b>II</b>	<b>LEADERSHIP, MANAGEMENT AND TEACHING</b>			
1	Preparation of staff patient assignment			
2	Preparation of unit budget			
3	Preparation of staff duty roster			
4	Nursing care audit in the unit			
5	Management of equipment and supplies			
6	Monitoring, evaluation, and writing report related to infection control			
7	Preparation of teaching plan and media for teaching patients/staff			
8	Micro teaching/patient education sessions			
9	Planning and conducting OSCE/OSPE			
10	Construction of tests			
<b>III</b>	<b>HEALTH ASSESSMENT</b>			
1	Comprehensive history taking			
2	Comprehensive physical examination			
3	Focused history taking (system wise)			
4	<b><i>Focused physical examination (system wise)</i></b>			
4.1	Respiratory system			
4.2	Cardiac system			
4.3	Gastrointestinal			
4.4	Nervous			
4.5	Genitourinary			
4.6	Endocrine			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
4.7	Hematological			
4.8	Musculoskeletal			
4.9	Integumentary			
4.10	Sensory organs			
<b>5</b>	<b><i>Age specific history &amp; physical examination</i></b>			
5.1	Neonate			
5.2	Infant			
5.3	Toddler			
5.4	Preschooler			
5.5	School age			
5.6	Adolescent			
<b>6</b>	<b>Assessment of growth and development</b>			
6.1	New born			
6.2	Infant			
6.3	Toddler			
6.4	Preschooler			
6.5	School age			
6.6	Adolescent			
<b>IV</b>	<b>DIAGNOSTIC PROCEDURES</b>			
<b>1</b>	<b>Collecting blood sample for laboratory tests</b>			
1.1	Biochemistry			
1.2	Clinical pathology			
1.3	Microbiology			
1.4	ABG			
<b>2</b>	<b>Assisting procedures</b>			
2.1	Paracentesis			
2.2	Thoracentesis			
2.3	Insertion of ICD			
2.3	Lumbar puncture			
2.4	Liver biopsy			
2.5	Renal biopsy			
2.6	Bone marrow aspiration			
2.7	Suprapubic puncture			
	Any other if assisted			
2.8				
2.9				
3.0				
3.1				
3.2				
<b>3</b>	<b>Witnessing procedures</b>			
3.1	Interventional cardiac procedure (cardiac catheterization)			
3.2	Endoscopy			
3.3	MRI/CT			
3.4	Ultrasound			
3.5	EMG			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
3.6	Echocardiogram			
<b>V</b>	<b>BASIC COMPETENCIES</b>			
1	Admission			
2	Transfer			
3	Transport			
<b>4</b>	<b><i>Setting up, performing and maintenance of basic critical care equipment</i></b>			
4.1	Monitor/s			
4.2	Transducer/pressure bag			
4.3	Temperature probes			
4.4	SpO <sub>2</sub> probes			
4.5	Sequential compressing device			
4.6	Perform 12-lead ECG			
4.7	Radiant Warmer			
4.8	Phototherapy			
4.9	Fluid warmer			
4.10	Syringe pump			
4.11	Infusion pump			
4.12	Alpha mattress			
<b>5</b>	<b><i>Performing, monitoring and interpretation of clinical parameters</i></b>			
5.1	Arterial Blood Gas (ABG)			
5.2	Oxygen saturation			
5.3	Endotracheal tube cuff pressure			
5.4	Hemodynamics by Monitors			
5.5	Electrocardiogram (ECG)			
5.6	Intracranial pressure (ICP)			
5.7	Non-invasive BP monitoring			
5.8	Peripheral vascular status			
5.9	Glasgow Coma Score			
5.10	Sedation Score			
5.11	Pain Score			
5.12	Braden Score			
5.13	Bowel sounds			
5.14	GRBS			
5.15	Chest Xray			
5.16	Pediatric Early Warning Score			
5.17	Neonatal Early Warning Score			

\* - When the student is found competent to perform the skill, it will be signed by the preceptor/faculty.

**Students:** Students are expected to perform the listed skills/competencies many times until they reach level 3 competency, after which the preceptor signs against each competency.

**Preceptors/faculty** must ensure that the signature is given for each competency only after they reach level 3.

- Level 3 competency denotes that the NP student is able to perform that competency without supervision.
- Level 2 competency denotes that the student is able to perform each competency with supervision.
- Level 1 competency denotes that the student is not able to perform that competency/skill even with supervision.

**Signature of the Program Coordinator/Faculty**

**Signature of the HOD/Principal**

II<sup>nd</sup> year

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
	<b>ADVANCED COMPETENCIES</b>			
<b>1</b>	<b><i>Setting up, use and maintenance of critical care equipment</i></b>			
1.1	Ventilator			
1.2	Assisting with intubation			
1.3	Defibrillator			
1.4	CRASH trolley			
1.5	CPAP/BiPAP			
<b>2</b>	<b><i>Triage</i></b>			
<b>3</b>	<b><i>Family education and counseling</i></b>			
<b>4</b>	<b><i>Discharge/LAMA</i></b>			
<b>5</b>	<b><i>Medico-legal compliance</i></b>			
<b>6</b>	<b><i>End of life care</i></b>			
<b>7</b>	<b><i>After life care</i></b>			
<b>8</b>	<b><i>Care during transfer by air ambulance</i></b>			
<b>9</b>	<b><i>Care during transfer by surface ambulance</i></b>			
<b>10</b>	<b><i>Infection control practices</i></b>			
<b>11</b>	<b><i>Standard/Universal precautions</i></b>			
<b>12</b>	<b><i>Disinfection/sterilization</i></b>			
<b>13</b>	<b><i>BLS and PALS</i></b>			
<b>14</b>	<b><i>Preparation of policies/standards/protocols in the Pediatric Acute Care Unit</i></b>			
<b>15</b>	<b><i>Administration of medication (includes standing orders) I<sup>st</sup> &amp; II<sup>nd</sup> year</i></b>			
15.1	<b>Catecholamines</b> (calculation, titration & administration) a. Adrenaline b. Noradrenaline c. Dopamine d. Dobutamine			
15.2	<b>Antidysrhythmic</b> a. Adenosine b. Amiodarone c. Lidocaine/Xylo card			
15.3	<b>Adrenergic agent</b> a. Ephedrine			
15.4	Bronchodilators a. Aminophylline b. Deriphylline			
15.5	Non-depolarizing skeletal muscle relaxant a. Atracurium (Vecuronium, Pancurium)			
15.6	Anticholinergic a. Atropine Sulphate			
15.7	Antihistamine a. Avil			
15.8	Antihypertensives a. Nifedipine b. Amlodipine c. Captopril			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
15.9	Corticosteroids a. Hydrocortisone b. Dexamethasone			
15.10	Antiepileptics a. Sodium valproate b. Phenytoin c. Phenobarbitone d. Levetiracetam			
15.11	Muscle relaxants & Sedatives a. Diazepam b. Midazolam c. Morphine sulphate d. Pentazocine Lactate (Fortwin) e. Pethidine hydrochloride f. Propofol			
15.12	<b>Electrolyte and acid base correction with/without device (Na, K, Cal, P, Mg, Fe)</b> a. Soda bicarbonate 8.4% b. Soda bicarbonate 7.5% c. Magnesium sulphate d. Potassium chloride			
15.13	<b>Epidural analgesia</b> a. Sensory and motor block assessment b. Removal of epidural catheter c. Change of epidural catheter dressing d. Insertion and removal of subcutaneous port for analgesic administration e. Dose titration for epidural infusion f. Epidural catheter adjustment g. Purging epidural drugs			
15.14	PCA analgesia			
15.15	<b>Additional drugs specific to pediatric emergencies</b> a. Antidotes - Naloxone, N Acetyl Cysteine, Warfarin b. Anti snake venom (ASV) c. Prazosin			
<b>16</b>	<b><i>Management of Cardiovascular Alterations</i></b>			
16.1	Intravenous fluid administration (Colloid/Crystalloid)			
16.2	Blood and blood product administration			
16.3	Insertion of CVP line			
16.4	Care and removal of CVP line			
16.5	Insertion of arterial line			
16.6	Care and removal of arterial line			
16.7	Assisting with insertion of pulmonary artery catheter			
16.8	Blood collection from arterial line			
<b>17</b>	<b><i>Management of Pulmonary Alterations</i></b>			
17.1	Airway application			
17.2	Laryngeal mask airway application			
17.3	Intubation and care of ET tube			
17.4	Setting up of ventilator			



S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
17.5	Weaning a patient ventilator			
17.5	Assisting for tracheostomy insertion			
17.6	Tracheostomy care and suctioning			
17.7	Endotracheal suctioning - Open and closed			
17.8	Assisting with insertion of chest tube			
17.9	Care of patient with Chest drainage			
17.10	Chest tube removal			
17.11	Nebulization			
17.13	Non-invasive ventilation			
17.14	CPAP			
17.15	BiPAP			
17.16	Use of T-tube and Venturi devices			
17.17	Postural drainage			
17.18	Weaning from tracheostomy			
17.19	Chest physiotherapy			
17.20	Assisting for bronchoscopy			
<b>18</b>	<b>Management of Neurological Alterations</b>			
18.1	Sensory stimulation			
18.2	Seizure management			
18.3	Lumbar puncture			
18.4	Consciousness/Coma status monitoring			
18.5	Brain death evaluation			
<b>19</b>	<b>Management of Genitourinary Alterations</b>			
19.1	Cannulating for hemodialysis			
19.2	a. Starting and closing of hemodialysis b. Starting and closing peritoneal dialysis			
19.3	Care of patient on hemodialysis			
19.4	Initiating peritoneal dialysis			
19.5	Care of patient on peritoneal dialysis			
19.6	Calculation of fluid replacement			
<b>20</b>	<b>Management of Gastrointestinal Alterations</b>			
20.1	Enteral nutrition - Gastrostomy/Jejunostomy feeding			
20.2	Administration of Parenteral nutrition (TPN)			
<b>21</b>	<b>Management of Endocrine Alterations</b>			
21.1	Insulin therapy (sliding scale & infusion) Calculation, titration and administration			
21.2	Steroids - Calculation and administration			
<b>22</b>	<b>Ordering investigations</b>			
22.1	ECG			
22.2	ABG			
22.3	Chest X ray			
22.4	Ultrasound			
22.5	Basic biochemistry investigations			
22.6	Basic microbiology investigations			
<b>23</b>	<b>Ordering procedures/treatment</b>			
23.1	Nebulization			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
23.2	Chest physiotherapy			
23.3	Distal colostomy wash			
23.4	Insertion and removal of urinary catheter			
23.5	Test feeds			
23.6	1. Surgical dressing 2. Burns Dressing 3. Lipoma excision 4. Debridement 5. Starting central line 6. Starting peripheral line			
23.7	Starting and closing dialysis			
23.8	Application of Ichthammol Glycerin/Magnesium Sulphate dressing for Thrombophlebitis/extravasation			
23.9	Pin site care for patients on external fixators			
23.10	Isometric and isotonic exercises			
23.11	Hot and cold applications			
<b>24</b>	<b>Field Visits</b> 1. Balwadi 2. Orphanage 3. MCH Program 4. School Health Program 5. Developmental Screening program 6. Child guidance clinic			

\*When the student is found competent to perform the skill, it will be signed by the preceptor/faculty.

**Students:** Students are expected to perform the listed skills/competencies many times until they reach level 3 competency, after which the preceptor signs against each competency.

**Preceptors/faculty** must ensure that the signature is given for each competency only after they reach level 3.

- Level 3 competency denotes that the NP student is able to perform that competency without supervision.
- Level 2 competency denotes that the student is able to perform each competency with supervision.
- Level 1 competency denotes that the student is not able to perform that competency/skill even with supervision.

**NOTE:** 5-10% of procedures that are rare should be practiced in skill lab and attained level 3 competency.

Signature of the Program Coordinator/Faculty

Signature of the HOD/Principal

**APPENDIX 4**  
**CLINICAL REQUIREMENTS FOR NURSE PRACTITIONER IN PEDIATRIC NURSING (NPPN) -**  
**POSTGRADATE RESIDENCY PROGRAM**

**I<sup>st</sup> year**

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
<b>1</b>	<b><i>Clinical Seminar/Journal Club/Clinical Conference</i></b>		
<b>1.1</b>	<b>*NPPC - Clinical pathway in specific clinical condition/ Application of specific nursing theory (Clinical seminar) <i>Title of the topic:</i></b>		
<b>1.2</b>	<b>*RA - Evidence search for pediatric nursing competencies (Clinical conference/Journal club) <i>Title of the topic:</i></b>		
<b>1.3</b>	<b>*L, M&amp;T - Trends in Leadership/Management/Teaching (Journal club) <i>Title of the topic:</i></b>		

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
2	<b>Clinical Rounds (With Nursing staff, faculty, students) - Case/Clinical presentation</b>		
2.1	<b>Pathophysiology</b> (Clinical presentation) <i>Name of clinical condition:</i>		
2.2	<b>Pathophysiology</b> (Clinical presentation) Case study (written report) <i>Name of clinical condition:</i>		
2.3	<b>Pharmacology</b> - Drug studies (drugs listed under standing orders) - written report of 5 presentations (bedside presentations) Drug name:		
2.3.1			
2.3.2			
2.3.3			
2.3.4			
2.3.5			
2.3.6			
2.3.7			
2.3.8			
3	<b>Interdisciplinary Clinical Rounds (With ICU doctors) - Case/Clinical Presentation</b> <i>(Written reports are for submission)</i>		
3.1	<b>Health Assessment</b> (Newborn) - History & Physical Examination (Two written reports) 3.1.1 3.1.2 3.1.3		
3.2	<b>Health Assessment</b> (Pediatric) - History & Physical Examination (One written report) 3.2.1 Infant 3.2.2 Toddler 3.2.3 Preschooler 3.2.4 Schooler 3.2.5 Adolescent		
3.3	<b>Health Assessment</b> (Pregnant woman) (One written report) 3.3.1 3.3.2		

\*Advanced Practice Nursing-APN, Research application-RA, Leadership, Management and Teaching-LM&T

Signature of the Program Coordinator/Faculty

Signature of the HOD/Principal

#### CLINICAL EXPERIENCE DETAILS

Name of the Clinical Area	Clinical Condition	Number of days care given	Signature of Faculty/Preceptor



S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
2.3	<b>Pediatric Nursing I</b> (Clinical presentation) <i>Name of clinical condition:</i>		
2.4	<b>Pediatric Nursing I</b> (Case study report) <i>Name of clinical condition:</i>		
2.5	<b>Pediatric Nursing II</b> (Clinical presentation) <i>Name of clinical condition:</i>		
2.6	<b>Pediatric Nursing II</b> (Case study report) <i>Name of clinical condition:</i>		
2.7	<b>Drug studies (drugs listed under standing orders)</b> <b>Bedside presentation</b> (Five written reports) <i>Name of drug:</i>		
2.7.1			
2.7.2			
2.7.3			
2.7.4			
2.7.5			
2.7.6			
2.7.7			
2.7.8			
3	<b>Interdisciplinary Clinical Rounds (With doctors) - Clinical/Case Presentation</b>		
3.1	<b>Pediatric Nursing I</b> <i>Name of clinical condition:</i>		
3.2			
3.3			
3.4			
3.5	(Case study report)		
3.6	<b>Pediatric Nursing II</b>		
3.7			
3.8			
3.9	(Case study report)		
3.10	<i>Written report (Developed Clinical/Care pathway)</i>		

**Note:** Clinical presentation can be written for case study report.

Signature of the Program Coordinator/Faculty

Signature of the HOD/Principal

#### CLINICAL EXPERIENCE DETAILS

Name of the Clinical Area	Clinical Condition	Number of days care given	Signature of Faculty/Preceptor



**Bronchodilators**

9. Aminophylline
10. Deriphylline

**Non-depolarizing skeletal muscle relaxant**

11. Atracurium (Vecuronium, Pancurium)

**Anticholinergic**

12. Atropine Sulphate

**Antihistamine**

13. Avil

**Antihypertensive**

14. Nifedipine
15. Amlodipine
16. Captopril

**Corticosteroid**

17. Hydrocortisone
18. Dexamethasone

**Antiepileptic**

19. Levetiracetam
20. Phenytoin
21. Phenobarbitone

**Sedatives & relaxants**

22. Valium
23. Midazolam
24. Morphine Sulphate
25. Pentazocine Lactate (Fortwin)
26. Pethidine Hydrochloride
27. Propofol

**Electrolytes & acid base correction agents**

28. Soda bicarbonate 8.4%
29. Soda bicarbonate 7.5%
30. Magnesium sulphate
31. Potassium chloride

**The following investigations and therapies may be ordered by the NPs in Pediatric Nursing**

ORDERING INVESTIGATIONS	ORDERING THERAPIES
<ul style="list-style-type: none"> <li>▪ ECG</li> <li>▪ ABG</li> <li>▪ Chest X ray</li> <li>▪ Basic Biochemistry investigations - Hb, PCV, WBC Total, WBC differentials, ESR, electrolytes, platelets, PT, aPTT, bleeding and clotting time, procalcitonin, creatinine, HbA1c, AC, PC, HDL, LDL, TIG, Cholesterol total, HIV, HbsAg, HCV</li> <li>▪ Basic Microbiology investigations - blood samples for culture and sensitivity, tips of vascular access</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nebulization</li> <li>▪ Chest physiotherapy</li> <li>▪ Distal colostomy wash</li> <li>▪ Insertion and removal of urinary catheter for female patients</li> <li>▪ Test feeds</li> <li>▪ Surgical dressing</li> <li>▪ Starting and closing dialysis</li> <li>▪ Application of Ichthammol Glycerin/Magnesium Sulphate dressing for thrombophlebitis/extravasation</li> <li>▪ Pin site care for patients on external fixators</li> <li>▪ Isometric and isotonic exercises</li> </ul>

**INSTITUTIONAL STANDING ORDERS AND PROTOCOLS**

In every hospital, the standing orders for drug administration with specific dosage to be administered during emergency situations can be made available as guidelines for NPPN graduates. The NP students will be trained to administer these drugs under supervision by preceptors/NP faculty. The protocols for ordering selected investigations and carrying out specific therapeutic procedures can also be available in every hospital that trains NPPN students.