Krishna Vishwa Vidyapeeth (Deemed to be University)

Krishna Institute of Nursing Sciences, Karad

Syllabus

Nurse Practitioner in Emergency and Trauma Care- Postgraduate Residency Program

Choice Based Credit System (C.B.C.S.)

Program code: 4507 **Course code: 4507-11**

NURSE PRACTITIONER IN EMERGENCY AND TRAUMA CARE –
POSTGRADUATE RESIDENCY PROGRAM

I. Introduction and Background

In India, reshaping health systems in all dimensions of health has been recognized as an important need in the National Health Policy, 2017 document. It emphasizes human resource development in the areas of education and training alongside regulation and legislation. The government recognizes significant expansion in tertiary care services both in public and private health sectors. In building their capacity, it is highly significant that the health care professionals require advanced educational preparation in specialty and super-specialty services. To support specialized and super-specialized healthcare services, specialist nurses with advanced preparation are essential. Developing training programs and curriculum in the area of tertiary care is recognized as the need of the hour. Nurse Practitioners (NPs) will be able to meet this demand provided they are well trained and empowered to practice. With establishment of new cadres in the Center and State level, master level prepared NPs will be able to provide cost effective, competent, safe and quality driven specialized nursing care to patients in the emergency and trauma care settings in tertiary care centres. Nurse practitioners have been prepared and functioning in USA since 1960s, UK since 1980s, Australia since 1990s and Netherlands since 2010.

Nurse practitioners in emergency and trauma care/critical care/acute care, oncology, neurology, cardiovascular care, anesthesia and other specialties can be prepared to function in tertiary care settings. Rigorous educational preparation will enable them to assess and participate in treating patients requiring emergency and trauma care both for prevention and promotion of health. A curricular framework is proposed by the Council towards preparation of Nurse Practitioner in Emergency and Trauma Care (NPETC) at Masters Level. The special feature of this program is that it is a clinical residency program emphasizing a strong clinical component with 15% of theoretical instruction and 85% of practicum. Competency based training is the major approach and NP education is based on competencies adapted from International Council of Nurses (ICN, 2005), and NONPF competencies (2012). Every course is based on achievement of competencies.

Emergency and Trauma Care Nurse Practitioner Program is intended to prepare registered B.Sc. Nurses to provide advanced nursing care to patients requiring emergency and trauma care. The nursing care is focused on stabilizing patients' condition, minimizing acute complications and maximizing restoration of health. These NPs are required to practice in the emergency and trauma care units of tertiary care centers. The program consists of various courses of study that are based on strong scientific foundations including evidenced based practice and the management of complex health systems. These are built upon the theoretical and practice competencies of B.Sc. trained nurses. On completion of the program and registration with respective SNRC they are permitted to practice all competencies listed in the log book of the Council syllabus and also independently perform emergency assessment, order diagnostic tests, perform diagnostic and therapeutic procedures, handle medical equipment, administer drugs and therapies as per institutional protocols/standing orders. The NPs in Emergency and Trauma Care units when exercising this authority, they are accountable for the competencies in

a) Patient Triaging;
b) Patient admission into emergency and trauma care units, transfer to wards/ICUs and discharge;
c) Problem identification through emergency assessment;
d) Selection/administration of medication or devices or therapies;
e) Monitoring patient's response to the emergency management;
f) Patients' education for use of therapeutics and trauma prevention;
g) Knowledge of interactions of therapeutics, if any;
h) Evaluation of outcomes;
i) Recognition and management of complications and untoward reactions;

j) Contribution towards evidence-based innovations in clinical practice.

The NP in Emergency and Trauma Care (ETC) is prepared and qualified to assume responsibility and accountability for patients requiring emergency and trauma care under his/her care.

The said post graduate degree will be registered as an additional qualification by the SNRC.

Philosophy

The Council believes that there is a great need to establish a postgraduate program titled Nurse Practitioner in Emergency and Trauma Care to meet the challenges and demands of tertiary health care services in India which is reflected in the National Health Policy (2017) document in order to provide quality care to patients requiring emergency and trauma care and their families.

The Council believes that postgraduates from a residency program focused on strong clinical component 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, preceptory 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 invited to participate as preceptors in the training.

The Council also believes that a variety of educational strategies can be used in the clinical settings to address the deficit of qualified Emergency and Trauma Care nursing faculty. It is hoped to facilitate developing policies towards registration/licensure and create cadre positions for appropriate placement of these postgraduate Emergency and Trauma Care NPs to function in Emergency and Trauma Care Unit/Department of tertiary care centers.

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

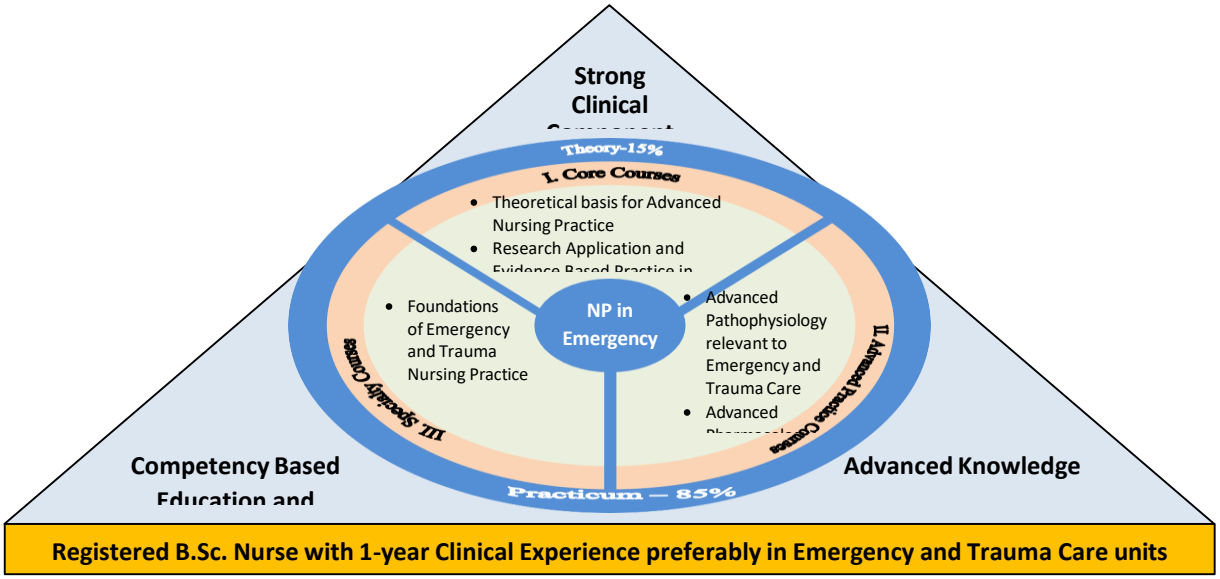

Figure 1. Nurse Practitioner in Emergency and Trauma Care – An Educational Curricular Framework

II. Program Description

The NP program is a nursing residency program with a main 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 Emergency and Trauma Care NP 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 Emergency and Trauma Care).

IV. Objectives

On completion of the program, the NP will be able to

1. Assume responsibility and accountability to provide competent care to patients with trauma and non-trauma related emergencies and appropriate family care in tertiary care centres;
2. Demonstrate clinical competence/expertise in providing emergency and trauma care which includes emergency assessment, diagnostic reasoning, management and complex monitoring;
3. Apply theoretical, pathophysiological and pharmacological principles and evidence base in implementing therapies/interventions in emergency and trauma care;
4. Assess and participate in treating patients with life threatening and limb threatening illnesses/injuries to stabilize and restore patient's health and minimize or manage complications independently or collaboratively as a part of emergency and trauma care team;
5. Collaborate with other health care professionals in the emergency and trauma care team, across the continuum of emergency care.

V. Minimum requirements to start the NP in Emergency and Trauma Care Program

The institution must accept the accountability for the NP 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 NP Program shall obtain essentiality certificate/Government order from the State.
b. The following institutions are exempted from obtaining 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 centre, with a minimum of 200 beds. It can have a medical college or nursing college.

3. Emergency and Trauma Care Beds

The hospital should have an Emergency and Trauma Care unit with a minimum of 10 beds.

4. Emergency and Trauma Care Staffing

a. Emergency and Trauma Care unit should have a in-charge nurse with B.Sc. or M.Sc. qualification;
b. The nurse patient ratio should be 1:1 for Resuscitative beds;
c. For the rest of Emergency and Trauma beds the nurse patient ratio should be 1:5 for every shift;
d. Provision of additional 40% staff towards leave reserve;
e. Doctor patient ratio can be 1:5.

5. *Faculty/Staff Resources*

   a. **Clinical Area:** *Nursing Preceptor:* Full-time qualified GNM (preferably qualification in Post Basic Diploma in Emergency and Disaster Nursing) with 6 years of experience in Emergency and Trauma Care units or B.Sc. (Nursing) with 2 years of experience in Emergency and Trauma Care units or M.Sc. (Specialty-Medical Surgical Nursing) with one year experience in Emergency and Trauma Care unit.

   Medical Preceptor: Medical PG/Emergency Physician

   Preceptor Student Ratio: Nursing 1:10, Medical 1:10 (Every student must have a medical and a nursing preceptor)

   b. **Teaching Faculty:** *Professor/Associate Professor:* 1 {Teaching experience: 5 years post PG-M.Sc. (Specialty-Medical Surgical Nursing)/Paediatric Nursing} (One faculty for every 10 students)

   Assistant Professor: 1 {Teaching experience: 3 years post B.Sc. (Nursing)}

   c. The above faculty shall perform dual role of a senior nurse with M.Sc. (Nursing) qualification employed in the tertiary hospital.

   d. Guest Lecturers for Pharmacology, Pathophysiology, Emergency and Trauma Medicine.

6. *Physical and Learning Resources at Hospital/College*

   a. One class room/conference room at the clinical area;
   b. Skill lab for simulated learning (hospital/college);
   c. Library and computer facilities with access to online journals;
   d. E-Learning facilities.

7. *List of Equipment for Emergency and Trauma Care unit (see enclosed **Appendix 1**).*

8. *Student Recruitment/Admission Requirements*

   a. Applicants must be a registered B.Sc./P.B.B.Sc. nurse with a minimum of one-year clinical experience, preferably in Emergency and Trauma Care unit prior to enrollment.
   b. Must have undergone the B.Sc. (Nursing) in an institution found suitable by the Council and have been registered in any SNRC.
   c. Must have scored not less than 55% aggregate marks in the B.Sc. (Nursing) program.
   d. Selection must be based on the merit of an entrance examination and interview held by the competent authority.
   e. Must be physically fit.

   Number of candidates: 1 candidate for 4-5 Emergency and Trauma beds.

   Salary: 1. In-service candidates will get regular salary.

   2. Stipend/Salary for the other candidates as per the salary structure of the hospital where the course is conducted

I. Examination Regulations

Eligibility for appearing in 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.

Classification of results

The declaration of results will be done as pass (60%) or fail and with rank.

Pass marks is 60% and above in 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 has to reappear 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 will be followed alongside viva (oral examination) – Refer OSCE guidelines found

in **Appendix 2.**

Maximum number of students per day – 10.

Examination should be held in the clinical area only.

The team of practical examiners will include one internal examiner {M.Sc. faculty with two years of experience in teaching the NP in Emergency and Trauma Care program/M.Sc. faculty (Medical Surgical Nursing preferable) with 5 years of Post PG experience}, one external examiner (same as above) and one medical internal examiner who should be a preceptor for NP in Emergency and Trauma Care program.

Dissertation

Research Guides: Main guide – Nursing faculty (3 years Post PG experience) teaching NP program, Co-guide: Medical preceptor.

Submission of Research Proposal: 6-9 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 must be obtained by the hospital ethics committee since it involves clinical research.

Topic Selection: The topic should be relevant to emergency and trauma nursing that will add knowledge or evidence for nursing intervention. The research should be conducted in emergency and trauma care setting.

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 & Dissertation = 50 marks.

University Examination: Viva & Dissertation Report = 50 marks.

{Marking guide used for other M.Sc. (Nursing) specialties can be used for evaluation.}

VI. Assessment (Formative and Summative)

Assessment (Formative and Summative)

- Clinical and Care Pathway/Case Study Report Assessment (Formative and Summative)
- Objective Structured Clinical Examination (OSCE) Assessment (Formative and Summative)
- Assessment Guidelines: **Appendix 2**

Scheme of Final Examination

S.No.	Title	Theory %			Practical %		
		Hours	**Internal**	**External**	**Hours**	**Internal**	**External**
Ist year							
1	**Core Courses** Theoretical Basis for Advanced Practice Nursing		50				
2	Research Application and Evidence Based Practice in Emergency and Trauma Nursing	3 hours	30	70			
3	Advanced Skills in Leadership, Management and Teaching	3 hours	30	70			
4	**Advanced Practice Courses** Advanced Pathophysiology & Advanced Pharmacology relevant to Emergency and Trauma Nursing	3 hours	30	70			

5	Advanced Health/Physical Assessment	3 hours	30	70		50	50
IInd year							
1	**Specialty Courses** Foundations of Emergency and Trauma Nursing Practice	3 hours	30	70		100	100
2	Emergency and Trauma Nursing I	3 hours	30	70		100	100
3	Emergency and Trauma Nursing II	3 hours	30	70		100	100
4	Dissertation and viva					50	50

VII. CURRICULUM

COURSES OF INSTRUCTION

S.No.	Title	Theory (Hours)	Lab/Skill Lab (Hours)	Clinical (Hours)
Ist year				
I	**Core Courses** Theoretical Basis for Advanced Practice Nursing	40		
II	Research Application and Evidence Based Practice in Emergency and Trauma Nursing	56	24	**336** (7 weeks)
III	Advanced Skills in Leadership, Management and Teaching	56	24	**192** (4 weeks)
IV	**Advanced Practice Courses** Advanced Pathophysiology applied to Emergency and Trauma Nursing	60		**336** (7 weeks)
V	Advanced Pharmacology applied to Emergency and Trauma Nursing	54		**336** (7 weeks)
VI	Advanced Health/Physical Assessment	70	48	**576** (12 weeks)
TOTAL = 2208 hours		**336** (7 weeks)	**96** (2 weeks)	**1776** (37 weeks)
IInd year				
VII	**Specialty Courses** Foundations of Emergency and Trauma Nursing Practice	96	48	**576** (12 weeks)
VIII	Emergency and Trauma Nursing I	96	48	**576** (12 weeks)
IX	Emergency and Trauma 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 Ist year: 336-96-1776 hours (Theory-Skill Lab-Clinical) (Theory = 15%, Skill Lab-Clinical = 85%)

IInd year : 288-144-1776 hours (Theory-Skill Lab-Clinical) (Theory = 15%, Skill Lab-Clinical = 85%)

Ist 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

IInd 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 per week is prescribed, however, it is flexible with different shifts and 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

Ist year: 44 weeks (excludes 2 weeks of introductory block classes and workshop) Emergency Department – Adult – 22 weeks

Emergency Department – Paediatric – 5
weeks Medical ICU – 2 weeks
Surgical ICU – 2 weeks
Cardio/Cardiothoracic (CT) ICU – 2
weeks Trauma ICU – 2 weeks
Trauma Ward – 2 weeks
Neuro ICU – 2 weeks
Operation Theatre – 2
weeks Burns Unit – 2
weeks Dialysis Unit – 1
week
IInd year: 45 weeks (Excludes one week of block
classes) Emergency Department – Adult – 20 weeks
Emergency Department – Paediatric – 5
weeks Medical ICU – 2 weeks
Surgical ICU – 2 weeks
Cardio/Cardiothoracic (CT) ICU – 2
weeks Trauma ICU – 2 weeks
Neuro ICU – 2 weeks
Obstetric Emergencies (Labour Room) – 2
weeks Paediatric ICU – 2 weeks
Psychiatric emergency unit – 1 week
Community Disaster Management (Emerging threats in the society like war/conflicts, training of general public on basic life support, training of family members for home-based care) – 2 weeks
Hospital Disaster Management – 2 weeks
Visit to Defense Research and Development Organization/National exposure visit/International conference visit/Assignments – 1 week

C. Teaching Methods: Teaching – Theoretical, Lab & Clinical can be done in the following methods and integrated during clinical posting:

- 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/Log Book: At the end of each clinical posting, Clinical Log Book (Specific Procedural Competencies/Clinical Skills) **(Appendix 3A & 3B)** and Clinical Requirements **(Appendix 4)** have to be signed by the preceptor every fortnight.

E. NP in Emergency and Trauma Care Competencies (Adapted from ENA, 2019)

A. Professional Role

1. Practices in the role of provider in the emergency and trauma care setting.
2. Acts in accordance with legal and ethical professional responsibilities e.g., patient management, documentation, advance directives, billing and coding.
3. Integrates culturally competent decision making into emergency and trauma care and management.
4. Provides patient-family-centered care across the lifespan.
5. Provides care which is protective of vulnerable patients, families, and populations.
6. Appropriately documents all patient care in accordance with regulatory and institutional standards.

7. Maintains compliance with current requirements for billing and coding of services rendered.
8. Acts as a mentor, educator, and leader for others in the emergency care team.
9. Collaborates with others as a member of the emergency care team.
10. Engages in translation of current guidelines and best practices in the emergency care environment.
11. Participates in research to advance the science and body of knowledge in emergency care.
12. Actively participates in policy development.
13. Participates in disaster and mass casualty preparedness.

B. Management of Patient Health/Illness Status

1. Obtains a comprehensive problem-focused history as is pertinent to the presenting complaint.
2. Performs a pertinent, developmentally appropriate physical examination as appropriate to the chief/presenting complaint.
3. Formulates differential diagnosis to determine emergent *vs.* non-emergent conditions and appropriate emergency management.
4. Utilizes advanced clinical reasoning specific to emergency and trauma care for prioritization, risk stratification, holistic decision-making, resource allocation and available services.
5. Prescribes therapeutic agents based on current, evidence-based recommendations for emergency care within defined scope of practice.
6. Formulates an individualized, dynamic plan of care to address the stabilization and initial treatment of urgent/emergent conditions.
7. Incorporates technological, diagnostic and procedural interventions (including point-of-care ultrasound) into the treatment plan, based on clinical findings, current recommendations, and patient treatment goals.
8. Re-assesses and modifies plan of care based on the dynamic patient condition.
9. Appropriately documents history, physical exam, medical decision-making, assessment and plan for emergency and trauma care.
10. Incorporates tools for standardized communication into interactions with other individuals.
11. Practices antibiotic stewardship in the selection of empiric antibiotic therapies.
12. Determines an appropriate plan for patient disposition.
13. Consults and collaborates with patients, families and the health care team to provide safe, effective, and individualized culturally competent care.
14. Develops a plan for safe, effective, and evidence-based follow up at discharge.
15. Initiates appropriate communications in the community.
16. Assesses health literacy in patients and families to promote informed decision-making and optimal participation in care.

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

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

Implementation of Curriculum – A Tentative Plan

Ist year Courses	**Introductory Classes**	**Workshop**	**Theory integrated in Clinical Practicum**	**Methods of Teaching (Topic can be specified)**
1. Theoretical Basis for Advanced Practice Nursing (40)	8 hours		1 × 32 = 32 hours	• Seminar/Theory Application • Lecture (Faculty)
2. Research Application and Evidence Based Practice in Emergency and Trauma Nursing (56+24)	8 hours	40 (5 days) + 8 hours	1 × 24 = 24 hours	• Research Study Analysis/ Exercise/Assignment (Lab)
3. Advanced Skills in Leadership, Management and Teaching (56+24)	12+2 hours		1 × 26 = 26 hours 2.5 × 16 = 40 hours	• Clinical Conference • Seminar Exercises/ Assignment (Lab)
4. Advanced Pathophysiology (60)			1.5 × 40 = 60 hours	• Case Presentation • Seminar • Clinical Conference
5. Advanced Pharmacology (54)	10 hours		1 × 44 = 44 hours	• Nursing Rounds • Drug Study Presentation • Standing Orders/ Presentation
6. Advanced Health Assessment (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	• Clinical Demonstration (Faculty) • Return Demonstration • Nursing Rounds • Physical Assessment (all systems) • Case Study
TOTAL	**48 hours**	**48 hours**	**336 hours**	

Ist year: Introductory Classes = 1 week (48 hours), Workshop = 1 week (48 hours), 44 weeks = 7.5 hours per week (330/336 hours)

IInd year Courses 1 week Block Classes (48 hours)	**Theory integrated into Clinical Practicum**	**Methods of Teaching**
1. Foundations of Emergency and Trauma Nursing Practice (96 + 48 hours) = 144 hours	9 hours × 11 weeks = 99 hours	• Demonstration (lab) • Return demonstration (lab) • Clinical teaching • Case study • Seminar • Clinical conference • Faculty lecture

IInd year Courses 1 week Block Classes (48 hours)	Theory integrated into Clinical Practicum	Methods of Teaching
2. Emergency and Trauma Nursing I (96+48 hours) = 144 hours	9 hours × 16 weeks = 144 hours	• Demonstration (lab) • Return Demonstration (lab) • Clinical conference/journal club • Seminar • Case presentation • Drug study(including drug interaction) • Nursing rounds • Faculty lecture
3. Emergency and Trauma Nursing II (96 + 48 hours) = 144 hours	9 hours × 16 weeks = 144 hours	• Demonstration (lab) • Return Demonstration • Nursing rounds • Clinical conference/journal club • Seminar • Faculty lecture

IInd year: 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 healthcare trends and challenges.
2. Analyses the impact of Healthcare and Education Policies in India on nursing consulting the documents available.
3. Develops in-depth understanding of the healthcare delivery system in India and its challenges.
4. Applies economic principles relevant to delivery of healthcare services in emergency and trauma care.
5. Manages and transforms health information to effect health outcomes such as cost, quality and satisfaction.
6. Accepts the accountability and responsibility in practicing the Nurse Practitioner's roles and competencies.
7. Actively participates in collaborative practice involving all healthcare team members in emergency and trauma care and performs the prescriptive roles within the authorized scope.
8. Engages in ethical practice having a sound knowledge of law, ethics and regulation of advanced 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 patients requiring emergency and trauma care.
11. Predicts future challenges of Nurse Practitioner's roles in variety of healthcare settings particularly in India.

Hours of Instruction: 40 hours

S.No.	Topic	Hours
1.	Global Health Care Challenges and Trends (Competency-1)	2
2.	Health System in India Health Care Delivery System in India – Changing Scenario (Competency-3)	2
3.	National Health Planning – 5-Year Plans and National Health Policy (Competency-2)	2
4.	Health Economics & Health Care Financing (Competency – 4)	4
5.	Health Information System including Nursing Informatics (Use of Computers) (Competency-5)	4
	Advanced Nursing Practice (ANP)	
6.	ANP – Definition, Scope, Philosophy, Accountability, Roles & Responsibilities (Collaborative Practice and Nurse Prescribing Roles) (Competency-6 & 7)	3
7.	Regulation (Accreditation of Training Institutions and Credentialing) & Ethical Dimensions of Advanced Nursing Practice Role (Competency-8)	3

S.No.	Topic	Hours
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 NP Practice (Competency-11)	4
11.	Theories of Nursing applied to APN (Competency-10)	3
12.	Nursing Process/Care Pathway applied to APN (Competency-9)	2
	Self-Learning Assignments	6
1.	Identify Health Care and Education Policies and Analyse its Impact on Nursing	
2.	Describe the legal position in India for NP practice. 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 NP practice found in various emergency and trauma care units in tertiary centres	
	Total	**40 hours**

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II. Research Application and Evidence Based Practice in Emergency and Trauma Nursing

COMPETENCIES

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

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

S.No.	Topic	Hours
1.	Research and Advanced Practice Nursing: Significance of research and inquiry related to advanced nursing role (Competency-1)	2
2.	Research Agenda for Advanced Practice Nursing: Testing current practice to develop best practice, health outcomes and indicators of quality care in advanced practice (Competency-3, 4, 5), promoting research culture	5
3.	Research Knowledge and Skills: Research competencies essential for Advanced Practice Nursing (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)

S.No.	Topic	Hours
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 emergency and trauma nursing - Areas of evidence in emergency and trauma care - Barriers to implement EBP - Strategies to promote EBP (Competency-3, 4, 5)	4
	Total	**56 hours**

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 ED

Practicum

- Research practicum: Dissertation (336 hours = 7 weeks)/Evidence Based Practice Project (EBP project)

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III. Advanced Skills in Leadership, Management and Teaching

COMPETENCIES

1. Applies principles of leadership and management in ED.
2. Manages stress and conflicts effectively in emergency and trauma care units 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 patient care in emergency and trauma care units.
5. Builds teams and motivates others in emergency and trauma care units.
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 patient care, maintaining quality and ethics in emergency and trauma care units
10. Provides counseling to families and patients in crisis situations particularly in end-of-life care.

Hours of Instruction: 56 + 24 = 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 emergency and trauma care units	4
4.	Stress management and conflict management – principles and application to emergency and trauma care units, effective time management	4
5.	Quality improvement and audit	4

S.No.	Topic	Hours
6.	Problem solving, critical thinking and decision making, communication skills applied to emergency and trauma nursing practice	5
7.	Team building, motivating and mentoring within emergency and trauma care units	2
8.	Budgeting and management of resources including human resources – emergency and trauma care unit 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 ETN	2
12.	Competency based education and outcome-based education	2
13.	Teaching methods/strategies, media: educating patients and staff in emergency and trauma care units	8
14.	Staff education and use of tools in evaluation	4
15.	APN – Roles as a teacher	2
16.	Advocacy roles in emergency and trauma care units	2
	Total	**56 hours**

Practical/Lab: 24 hours

1. Preparation of staff patient assignment
2. Preparation of unit budget
3. Preparation of staff duty roster
4. Patient care audit
5. Preparation of nursing care standards and protocols
6. Management of equipment and supplies
7. Monitoring, evaluation, and writing report of infection control practices
8. Development of teaching plan
9. Micro teaching/patient education sessions
10. Preparation of teaching method and media for patients and staff
11. Planning and conducting OSCE/OSPE
12. Construction of tests

Assignment: Mob violence in Emergency and Trauma care units

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ADVANCED NURSING COURSES

IV. A. Advanced Pathophysiology Applied to Emergency and Trauma Nursing

COMPETENCIES

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

Hours of Instruction: Theory: 30 hours

Unit	Hours	Content
I	6	**Cardiovascular function** Advanced pathophysiological process of cardiovascular conditions • Hypertensive disorder • Coronary artery diseases • Valvular heart disease • Cardiomyopathy and heart failure • Cardiac Tamponade • Arrythmias • Corpulmonale • Heart block and conduction disturbances • Peripheral artery disorder • Venous disorders
II	4	**Respiratory function** Advanced pathophysiological process of pulmonary conditions • Chronic obstructive pulmonary disease • Disorders of the pulmonary vasculature • Infectious diseases • Respiratory failure • Chest trauma
III	4	**Neurological function** Advanced pathophysiological process of neurological conditions • Seizure disorder • Cerebrovascular disease • Infections • Spinal cord disorder • Degenerative neurological diseases • Neurological trauma • Coma, unconsciousness
IV	4	**Genitourinary function** Advanced pathophysiological process of renal conditions • Acute renal failure • Chronic renal failure • Infections and urosepsis • Testicular torsion • Nephrotic syndrome • Genitourinary trauma
V	4	**Gastrointestinal and Hepatobiliary function** Advanced pathophysiological process of hepatobiliary conditions • Gastrointestinal bleeding • Intestinal obstruction • Infections and inflammations • Hepatic failure • Gastrointestinal perforation • Gastrointestinal tumours • Abdominal trauma
VI	4	**Endocrine functions** Advanced pathophysiological process of endocrine conditions • Diabetic ketoacidosis • Hyperosmolar non ketotic coma • Hypoglycemia • Thyroid storm • Myxedema coma • Adrenal crisis • Pheochromocytoma

Unit	Hours	Content
		• Syndrome of inappropriate antidiuretic hormone secretion
VII	4	**Hematological function** Advanced pathophysiological process of hematological conditions • Disorders of red blood cells – Polycythemia, Anemia, Sickle cell diseases • Disorders of white blood cells – Leucopenia, Neoplastic disorders • Disorders of hemostasis – Platelet disorders, Coagulation disorders, Disseminated intravascular coagulation

IV. B. Advanced Pathophysiology Applied to Emergency and Trauma Nursing

Hours of Instruction: Theory: 30 hours

Unit	Hours	Content
I	3	**Sense organs** Advanced pathophysiological process of integumentary conditions Skin • Wound healing • Burns • Skin and soft tissues infections • Steven Johnson Syndrome Eye • Infections and inflammations • Foreign bodies • Injuries ENT • Infections and inflammations • Foreign bodies • Epistaxis • Injuries
II	3	**Musculoskeletal system** Advanced pathophysiological process of musculoskeletal conditions • Infections and inflammations
III	4	**Multisystem dysfunction** Advanced pathophysiological process of neurological conditions • Shock – Hypovolemic, Cardiogenic, Distributive • Systemic inflammatory syndrome • Multiple organ dysfunction syndrome • Poly Trauma • Envenomation
IV	3	**Toxicology** Advanced pathophysiological process related to toxins • Poisoning – Drug overdose, Chemicals, Corrosives, Herbal
V	3	**Specific infections** Advanced pathophysiological process of specific infections • Common viral and bacterial infections • Food and water-born infectious diseases • Air born infectious diseases • HIV infection and AIDS • Parasitosis – Malaria, Dengue • Rabies • Sepsis and septic shock • Tetanus • Pandemic – Flu Scares, Avian Influenza A(H5N1), COVID 19
VI	3	**Reproductive functions** Advanced pathophysiological process of reproductive conditions

Unit	Hours	Content
		• Physiological changes in pregnancy • Conditions requiring emergency care Antenatal emergencies • Hyperemesis gravidarum • Ectopic pregnancy • Antepartum haemorrhage • Pregnancy induced hypertension Intra-partum emergencies • Obstructed labor • Ruptured uterus Post-partum emergencies • PPH • Obstetrical shock • Puerperal sepsis • HELLP syndrome • DIC • Amniotic fluid embolism Gynecological Emergencies: • Ovarian cyst/abscess/torsion • Sexual assault • Vaginal bleeding
VII	3	**Emergencies in children** Advanced pathophysiological process in various emergency conditions among children under each system • Cardiovascular • Respiratory • Neurological • Gastrointestinal • Genitourinary • Endocrine • Haematology • Infectious disease emergencies • Skin lesions and burns • Poisoning, Foreign bodies, drowning • Accidents • Shocks
VIII	4	**Mental Health functions** Advanced pathophysiological process of specific mental health conditions • Suicide • Homicide • Substance abuse – alcohol, drugs • Panic attack • Acute depression • Sexual assault • Post-traumatic stress disorder (PTSD)
IX	4	**Traumatic injuries** Advanced pathophysiological process of specific injuries • Traumatic shock • Cranio-facial injuries • Musculo skeletal injuries and spinal injuries • Cardiothoracic injuries • Abdominal injuries • Injuries during pregnancy • Paediatric Trauma

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V. Advanced Pharmacology relevant to Emergency and Trauma Nursing

COMPETENCIES

1. Applies the pharmacological principles in providing care to patients and families requiring Emergency and trauma care.
2. Analyzes pharmacotherapeutics and pharmacodynamics relevant to drugs used in the treatment of emergency and trauma 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 patients requiring emergency and trauma care and guiding their families in self-care management.

Hours of Instruction: Theory: 54 hours

Unit	Hours	Content
I	1	**Introduction to Pharmacology in Emergency and Trauma Nursing** • History • Classification of drugs and schedules
II	2	**Pharmacokinetics and Pharmacodynamics** • Introduction • Absorption, Distribution, Metabolism, Distribution and Excretion in emergency care • Plasma concentration, half life • Loading and maintenance dose • Therapeutic index and drug safety • Potency and efficacy • Principles of drug administration ▪ The rights of drug administration ▪ Systems of measurement ▪ Enteral drug administration ▪ Topical drug administration ▪ Parenteral drug administration
III	4	**Pharmacology and Cardiovascular Alterations in Emergency Care** • Vasoactive Medications ▪ Vasodilator ▪ Vasopressor ▪ Inotropes ✓ Cardiac glycosides – digoxin ✓ Sympathomimetics – Dopamine, dobutamine, epinephrine, isoproterenol, norepinephrine, phenylephrine ✓ Phosphodiesterase inhibitors – amrinone, milrinone • Antiarrhythmic Medications • Cardiac emergency conditions ▪ Medications to improve cardiac contractility

Unit	Hours	Content
		▪ Medications in the management of hypertension in emergency care ▪ Medications in the management of heart failure ▪ Medications in the management of angina pectoris and myocardial infarction ▪ Medications in the management of dysrhythmias, Heart block and conduction disturbances ▪ Medications in the management of Pulmonary hypertension, Valvular heart disease, Cardiomyopathy ▪ Medications in the management of Atherosclerotic disease of aorta and Peripheral artery disease ▪ Medications in the management of Deep vein thrombosis • Institutional Protocols/Standing orders for cardiac care emergencies
IV	4	**Pharmacology and Pulmonary alterations in Emergency care** • Introduction • Medications used on patients with mechanical ventilator • Mechanical ventilation impact on pharmacotherapy – sedation and analgesia, neuromuscular blockade, nutrition • Pulmonary Emergency conditions ▪ Medications in the management of Status asthmaticus ▪ Medications in the management of Pulmonary edema ▪ Medications in the management of Pulmonary embolism ▪ Medications in the management of Acute respiratory failure and acute respiratory distress syndrome ▪ Medications in the management of Chest trauma ▪ Medications in the management of Chronic obstructive pulmonary disease ▪ Medications in the management of Pneumonia ▪ Medications in the management of Pleural effusion ▪ Medications in the management of Atelectasis • Standing orders for pulmonary care emergencies
V	4	**Pharmacology and Neurological Alterations in Emergency Care** • Pain ▪ NSAIDS ▪ Opioid analgesia • Sedation ▪ Gamma amino butyric acid stimulants ▪ Dexmeditomidine ▪ Analgosedation • Delirium ▪ Haloperidol • Medications used for local and general anesthesia ▪ Local – Amides, esters, and miscellaneous agents ▪ General – Gases, Volatile liquids, IV anesthetics ▪ Non anesthetic drugs adjuncts to surgery ▪ Paralytic Medications ▪ Non-depolarizing and depolarizing agents ▪ Anxiolytics • Autonomic drugs ▪ Adrenergic agents/Sympathomimetics ▪ Adrenergic blocking agents ▪ Cholinergic agents ▪ Anti-cholinergic agents • Medications in the management of anxiety and insomnia ▪ Antidepressants ▪ Benzodiazepines ▪ Barbiturates • Neurological emergency conditions ▪ Medications in the management of acute psychoses ▪ Medications in the management of acute head and spinal cord injury with elevated intracranial pressure

Unit	Hours	Content
		▪ Medications in the management of muscle spasm ▪ Medications in the management of spasticity ▪ Medications in the management of Cerebrovascular disease and cerebrovascular accident ▪ Medications in the management of Encephalopathy ▪ Medications in the management of Gillian Bare syndrome and Myasthenia gravis ▪ Medications in the management of Brain herniation syndrome ▪ Medications in the management of Seizure disorder ▪ Medications in the management of Coma, Unconsciousness and persistent vegetative state ▪ Appropriate nursing care to safeguard patient • Standing orders for neurological emergencies
VI	3	**Pharmacology and Genitourinary Alterations in Emergency Care** • Diuretics • Fluid replacement ▪ Crystalloids ▪ Colloids • Electrolytes ▪ Sodium ▪ Potassium ▪ Calcium ▪ Magnesium ▪ Phosphorus • Nephrology emergency conditions ▪ Medications in the management of Acute/Chronic renal failure ▪ Medications in the management of Acute tubular necrosis ▪ Medications in the management of Infections ▪ Medications in the management of genitourinary trauma ▪ Medications in the management of Electrolyte imbalances ▪ Medications in the management of Acid base imbalances ▪ Medications used during dialysis • Standing orders for nephrology emergencies
VII	4	**Pharmacology and Gastrointestinal Alterations in Emergency Care** • Anti-ulcer drugs • Laxatives • Anti-diarroheals • Anti-emetics • Pancreatic enzymes • Nutritional supplements, Vitamins and minerals • Gastro intestinal emergency care conditions ▪ Medications in the management of Acute GI bleeding, Hepatic failure ▪ Medications in the management of infections and inflammation ▪ Medications in the management of Abdominal injury ▪ Medications in the management of Hepatic encephalopathy ▪ Medications in the management of Acute intestinal obstruction ▪ Medications in the management of Perforative peritonitis ▪ Medications used during Gastrointestinal surgeries and Liver transplant • Standing orders for gastro intestinal emergencies
VIII	4	**Pharmacology and Endocrine Alterations in Emergency Care** • Insulin and Other hypoglycemic agents • Endocrine emergency conditions ▪ Medications in the management of Diabetic ketoacidosis, Hyperosmolar non-ketotic coma ▪ Medications in the management of hypoglycemia ▪ Medications in the management of Thyroid storm ▪ Medications in the management of Myxedema coma ▪ Medications in the management of Adrenal crisis ▪ Medications in the management of SIADH • Standing orders for endocrine emergencies

Unit	Hours	Content
IX	5	**Pharmacology and Hematology Alterations in Emergency Care** • Anticoagulants • Antiplatelet drugs • Thrombolytics • Hemostatics/antifibrinolytics • Hematopoietic growth factors ▪ Erythropoietin ▪ Colony stimulating factors ▪ Platelet enhancers • Blood and blood products ▪ Whole blood, packed red blood cells, Leukocyte-reduced red cells, Washed red blood cells, Fresh frozen plasma, Cryoprecipitate ▪ Albumin ▪ Transfusion reactions, Transfusion administration process • Vaccines • Immunostimulants • Immunosuppressant • Hematology emergency conditions ▪ Medications in the management of Anemia in acute illness ▪ Medications in the management of DIC ▪ Medications in the management of Thrombocytopenia and acute leukemia ▪ Medications in the management of Heparin induced thrombocytopenia ▪ Medications in the management of Sickle cell anemia ▪ Medications in the management of Tumor lysis syndrome • Standing orders for hematology emergencies
X	3	**Pharmacology and Sense Organs in Emergency Care** • Dermatology emergency conditions ▪ Medications used in burn management ▪ Medications used in wound management • Eye, ENT emergency conditions ▪ Medications used in Eye infections ▪ Medications used in eye injuries ▪ Medications used in ENT infections ▪ Medications used in ENT injuries • Standing orders for dermatology emergencies
XI	4	**Pharmacology and Multisystem Alterations in Emergency Care** • Medications in the management of shock, sepsis, Multiple Organ Dysfunction, Systemic inflammatory response syndrome, Anaphylaxis • Medications in the management of Trauma, Injuries (Heat, Electrical, Near Hanging, Near drowning) • Medications in the management of bites, Drug overdose and Poisoning • Medications in the management of fever in ED ▪ Antipyretics ▪ NSAIDS ▪ Corticosteroids • Standing orders for multi system emergencies
XII	4	**Pharmacology and Infections in Emergency Care** • Antibacterial drugs ▪ Introduction ▪ Beta lactams – Penicillins, cephalosporins, monobactams, carbapenams ▪ Aminoglycosides ▪ Anti MRSA ▪ Macrolides ▪ Quinolones ▪ Miscellaneous – lincosamide group, nitroimidazole, tetracyclins and chloramphenicol, polymyxins, anti malarials, anti fungals, anti virals • Anti-fungal drugs

Unit	Hours	Content
		• Anti-protozoal drugs • Anti-viral drugs • Choice of antimicrobials • Infectious emergency conditions ▪ Medications in the management of HIV, Tetanus, SARS, Rickettsiosis, Leptospirosis, Dengue, Malaria, Chickungunya, Rabies, Avian flu, Swine flu and COVID 19 • Standing orders for infectious disease emergencies
XIII	2	**Pharmacology and Emergencies in Children** • Drugs used in various emergencies in children • Paediatric doses and calculations
XIV	2	**Pharmacology and Obstetric Emergencies** Medications used in the management of the following • Antenatal emergencies ▪ Hyperemesis gravidarum ▪ Ectopic pregnancy ▪ Antepartum haemorrhage ▪ Pregnancy induced hypertension • Intra-partum emergencies ▪ Obstructed labor ▪ Ruptured uterus • Post-partum emergencies ▪ PPH ▪ Obstetrical shock ▪ Puerperal sepsis ▪ HELLP syndrome ▪ DIC ▪ Amniotic fluid embolism • Gynecological Emergencies: • Ovarian cyst/abscess/torsion • Sexual assault • Vaginal bleeding
XV	3	**Pharmacology and Mental Health Alterations in Emergency Care** Medications used in the management of the following • Suicide • Homicide • Substance abuse – alcohol, drugs • Panic attack • Acute depression • Sexual assault • Post-traumatic stress disorder (PTSD)
XVI	3	**Pharmacology and Trauma related emergencies** Medications used in pain management of the following • Tetanus prophylaxis • Prophylactic antibiotics • Medication used in the following injuries ▪ Traumatic Shock ▪ Cranio-Facial Injuries ▪ Musculo skeletal injuries and spinal injuries ▪ Cardio thoracic injuries ▪ Abdominal injuries ▪ Injuries during pregnancy ▪ Paediatric Trauma
XVII	2	**Pharmacology in Disaster Management** • Medications used in the management of various disasters

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VI. Advanced Health/Physical Assessment in Emergency and Trauma 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 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 emergency physicians for development of diagnoses
5. Documents assessment, diagnosis, and management and monitors follow up care in partnership with health care team members, patients, and families

Hours of Instruction: Theory: 70 hours; Practical/Lab: 48 hours

Unit	Hours	Content
I	4	**Introduction** • History • Physical examination
II	6	**Cardiovascular system** • Cardiac history • Physical examination • Cardiac laboratory studies – biochemical markers, hematological studies • Cardiac diagnostic studies – Electrocardiogram, echocardiography, stress testing, radiological imaging
III	6	**Respiratory system** • History • Physical examination • Respiratory monitoring – Arterial blood gases, pulse oximetry, end-tidal carbondioxide monitoring • Respiratory Diagnostic tests – Chest radiography, ventilation perfusion scanning, pulmonary angiography, bronchoscopy, thoracentesis, sputum culture, pulmonary function test
IV	6	**Nervous system** • Neurological history • General physical examination • Assessment of cognitive function • Assessment of cranial nerve function • Motor assessment – muscle strength, power, and reflexes • Sensory assessment – dermatome assessment • Neurodiagnostic studies – CT scan, MRI, PET, EEG, EMG
V	6	**Genitourinary system** • History • Physical examination • Assessment of renal function • Assessment of electrolytes and acid base balance • Assessment of fluid balance
VI	4	**Gastrointestinal system** • History • Physical examination • Nutritional assessment • Laboratory studies – Liver function studies, blood parameters, stool test • Diagnostic studies – radiological and imaging studies, endoscopic studies

Unit	Hours	Content
VII	4	**Endocrine system** • History, physical examination, laboratory studies, and diagnostic studies of - Hypothalamus and pituitary gland - Thyroid gland - Parathyroid gland - Adrenal gland
VIII	4	**Hematological system** • History • Physical examination • Laboratory studies – blood parameters • Diagnostic studies – bone marrow aspiration
IX	2	**Integumentary system** • History • Physical examination • Pathological examination – tissue examination
X	6	**Musculoskeletal system** • History • Physical examination – gait assessment, joint assessment, • Laboratory studies – blood parameters (inflammatory enzymes, uric acid) • Diagnostic studies – Radiological and imaging studies
XI	5	**Reproductive system (Male & Female)** • History • Physical examination • Laboratory studies • Diagnostic studies
XII	4	**Sensory Organs** • History • Physical examination • Laboratory studies • Diagnostic studies – Radiological and imaging studies, endoscopic studies
XIII	5	**Assessment of children** • Growth and development • Nutritional assessment • Specific system assessment
XIV	5	**Assessment of Obstetric patients** • History • Physical assessment • Laboratory studies – Blood parameters • Diagnostic studies – Ultrasonogram, partogram
XV	3	**Assessment of Psychiatric patients** • History • Psychiatric assessment • Laboratory studies – Blood parameters

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)
- Monitoring clinical parameters (system wise)
- Invasive BP monitoring, Multi-parameter Monitors, ECG, Pulse index Continuous Cardiac Output (PiCCO), Peripheral vascular status, ABG, Pulse Oximetry, End Tidal CO_2 ($ETCO_2$), Intracranial Pressure (ICP), Glasgow Coma Scale (GCS), Cranial nerve assessment, Pain (VAS) and Sedation (RASS) score, 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**)
- Assessment of children-neonate and child
- Assessment of pregnant women

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Emergency and Trauma Specialty Courses

(Foundations of Emergency and Trauma Nursing Practice, Emergency and Trauma Nursing I and Emergency and Trauma Nursing II)

COMPETENCIES

1. Applies advanced concepts of Emergency and Trauma nursing based on sound knowledge of these concepts.
2. Uses invasive and noninvasive technology and interventions to assess, monitor and promote physiologic stability.
3. Works in collaboration with other healthcare team members and prepares care/clinical pathways in assessment and management of patients with acute conditions.
4. Consults with and is consulted by other health care professionals.
5. Provides nursing care related to management of acute illness and injuries, health protection, disease prevention, anticipatory guidance, counseling, 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 individuals, populations and systems of care.
8. Practices principles of infection control relevant to emergency and trauma care.
9. Practices independently within the legal framework of the country towards the interest of patients, families and communities.
10. Develops practice that is based on scientific evidence.
11. Uses applicable communication, counseling, 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.
13. Adapts practice to the social, cultural and contextual milieu.

VII. Foundations of Emergency and Trauma Nursing Practice

Hours of Instruction: Theory: 96 hours, Practical/Skill Lab: 48 hours

Unit	Hours	Content
I	10	**Introduction to Emergency and Trauma Nursing** • Introduction to the course • Review of anatomy and physiology of vital organs (Brain, Spinal Cord, Lungs, Heart, Kidney, Liver, Pancreas, Thyroid, Adrenal and Pituitary gland) • Historical review – Emergency and Trauma Nursing • Definition of Emergency Nursing • Principles of Emergency and Trauma Nursing • Trends and scope of Emergency and Trauma Nursing • Nursing Emergency and Trauma care unit set up (Resuscitation Area, Observation area, equipment, supplies, beds and accessories, use and care of various type of monitors & ventilators, Flow sheets, supply lines and the environment) • Personnel in Emergency and Trauma care unit ▪ Nursing staff ▪ Doctors ▪ Emergency Medical Technicians

Unit	Hours	Content
		▪ Social workers ▪ Ancillary staff • Technology in Emergency and trauma care • Healthy work environment • Future challenges in Emergency and Trauma Nursing
II	5	**Concept of Holistic care applied to Emergency and Trauma Nursing practice** • Application of nursing process and integrated care/clinical pathways in caring for patients requiring emergency and trauma care • Admission and monitoring of patients in Emergency and Trauma care unit • Overview of Emergency and Trauma care unit Management ▪ Ensure adequate airway ▪ Ensure optimal tissue oxygenation ▪ Ensure adequate circulation ▪ Maintain temperature ▪ Ensure adequate pain management ▪ Maintain fluid and electrolyte balance ▪ Ensure initial symptomatic management ▪ Organ protection ▪ Infection control • Restraints in emergency and trauma care – physical, chemical and alternatives to restraints • Death in Emergency and trauma care unit: End of life care/Care of dying, care of family, organ donation • Transport of the emergency and trauma patients – By air ambulance and surface ambulance • Stress and burnout syndrome among health team members
III	10	**Appraisal of the patients with emergency and trauma conditions** ***Assessment of the* patients with emergency and trauma conditions** • Emergency assessment • Respiratory assessment • Cardiac assessment • Renal assessment • Neurological assessment • Gastrointestinal assessment • Endocrine assessment • Musculoskeletal assessment • Integumentary assessment • Eye, ENT assessment • Assessment in children • Assessment in pregnant women • Assessment in patients with psychiatric conditions ***Monitoring of the* patients with emergency conditions** • Arterial blood gas (ABG) • Capnography • Hemodynamics • Electrocardiography (ECG) • Glasgow Coma Scale (GCS) • Richmond agitation sedation scale (RASS) • Pain score • Braden score
IV	14	**Advanced Concepts and Principles of Emergency and trauma Care** • Principles of cardio-pulmonary-brain resuscitation ▪ BLS ▪ ACLS ▪ PALS ▪ NALS • Airway management • Oxygenation and oximetry, care of patient with oxygen delivery devices

Unit	Hours	Content
		• Ventilation and ventilator support (including humidification and inhaled drug therapy), care of patient with invasive and non-invasive ventilation • Circulation and perfusion (including hemodynamic evaluation and waveform graphics) • Types of shock and management • Glycemic control, care of patient with glycemic imbalances
V	8	**Pain assessment and Management** • Pain in patients with emergency and trauma conditions • Pain – Types, Theories • Physiology, Systemic responses to pain and psychology of pain Review • Acute pain services • Pain assessment – Pain scales, behavior and verbalization • Pain management-pharmacological (Opioids, benzodiazepines, propofol, Alpha agonist, Tranquilisers, Neuromuscular blocking agents) • Nonpharmacological management • Transcutaneous electrical nerve stimulation (TENS)
VI	8	**Psychosocial and spiritual alterations: Assessment and management** • Stress and psychoneuroimmunology • Post-traumatic stress reaction • Acute Psychosis, Anxiety, Agitation, Delirium • Alcohol withdrawal syndrome and delirium tremors • Collaborative management • Sedation and Relaxants • Spiritual challenges in emergency and trauma care • Coping with stress and illness • Care of family of the patient with emergency and trauma condition • Crisis counseling and communication
VII	4	**Patient and family education and counseling** • Challenges of patient and family counseling • Informational needs of patients and families in emergency and trauma care units • Counseling needs of patient and family • Crisis counseling techniques
VIII	6	**Fluid, electrolyte and acid base alterations** • Review of Fluid, electrolyte and acid base balance • Assessment and management of Fluid, electrolyte and acid base imbalances
IX	4	**Thermoregulation and management** • Review on thermoregulation • Hyperthermia related emergencies • Hypothermia related emergencies • Management of patients with thermoregulatory emergencies
X	5	**Infection control in emergency care** • Nosocomial infection in emergency care unit; methyl resistant staphylococcus aureus (MRSA) and other recently identified strains • Disinfection, Sterilization, • Standard safety measures, • Prophylaxis for staff • Antimicrobial therapy – review
XI	6	**Legal and ethical issues in Emergency and trauma care-Nurse's role** ***Legal issues*** • Legislations and regulations related to emergency care • Consumer Protection Act (CPA) • Negligence & Malpractice • Medical futility • Constitutional Law: Patient decision making • Legal responsibilities of nurses

Unit	Hours	Content
		• Medico legal aspects in emergency and trauma care • Policies and protocol related to MLC • Documentation related to MLC ***Ethical Issues*** • Introduction • Code of Ethics, code of professional conduct and practice standards of Nursing in India • Ethical principles • Ethical issues in emergency and trauma care • Ethical decision making in emergency and trauma care – withholding treatment, managing Scarce resource in emergency care • Strategies for promoting ethical decision making • Brain death, Organ donation & Counseling, • Do Not Resuscitate (DNR), Euthanasia, Living will
XII	8	**Quality assurance** • Design of Emergency and trauma care units • Quality assurance models applicable to Emergency and trauma care units • Standards, Protocols, Policies, Procedures • Infection control policies and protocols • Standard safety measures • Nursing audit relevant to emergency and trauma care • Staffing
XIII	3	**Evidence based practice in Emergency and Trauma Nursing** • Evidence based practice in emergency and trauma care • Barriers to implementation • Strategies to promote implementation
	5	**Class tests**

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 ACLS)
- Airway Management
  - Airway maintenance techniques
    - Head tilt and chin lift maneuver
    - Jaw thrust maneuver
    - Suctioning – open/closed
    - Oropharyngeal airway
    - Nasopharyngeal airway
    - Laryngeal mask airway
  - Definitive airway management
    - Endo tracheal intubation
  - Surgical airway management
    - Cricothyroidotomy
    - Tracheostomy
- Oxygenation and oximetry, care of patient with oxygen delivery devices
  - Devices to measure oxygen/oxygenation
    - Oximetry – Pulse oximetry, Venous oximetry
    - PF (PaO_2/FiO_2) ratio
  - Capnography
  - Non-invasive ventilation
    - Low flow variable performance devices: nasal catheters/cannulae/double nasal prongs, face mask, face mask with reservoir bags
    - High flow fixed performance devices : Entrainment (Venturi) devices, NIV, T pieces, breathing circuits
- Ventilation and ventilator support
  - Setting up of ventilators
  - Connecting to ventilator

- Weaning from ventilator
- Extubation
- Humidifiers
- Nebulizers – jet, ultrasonic
- Inhalation therapy – metered dose inhalers (MDI), dry powder inhalers (DPI)

- Circulation and perfusion (including hemodynamic evaluation and waveform graphics)
  - Non-invasive BP monitoring
  - Invasive blood pressure monitoring
  - Venous pressure (Peripheral, Central and Pulmonary artery occlusion pressure)
  - Insertion and removal of arterial line
  - 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, isoproterenol, norepinephrine, phenylephrine
    - Phosphodiesterase inhibitors – amrinone, milrinone
  - Electrolyte correction (Sodium, potassium, calcium, phosphrous, magnesium)
  - Use of fluid dispenser, syringe pump and infusion pumps
- Evaluation of acid base status
  - Arterial blood gas (ABG)
  - Correction of acidosis and alkalosis
- Thermoregulation, care of patient with hyper/hypothermia
  - Temperature probes
  - Emergency care 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, Dexmedetomidine, Haloperidol, Ketamine
  - Epidural analgesia – sensory and motor block assessment, removal of epidural catheter after discontinuing therapy, change of epidural catheter site dressing, insertion and removal of subcutaneous port for analgesic administration, intermittent catheterization for urinary retention for patients on epidural analgesia/PCA, dose titration for epidural infusion, epidural catheter adjustment, purging epidural drugs to check patency of catheter and also for analgesia
- Counseling
- Family education

VIII. Emergency and Trauma Nursing – I

Hours of Instruction: Theory: 96 hours, Practical: 48 hours

Unit	Hours	Content
I	5	**Introduction** • Review of anatomy & physiology of vital organs ***Triage*** • History, Concepts in Triage, Triage Systems, Triage Acuity Rating Systems, The Triage Process, Ambulance Triage, Triage Documentation, Triage Reassessment, Triage Nurse role and qualifications,

Unit	Hours	Content
		Ambulance system • Air and Surface Patient Transport, Types of Transport, Transport Process, • Centralized Accident and Trauma Services (CATS) Ambulance
II	12	**Cardiovascular Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Cardiovascular conditions requiring emergency management ▪ Cardiac arrhythmias – Heart block and Dysthymias ▪ Coronary heart disease – Acute coronary syndrome, Angina Pectoris, Stable angina, Myocardial infarction ▪ Contractility disorders – Cardiomyopathy, congestive heart failure, Pulmonary edema, Cardiogenic shock tamponade ▪ Infectious and inflammatory cardiac disorders – Valvular heart diseases, Endocarditis, Myocarditis, Pericarditis ▪ Vascular and thromboembolic disorders – aortic dissection/aneurysm rupture, deep vein thrombosis, hypertensive emergencies, occlusive arterial disease, thrombophlebitis, pulmonary embolism, pulmonary hypertension • Cardiovascular therapeutic management ▪ Defibrillation ▪ Cardioversion ▪ Implantable cardioverter defibrillators ▪ Pacemakers ▪ Thrombolytic therapy ▪ Radiofrequency catheter ablation ▪ Percutaneous Transluminal Coronary Angioplasty (PTCA) ▪ Cardiac surgery –Coronary artery bypass grafting (CABG)/Minimally invasive coronary artery surgery (MICAS), Valvular surgery, vascular surgery, Cardiac transplant ▪ Mechanical circulatory assistive devices – Intra aortic balloon pump ▪ Effects of cardiovascular medications ▪ Ventricular assist devices (VAD) ▪ Extra corporeal membrane oxygenation (ECMO) • Recent advances and development
III	12	**Respiratory Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Pulmonary conditions requiring emergency care management ▪ Acute Inflammatory and Infectious disorders – asthma, Status asthmaticus bronchitis, bronchiolitis, pneumonia, empyema, COPD exacerbation, lung abscess, pleurisy and pleural effusion ▪ Other disorders: acute lung injury, atelectasis, ARDS, spontaneous pneumothorax ▪ Acute complications of pulmonary and metastatic tumours • Pulmonary therapeutic management ▪ Bronchial hygiene: Nebulization, deep breathing and coughing exercise, chest physiotherapy and postural drainage ▪ Chest tube insertion and care of patient with chest drainage ▪ Mechanical ventilation – Invasive and Non-invasive ventilation • Recent advances and development
IV	12	**Neurological Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Neurological conditions requiring emergency care management ▪ Acute Inflammatory and Infectious disorders – brain abscess, encephalitis, Guillain-Barrè syndrome, meningitis, peripheral facial palsy (Bell's palsy), temporal arteritis ▪ Tumours common presentations and acute complications of neurological and metastatic tumours ▪ Vascular disorders: carotid artery dissection, stroke, subarachnoid haemorrhage, subdural and extradural haematomata, transient ischaemic attack, venous sinus thrombosis

Unit	Hours	Content
		▪ Acute complications of neurological conditions coma, increased intra cranial pressure, acute peripheral neuropathies, encephalopathy, seizures and status epilepticus ▪ Organ donation – Brain death criteria • Neurologic therapeutic management ▪ Intracranial pressure – Assessment and management of intracranial hypertension ▪ External Ventricular Drain ▪ Stroke protocol and the concept of stroke team ▪ Thrombolysis in acute ischemic stroke, ▪ Mechanical thromboembolectomy ▪ Craniotomy ▪ Process of organ donation • Recent advances and development
V	12	**Genitourinary and Renal Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Nephrology conditions requiring emergency care management ▪ Acute Inflammatory and Infectious disorders – epididymo-orchitis, glomerulonephritis, pyelonephritis, prostatitis, sexually transmitted diseases, urinary tract infections ▪ Metabolic disorders – acute renal failure, nephrotic syndrome, nephrolithiasis, uraemia Renal calculi, ▪ Vascular disorders: Ischaemia and Bleeding ▪ Other disorders – comorbidities in dialysis and renal transplanted patients, complications of urological procedures and devices, haemolytic uraemic syndrome • Nephrology therapeutic management ▪ Insertion of indwelling urethral catheter ▪ Suprapubic cystostomy ▪ Testicular torsion reduction ▪ Renal Replacement therapy: Dialysis – Haemodialysis and peritoneal dialysis • Recent advances and development
VI	10	**Gastrointestinal Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Gastrointestinal conditions requiring emergency care management ▪ Acute Inflammatory and infectious disorders – appendicitis, cholecystitis, cholangitis, diverticulitis, exacerbations and complications of inflammatory bowel diseases, gastritis, gastroenteritis, gastro-oesophageal reflux disease, hepatitis, pancreatitis, peptic ulcer, peritonitis ▪ Metabolic disorders hepatic disorders, hepatic failure ▪ Mechanical problems – foreign bodies, hernia strangulation, intestinal obstruction and occlusion ▪ Vascular disorders/Ischaemia and bleeding: ischaemic colitis, upper and lower gastrointestinal bleeding, mesenteric ischaemia ▪ Other problems complications of gastrointestinal devices and surgical procedures • Gastrointestinal therapeutic management ▪ Gastric lavage ▪ Peritoneal lavage ▪ Abdominal paracentesis • Recent advances and development
VII	8	**Musculoskeletal Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Musculoskeletal conditions requiring emergency care management ▪ Acute Inflammatory and Infectious disorders, bursitis, cellulitis, complications of systemic rheumatic diseases, necrotising fasciitis, osteomyelitis, soft tissue infections ▪ Metabolic disorders complications of osteoporosis and other systemic diseases ▪ Tumours: pathological fractures • Orthopedic therapeutic management ▪ Antibiotic therapy

Unit	Hours	Content
		▪ Immobilization • Recent advances and development
VIII	10	**Endocrine Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Endocrine conditions requiring emergency care management ▪ Adrenal insufficiency and crisis ▪ Disorders of glucose metabolism hyperosmolar hyperglycaemic state, hypoglycaemia, ketoacidosis ▪ Thyroid disease emergencies myxoedema coma, thyroid storm ▪ Neuroendocrinology of stress and acute illness ▪ SIADH • Endocrine therapeutic management ▪ Insulin therapy – sliding scale • Recent advances and development
IX	10	**Hematological Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Hematology conditions requiring emergency care management ▪ Anaemia – in acute illness, sickle cell crisis ▪ Complications of lymphomas and leukaemias ▪ Acute Inflammatory and Infectious disorders neutropenic fever, infections in immuno-compromised patients ▪ Vascular disorders/Ischaemia and bleeding: acquired bleeding disorders (coagulation factor deficiency, disseminated intravascular coagulation), drug induced bleeding (anticoagulants, antiplatelet agents, fibrinolytics), idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura, DIC ▪ Transfusion reactions • Hematology therapeutic management ▪ Autologus blood transfusion • Recent advances and development
	5	**Class tests**

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

- **Cardiovascular alterations**
  - Thrombolytic therapy
  - Use of equipment and their settings – Defibrillator, PiCCO, Pacemakers, Intra-aortic balloon pump (IABP), ECMO
- **Pulmonary alterations**
  - Tracheostomy Care
  - Nebulization
  - Chest physiotherapy
  - Chest tube insertion
  - Chest drainage
- **Neurological alterations**
  - Monitoring GCS
  - Monitoring ICP
  - Sedation score
  - Application of cervical collar and cervical traction
  - Brain Death Evaluation
- **Genitourinary and Renal alterations**
  - Insertion of indwelling urethral catheter
  - Suprapubic cystostomy
  - Dialysis
    - Haemodialysis

    - Peritoneal dialysis
  - Testicular torsion reduction
- **Gastrointestinal alterations**
  - Insertion of nasogastric tube
  - Abdominal paracentesis
- **Musculoskeletal alterations**
  - Use of splints and immobilizing devices
- **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
- **Hematological alterations**
  - Infection control practices – reverse barrier technique
  - Blood transfusion
  - Care of invasive lines
  - Bone marrow aspiration

IX. Emergency and Trauma Nursing – II

Hours of Instruction: Theory: 96 hours, Practical: 48 hours

Unit	Hours	Content
I	10	**Sense Organ Emergencies** • Review of Clinical assessment, pathophysiology, and pharmacology • Special diagnostic studies • Conditions requiring emergency care management • Skin ▪ Burns ▪ Wounds • Therapeutic management ▪ Management of wounds ▪ Fluid resuscitation in burns ▪ Acute Inflammatory and Infectious disorders – conjunctivitis, periorbital cellulitis, uveitis ▪ Vascular disorders: retinal artery and vein occlusion, vitreous haemorrhage ▪ Foreign bodies in the eye ▪ Other conditions – acute glaucoma, acute vision loss, retinal detachment • Therapeutic management ▪ Eye irrigation ▪ Foreign body removal ▪ Recent advances and development • ENT ▪ Acute infections and inflammations of Ear, Nose and Throat ▪ Complications of tumours, airway obstruction ▪ Foreign bodies ▪ Acute Inflammatory and Infectious disorders angio-oedema, epiglottitis, laryngitis, paratonsillar abscess, Ludwing's angina • Therapeutic management ▪ Airway management techniques ▪ Inspection of oropharynx and larynx ▪ Otoscopy ▪ Insertion and replacement of tracheostomy tube ▪ Foreign body removal • Recent advances and development
II	10	• **Multi system alterations requiring emergency care** ▪ Shock ▪ Sepsis ▪ Systemic inflammatory response syndrome ▪ Multiple Organ Dysfunction ▪ Anaphylaxis

Unit	Hours	Content
		▪ DIC ▪ Other injuries (Heat, Electrical, Near Hanging, Near drowning) ▪ Electricity – electrical and lightening injuries ▪ Flora and Fauna – injuries from exposure, bites and stings ▪ High-altitude (medical problems) ▪ Temperature – heat and cold related emergencies) ▪ Water – near-drowning, dysbarism and complications of diving, marine fauna • Recent advances and development
III	5	• **Toxicology** ▪ General principles of toxicology and management of poisoned patients ▪ Principles of drug interactions ▪ Poisoning – Drug overdose, Chemicals, Corrosives, Herbal • Forensic issues ▪ Basics of relevant legislation in India ▪ Appropriate history collection and physical examination ▪ Recognise and preserve evidence (Sample collection) ▪ Appropriate reporting and referrals (e.g. child abuse or neglect, gunshot and other forms of penetrating wounds, elder abuse, sexual assault allegations) • Therapeutic management ▪ Administration of antidotes ▪ Gastric lavage ▪ Decontamination • Recent advances and development
IV	10	• **Specific infections in emergency care** ▪ Common viral and bacterial infections ▪ Food and water-born infectious diseases ▪ Air born infectious diseases ▪ HIV infection and AIDS ▪ Parasitosis – Malaria, Dengue ▪ Rabies ▪ Sepsis and septic shock ▪ Tetanus • Pandemic – Flu Scares, Avian Influenza A(H5N1), COVID 19 • Recent advances and development
V	10	**Emergency care in Obstetrics and Gynaecology** • Physiological changes in pregnancy • Conditions requiring emergency care • Antenatal emergencies ▪ Hyperemesis gravidarum ▪ Ectopic pregnancy ▪ Antepartum haemorrhage – abruptio placentae, placenta praevia ▪ Pregnancy induced hypertension • Intra-partum emergencies ▪ Eclampsia ▪ Obstructed labor ▪ Ruptured uterus • Post-partum emergencies ▪ PPH ▪ Obstetrical shock ▪ Puerperal sepsis ▪ HELLP syndrome ▪ DIC ▪ Amniotic fluid embolism • Gynecological Emergencies ▪ Ovarian cyst/abscess/torsion ▪ Pelvic inflammatory disease ▪ Sexual assault ▪ Vaginal bleeding

Unit	Hours	Content
		• Therapeutic management ▪ Emergency delivery ▪ Management of PPH • Recent advances and development
VI	10	**Emergency care in children** • Prominent anatomical and physiological differences and implications • Medical and Surgical emergencies: ▪ Respiratory ▪ Cardiovascular ▪ Neurological ▪ Gastrointestinal ▪ Genitourinary ▪ Endocrine ▪ Infectious disease emergencies ▪ Skin lesions and burns ▪ Poisoning, Foreign bodies, drowning ▪ Accidents ▪ Shocks • Selected pediatric challenges ▪ Ventilatory issues ▪ Medication administration ▪ Pain Management ▪ Child abuse and Sexual assault, Interaction with children and families
VII	6	**Emergency care in Psychiatry** • Review of Psychiatric assessment, pathophysiology, and pharmacology • Psychiatric conditions requiring emergency care management • Common psychiatric emergencies – acute psychosis, anorexia and bulimia complications, anxiety and panic attacks, conversion disorders, deliberate self-harm and suicide attempt, depressive illness, personality disorders, substance, drug and alcohol abuse • Sexual assault • Post-traumatic stress disorder (PTSD) • Therapeutic management • Electro Convulsive Therapy
VIII	15	**Trauma Management** • Concepts in trauma care, Biomechanics of Injury, Trauma Prevention, • Initial assessment & early management of trauma • Immediate management of pelvic trauma, resuscitation, transport of pregnant women • Management of: ▪ Airway in trauma ▪ Dental and facial injuries ▪ Cardio thoracic injuries ▪ Traumatic Shock ▪ Head injuries ▪ Cranio Facial Injuries ▪ Musculo skeletal injuries and spinal injuries ▪ Abdominal and pelvic injuries ▪ Poly trauma ▪ Paediatric Trauma ▪ Geriatric trauma ▪ Pain management – Narcotics, local anaesthesia, nerve blocks ▪ Post-trauma rehabilitation ▪ Role of a nurse in trauma management • Therapeutic management ▪ Endotracheal intubation, Cricothyroidotomy ▪ ICD insertion ▪ Massive transfusion protocol ▪ Crush injury protocol ▪ Wound management

Unit	Hours	Content
		▪ Pain Management techniques ▪ Immobilisation techniques • Recent advances and development
IX	10	**Disaster management** • Introduction • Concepts & Principles of disaster management • Types of disaster • Terminologies in disaster management • Disaster triage • Hazard identification and risk analysis • Disaster management cycle • Community disaster management • In hospital disaster management • Mass casualty management • Psychosocial aspects in disaster management • Ethics in disaster management • Policies and authorities related to emergency/disaster management; International, national, state, institutional • Recent advances and development
X	5	**Pre-hospital care** • Emergency Medical Services – organisation • Ambulance – Policies & protocol, administration, staffing, resources, • Paramedic training and function • Collaboration with other emergency services – Government, police, fire department, NGOs **Transportation of the critically ill patient** • Telecommunication and telemedicine procedures • Preparation towards transportation • Standing orders • Monitoring and treatment during transportation
	5	**Class tests**

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

- **Sense organs alterations**
  - Burn fluid resuscitation
  - Burn feeds calculation
  - Burn dressing
  - Burns bath
  - Wound dressing
  - Foreign body removal – Eye, Ear, Nose and Throat
  - Eye irrigation
- **Multi system alterations requiring emergency care**
  - Administration of anti-snake venom
  - Administration of Antidotes
  - Gastric lavage
  - Cooling and warming techniques
  - Toxicology
  - Eye irrigation
  - Skin decontamination
  - Forensic sample collection
- **Specific infections in emergency care**
  - Isolation precautions
  - Disinfection and disposal of equipment
- **Emergency care in Obstetrics and Gynaecology**
  - Obstetrical assessment, partogram

- Vaginal examination using speculum
- Use equipment – incubators, warmers
- Assessment of the sexual assault victim

- **Emergency care in Paediatrics**
  - Paediatric airway management
  - PALS
  - Intraosseous cannulation
- **Emergency care in Psychiatry**
  - Psychiatric assessment
- **Trauma management**
  - Airway management techniques in Trauma
  - ICD insertion
  - Fluid resuscitation
  - Intraosseous cannulation
  - Focused assessment with sonography in trauma
  - Splinting
  - Log rolling
  - Wound management
  - Suturing
  - Reduction of fractures and dislocation of joints
  - Nerve blocks
- **Disaster management**
  - Formulate protocol for In – Hospital disaster management
  - Hazard vulnerability mapping
  - Training community volunteers on Disaster management
  - Decontamination
- **Pre-hospital care**
  - Checklist for transfer of critically ill patient

The skills listed under the Specialty courses such as Foundations of Emergency and Trauma Nursing Practice, Emergency and Trauma Nursing I and Emergency and Trauma Nursing II are taught by the faculty in skill lab. The students after practicing them in the lab, will continue to practice in the Emergency and Trauma Care (ETC) Unit. The log book specifies all the requirements to be completed and the list of skills that are to be signed by the preceptor once the students develop proficiency in doing the skills independently.

Learning Resources

1. **List of Textbooks**

- Abliash K.P.P. (2019). *Emergency Medicine, Best Practices at CMC (EMAC)* (2nd ed.), Jaypee Brothers Publications.
- Brunner and Suddarths (2014). *Text Book of Medical Surgical Nursing,* Vol. 1 (13th ed.), South Asian Edition, Published by Wolters Kluwer.
- Daniel Limmer, Michael F. O'keefe. *Emergency Care* (12th ed.), Pearson Education, Inc., 2011. ISBN 10:013254380X, ISBN 13:9780132543804.
- Fraser M. Diane & Cooper A Margaret (2001). *Myles Text Book for Midwives* (14th ed.), Churchill Livingstone, Edinburgh.
- Hickey, A. Joanne (2003). *The Clinical Practice of Neurological and Neurological Nursing* (5th ed.), Lippincott Company, Philadelphia.
- John, G., Subramani, K., Peter, J.V., Pitchamuthu, K. & Chacko, B. (2011). *Essentials of Critical Care* (8th ed.), Christian Medical College: Vellore.
- Kathleen Sanders Jordan, *Emergency Nursing Care Curriculum* (5th ed.), Philadelphia.
- W.B. Saunders Company: A division of Harcourt Brace & Company, 2000.
- Karen A., McQuillan, Eileen Whalen (2008). *Trauma Nursing.*
- Morton, P.G. & Fontaine, D.K. (2013). *Critical Care Nursing: A Holistic Approach* (9th ed), Lippincott Williams and Wilkins: Philadelphia.
- Nelson (2011). *Text book of Paediatrics* (19th ed.), Elsevier Publications, Philadelphia.

- Newberry, Lovene (2003). *Sheehy's Emergency Nursing – Principles and Practices* (6th ed.), Mosby St. Louis.
- Patrica Kunz Howard, Rebeeca A. Steinmann. *Sheehy's Emergency Nursing Principles and Practice* (6th ed.), Elsevier. ISBN 13:9780323055857.
- Perrin, K.O. (2009). *Understanding the Essentials of Critical Care Nursing*. New Jersey: Pearson Education.
- Rosens E, John Marx (2006). *Emergency Medicine Concepts & Clinical Practice* (6th ed.), Mosbys Elsevier.
- Suresh David (2012). *Textbook of Emergency Medicine* (2nd ed.), Wolterscluwer, Lippincott, Williams & Williams. ISBN 13:978818473628. ISBN 13:978818473202.
- Tintinalli, E. Judith (2000). *Emergency Medicine* (5th ed.), McGraw Hill New York.
- Walsh, Mike & Kent, Andrew (2001). *Accident and Emergency Nursing* (4th ed.), MPS Books Limited Bodmin, Cornwall.

2. List of Journals

- Journal of Emergency Nursing (http://www.jenonline.org/)
- The Advanced Emergency Nursing Journal (AENJ) (http://journals.lww.com/aenjournal/pages/default.aspx)

3. List of Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- Nursecom (http://www.nursecom.com/webTutorials.html)
- Emergency nursing resources (https://www.ena.org/ienr/enr/Pages/Default.aspx)

4. Other learning materials such as computer-based programs/CD, professional standards or regulations and software.

- BLS and CPR complete CD package
- Electronic materials provided by the faculty like e-lectures and e-books.

Recommended Course to Complete:

- BLS
- ACLS
- ATLS
- PALS

APPENDIX 1

EQUIPMENT LIST FOR A TEN BEDDED EMERGENCY AND TRAUMA UNIT

1. Patient trolley with mattress – 10
2. IV stand – 10
3. Over bed trolley – 5
4. Dressing trolley (Small) – 5
5. Dressing trolley (medium) – 2
6. Syringe pump – 20
7. Infusion pump – 15
8. Monitors – 11 (10 – patients; 1 – stock)
9. Transport monitor/pulse oximeter – 2
10. Ventilators – 5
11. Portable ventilators – 1
12. ABG machine – 1
13. ECG machine – 1
14. Ultrasound machine – 1
15. Doppler machine – 1
16. Defibrillator – 2
17. Blood warmer – 1
18. LEAD shield – 1
19. Crash cart – 2

20. OR trolley – 4
21. Safe slider – 2
22. Computer – 4
23. Printers – 2
24. Bain circuit – 12
25. Oxygen flow meter – 15
26. Suction port with jar – 15
27. Air flow meter/pulmoaid – 2
28. Refrigerator – 2 (1 – drugs, 1 – other use)
29. Metal foot step/foot stool – 5
30. UPS – 1
31. Spot light – 2
32. Labelling machine – 1
33. Glucometer – 2
34. Ambu bag with different sizes – 10 sets
35. Intubating videoscope – 1
36. Trays with sterile sets/disposable sets for various procedures (e.g. Insertion of central venous catheter, tracheostomy etc.)
37. **Minimum standards for Indian ETCU (As per Indian Health facility Guidelines, 2014)**

The following areas are required for smooth functioning of Emergency and Trauma Unit

- Reception and Triage
- Ambulance Bay
- Decontamination facility
- Resuscitation Area
- Acute treatment bay
- Minor Operating room area
- Step down facility
- Short stay ward
- Isolation unit
- Acute psychiatric unit
- Patient toilet/shower
- Consultation areas
- Laboratory area
- Pharmacy
- Staff Station
- Staff lounge
- Staff toilet and changing room facility
- Store room
- Patient trolley bay
- Clean and dirty utility room.

APPENDIX 2

ASSESSMENT GUIDELINES (including OSCE Guidelines) INTERNAL ASSESSMENT (Theory and Practical)

I Year

1. Theoretical Basis for Advanced Practice Nursing

College Examination of theory only: 50 marks

Internal Assessment:

Test paper/Quiz: 10 marks

Written assignment/term paper: 10 marks (Global and national healthcare trends & policies)

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

Final theory college exam: 25 marks Total

Marks: 50 marks

2. **Research Application and Evidence Based Practice in Emergency 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 ED nursing competencies) **Total : 30 marks**

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

Theory:

Test papers : 15 marks

Journal club (Trends in Leadership/management/Teaching): 5 marks Written assignment: 5 marks (ETC) unit work place violence) Microteaching: 5 marks

Total : 30 marks

4. **Advanced Pathophysiology & Advanced Pharmacology relevant to Emergency and Trauma Nursing**

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**

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 Emergency and Trauma Unit

II Year

1. **Foundations of Emergency and Trauma Nursing**

Theory:

Test papers and Quiz: 20

Written assignment: 10 marks (ED protocols)

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. **Emergency and Trauma 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. **Emergency and Trauma 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 Emergency and Trauma Unit

4. **Dissertation**

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

OSCE GUIDELINES FOR INTERNAL AND EXTERNAL PRACTICAL EXAMINATION Ist YEAR

I. HEALTH ASSESSMENT

INTERNAL

OSCE: 25 marks

CORE COMPETENCY DOMAINS

1. Focused history taking and physical examination of adult patient
2. Focused history taking and physical examination of pediatric patient
3. Interpretation of findings and results
4. 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 adult patient
2. Focused physical examination of adult patient
3. Focused history taking of pediatric patient
4. Focused physical examination of pediatric patient
5. Interpretation of history and physical examination findings
6. Interpretation of results of lab and diagnostic tests
7. 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 NP student is qualified to appear for final practical examination

IInd YEAR

I. FOUNDATIONS OF EMERGENCY AND TRAUMA NURSING

INTERNAL

OSCE: 50 Marks

CORE COMPETENCY DOMAINS

1. Focused history and physical examination and interpretation of findings and results
2. Monitoring competencies (Invasive and noninvasive)
3. Therapeutic interventions-(Emergency procedural competencies) Including drug administration
4. 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 adult patient
2. Focused history taking, physical examination and interpretation of results of pediatric patient
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

II & III. EMERGENCY AND TRAUMA 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 (Invasive and noninvasive)
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 an adult patient
2. Focused history taking, physical examination and interpretation of results of pediatric patient
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 NP student is qualified to appear for final practical examination

APPENDIX 3 (3 a & 3b)

CLINICAL LOG BOOK FOR NURSE PRACTITIONER (NP) IN EMERGENCY AND TRAUMA CARE PROGRAM

APPENDIX 3a – Clinical Log Book – Ist YEAR (Procedural Competencies/Skills)

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
I	**RESEARCH APPLICATION AND EVIDENCE BASED PRACTICE**			
1	Preparation of research instrument			
2	Writing systematic review/literature review			
3	Preparation of a manuscript for publication (Ist or IInd year)			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
4	Dissertation (II[nd] year) Topic:			
II	**LEADERSHIP, MANAGEMENT, AND TEACHING**			
1	Preparation of staff patient assignment			
2	Preparation of unit budget			
3	Preparation of staff duty roster			
4	Patient 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			
III	**HEALTH ASSESSMENT**			
1	***Comprehensive history taking***			
2	***Comprehensive physical examination***			
3	***Focused history taking (system wise)***			
4	***Focused Physical Examination (system wise)***			
4.1	Respiratory			
4.2	Cardiac			
4.3	Gastrointestinal			
4.4	Nervous			
4.5	Genitourinary			
4.6	Endocrine			
4.7	Hematological			
4.8	Musculoskeletal			
4.9	Integumentary			
4.10	Sensory organs			
5	***Age Specific History & Physical Examination***			
5.1	Neonate			
5.2	Child			
5.3	Adult			
5.4	Geriatric			
6	***History & Physical Examination of a Pregnant Woman***			
IV	**DIAGNOSTIC PROCEDURES**			
1	***Collecting blood sample for laboratory tests***			
1.1	Biochemistry			
1.2	Clinical pathology			
1.3	Microbiology			
1.4	ABG			
2	***Assisting procedures***			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
2.1	Paracentesis			
2.2	Thoracentesis			
2.3	Lumbar puncture			
2.4	Liver biopsy			
2.5	Renal biopsy			
2.6	Bone marrow aspiration			
3	***Witnessing procedures***			
3.1	ERCP			
3.2	PET scan			
3.3	Upper GI scopy			
3.4	Colonoscopy			
3.5	MRI/CT			
3.6	Ultrasound			
3.7	EEG			
3.8	EMG			
3.9	Echocardiogram			
4	**DSA procedures** • Aneurysm repair • Endovascular embolization • Thrombectomy • Nephrostomy			
V	**BASIC COMPETENCIES**			
1	***Admission***			
2	***Transfer***			
3	***Transport***			
4	***Setting up, use and maintenance of basic emergency and trauma care equipment***			
4.1	Monitor/s			
4.2	Transducer			
4.3	Temperature probes			
4.4	SpO_2 probes			
4.5	Sequential compressing device			
4.6	12-lead ECG monitor			
4.7	Blood Warmer			
4.8	Fluid warmer			
4.9	ET Cuff pressure monitor			
4.10	Syringe pump			
4.11	Infusion pump			
5	***Monitoring and interpretation of critical parameters***			
5.1	Arterial Blood Gas (ABG)			
5.2	Oxygen saturation			
5.3	Endotracheal tube cuff pressure			
5.4	Capnography			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
5.5	Hemodynamics			
5.6	Electrocardiogram (ECG)			
5.7	Intracranial pressure (ICP)			
5.8	Invasive BP monitoring			
5.9	Non-invasive BP monitoring			
5.10	PiCCO (Pulse index Continuous Cardiac Output)			
5.11	Peripheral vascular status			
5.12	Glasgow Coma Score			
5.13	Sedation Score			
5.14	Pain Score			
5.15	Braden Score			
5.16	Bowel sounds			
5.16	GRBS			
5.17	Partogram			
5.18	Chest Xray			

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

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**

APPENDIX 3b – Clinical Log Book – IInd YEAR

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
	ADVANCED COMPETENCIES			
1	***Setting up, use and maintenance of Emergency care equipment***			
1.1	Ventilator			
1.2	Defibrillator			
1.3	Pacemaker			
1.4	CRASH trolley			
1.5	CPAP/BiPAP			
2	***Triage***			
3	***Family education and counseling***			
4	***Discharge/LAMA***			
5	***Medico-legal compliance***			
6	***End of life care***			
6.1	Brain death			
6.2	Organ donation			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
7	***After life care***			
8	***Care during transfer by ambulance***			
9	***Infection control practices***			
10	***Standard precautions***			
11	***Disinfection/sterilization***			
12	***BLS***			
13	***ACLS***			
14	***Preparation of policies/standards/protocols in Emergency and Trauma care unit***			
15	***Administration of medication (includes standing orders) I & II Year***			
15.1	**Catecholamines** (calculation, titration & administration) a. Adrenaline b. Noradrenaline Dopamine d e. f. g.			
15.2	**Antidysrhythmics** a. Adenosine b. Amiadarone Lidocaine/Xylocard d. e.			
15.3	**Bronchodilators** a. Aminophylline b. Deriphylline c. Magnesium Sulphate			
15.4	**Skeletal muscle relaxant** Succinyl choline b.			
15.5	**Anticholinergic** Atropine Sulphate b.			
15.6	**Antihistamine** Avil b.			
15.7	**Anihypertensives** Isoptin b.			
15.8	**Corticosteroids** a. Hydrocortisone Dexamethasone c.			
15.9	**Antiepileptics** a. Levitracetam Phenytoin c.			
15.10	**Muscle relaxants & Sedatives** a. Midazolam b. Morpine sulphate			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
	c. Pentazocin Lactate (Fortwin) d. Pethidine hydrochloride Propofol f. g.			
15.11	**Electrolyte and acid base correction with/without device(Na, K, Cal, P, Mg, Fe)** a. Soda bicarbonate 8.4% b. Magnesium sulphate c. Potassium chloride d. 3% Saline			
15.12	**Epidural analgesia** 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			
15.13	**PCA analgesia**			
15.14	**Additional drugs** a. Antidotes b. Anti-snake venom (ASV) c. d. e. f.			
16	***Management of Cardiovascular Alterations***			
16.1	Initiating Intravenous access			
16.2	Intravenous fluid administration (Colloid/Crystalloid)			
16.3	Blood and blood product administration			
16.4	Application of TED stocking			
16.5	Insertion of CVP line			
16.6	Care and removal of CVP line			
16.7	Insertion of arterial line			
16.8	Care and removal of arterial line			
16.9	Assisting with insertion of pulmonary artery catheter			
16.10	Care of Patient with Pacemaker			
16.11	Blood collection from arterial line			
17	***Management of Pulmonary Alterations***			
17.1	Oropharyngeal airway application			
17.2	Laryngeal mask airway application			
17.3	Intubation and care of ET tube			
17.4	Extubation			
17.5	Assisting for tracheostomy insertion			
17.6	Tracheostomy care and suctioning			
17.7	Endotracheal suctioning – Open and closed			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
17.8	Assisting with insertion of chest tube			
17.9	Care of patient with Chest drainage			
17.10	Chest tube removal			
17.11	Nebulization			
17.12	Care of patient on Mechanical ventilator			
17.13	Non – invasive ventilation			
17.14	Setting up a Ventilator			
17.15	Weaning from ventilator			
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			
18	***Management of Neurological Alterations***			
18.1	Management of increased ICP			
18.2	Consciousness/Coma status monitoring			
18.3	Brain death evaluation			
19	***Management of Genitourinary Alterations***			
19.1	Insertion of Suprapubic catheter			
19.2	Care of patient on hemodialysis			
19.3	Care of patient on peritoneal dialysis			
19.4	Testicular Detorsion			
20	***Management of Gastrointestinal Alterations***			
20.1	Estimation of dietary allowance			
20.2	Therapeutic diet planning			
20.3	Enteral nutrition – Gastrostomy/Jejunostomy feeding			
20.4	Administration of Parenteral nutrition (TPN)			
21	***Management of Endocrine Alterations***			
21.1	Insulin therapy (sliding scale & infusion) Calculation, titration and administration			
21.2	Steroids-Calculation and administration			
22	***Ordering investigations***			
22.1	ECG			
22.2	ABG			
22.3	Chest X ray			
22.4	Ultrasound			
22.5	Basic biochemistry investigations			
22.6	Basic microbiology investigations			
23	***Ordering procedures/treatment***			
23.1	Nebulization			
23.2	Oxygen therapy			
23.3	Chest physiotherapy			
23.4	IV fluids infusion			

S.No.	Specific Competencies/Skills	Number Performed	Date	Signature of the Preceptor*/Faculty
23.5	Insertion of NG tube			
23.6	Insertion of urinary catheter			
23.7	Surgical dressing			
23.8	Suture removal			
23.9	Application of Icthammol Glycerin/Magnesium Sulphate dressing for Thrombophlebitis/extravasation.			
23.10	Isometric and isotonic exercises			
23.11	Hot and cold applications			

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

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 NP IN EMERGENCY AND TRAUMA CARE PROGRAM I YEAR

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
1	***Clinical Seminar/Journal Club/Clinical Conference***		
1.1	***APN –** Clinical Pathway in Specific Clinical Conditions/ Application of Specific Nursing Theory) (Clinical Seminar) *Title of the topic:*		
1.2	***RA –** Evidence Search for Emergency and Trauma Nursing Competencies (Clinical Conference/Journal Club) *Title of the topic:*		
1.3	***L,M&T –** Trends in Leadership/Management/Teaching (Journal Club) *Title of the topic:*		
2	***Clinical Rounds (With Nursing Staff, Faculty, Students)- Case/Clinical Presentation***		
2.1	***Pathophysiology*** (Clinical Conditions) *Name of clinical condition:*		
2.2	***Pathophysiology*** (Clinical Conditions) Case Study (Written Report) *Name of clinical condition:*		
2.3	***Pharmacology –*** Drug Studies (drugs listed under Standing Orders) – Written Report of 5 Presentations (Bedside Presentations)		
	Drug name:		
2.4	Drug name:		
2.5			

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
2.6			
2.7			
2.8			
2.9			
2.10			
2.11			
2.12			
3	***Interdisciplinary Clinical Rounds (With ED doctors) – Case/Clinical Presentation (Written reports are for submission)***		
3.1	Health Assessment (Adult) – History & Physical Examination (Two written reports) 3.1.1. 3.1.2. 3.1.3. 3.1.4. 3.1.5.		
3.2	Health Assessment (Pediatric) – History & Physical Examination (One written report) 3.2.1. 3.2.2. 3.2.3.		
3.3	Health Assessment (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

ETC Unit/ ICU	Clinical Condition	Number of days care given	Signature of Faculty/Preceptor

Signature of the Program Coordinator/Faculty **Signature of the HOD/Principal**

CLINICAL REQUIREMENTS FOR NP IN EMERGENCY AND TRAUMA CARE PROGRAM II YEAR

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
1	***Clinical Seminar/Journal Club/Clinical Conference***		
1.1	**Foundations of Emergency and Trauma Nursing Practice** (Clinical Conference) *Title of the topic:*		
1.2	**Emergency and Trauma Nursing I** (Clinical Seminar) *Title of the topic:*		
1.3	**Emergency and Trauma Nursing I** (Journal Club) *Title of the topic:*		
1.4	**Emergency and Trauma Nursing II** (Clinical Seminar) *Title of the topic:*		
1.5	**Emergency and Trauma Nursing II** (Journal Club) *Title of the topic:*		
2	***Clinical Rounds (With Nursing staff, faculty, students) – Clinical/Case presentation (Written reports are for submission)***		
2.1	**Foundations of Emergency and Trauma Nursing (Family Education/Counseling) written report** *Name of topic:*		
2.2	**Foundations of Emergency and Trauma Nursing (Emergency Care Pathway)** *Name of topic:*		
2.3	**Emergency and Trauma Nursing I (Clinical Condition)** *Name of clinical condition:*		
2.4	**Emergency and Trauma Nursing I (Case Study Report)** *Name of clinical condition:*		
2.5	**Emergency and Trauma Nursing II (Clinical Condition)** *Name of clinical condition:*		
2.6	**Emergency and Trauma Nursing II (Case Study Report)** *Name of clinical condition:*		
	Drug Studies (drugs listed under standing orders) ***Bedside Presentation*** ***(Five written reports)***		
2.7	**Name of Drug**		
2.8	**Name of Drug**		
2.9			
2.10			
2.11			
2.12			
2.13			
2.14			
2.15			
2.16			
3	***Interdisciplinary Clinical Rounds (With ED doctors) – Clinical/Case Presentation***		
	Emergency and Trauma Nursing I		
3.1	*Name of clinical condition:*		

S.No.	Clinical Requirement	Date	Signature of the Preceptor/Faculty
3.2			
3.3			
3.4			
3.5	(Case Study Report)		
	Emergency and Trauma Nursing II		
3.6			
3.7			
3.8			
3.9	(Case Study Report)		
3.10	Written Report (Developed Clinical/Emergency Care Pathway)		

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

Signature of the Program Coordinator/Faculty **Signature of the HOD/Principal**

CLINICAL EXPERIENCE DETAILS

ETC Unit/ ICU	Clinical Condition	Number of days care given	Signature of Faculty/Preceptor

Signature of the Program Coordinator/Faculty **Signature of the HOD/Principal**

APPENDIX 5

STANDING ORDERS

Nurse practitioners are prepared and qualified to assume responsibility and accountability for the patients requiring emergency and trauma care. They collaborate with emergency physicians, trauma surgeons and specialists to ensure accurate therapy for patients with high acuity needs. On completion of the program, the NPs will be permitted to administer drugs listed in standing orders as per the institutional standing orders. They will also be permitted to order diagnostic tests/procedures and therapies as per institutional protocols.

STANDING ORDERS

The following intravenous injections or infusions may be administered by the Nurse Practitioner in Emergency and Trauma care units

Catecholamines

1. Adrenaline
2. Noradrenaline
3. Dopamine
4. Dobutamine

Antidysrhythmic

5. Adenosine
6. Amiodarone
7. Lidocaine/Xylocard

Adrenergic agent

8. Ephedrine

Bronchodilators

9. Aminophylline
10. Deriphylline

Non depolarizing skeletal muscle relaxant

11. Atracurium (Vecuronium, Pancurium)

Anticholinergic

12. Atropine Sulphate

Antihistamine

13. Avil

Antihypertensive

14. Clonidine
15. Glycerine trinitrate
16. Isoptin

Corticosteroid

17. Hydrocortisone
18. Dexamethasone

Antiepileptic

19. Levitracetam
20. Phenytoin

Sedatives & relaxants

21. Valium
22. Midazolam
23. Morphine Sulphate
24. Pentazocin Lactate (Fortwin)
25. Pethidine Hydro Chloride
26. Propofol

Electrolytes & acid base correction agents

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

The following investigations and therapies may be ordered by the NPs

ORDERING INVESTIGATIONS	ORDERING THERAPIES
▪ ECG ▪ ABG ▪ Chest X ray ▪ Basic Bio chemistry investigations – Hb, PCV, TIBC, WBC Total, WBC differentials, ESR, Electrolytes, platelets, PT, APTT, bleeding and clotting time, procalcitonin, D dimer, creatinine, HbA1C, AC, PC, HDL, LDL, TIG, Cholesterol total, HIV, HbsAg, HCV ▪ Basic Microbiology investigations – blood and urine samples for culture and sensitivity	▪ Nebulization ▪ Chest physiotherapy ▪ Insertion and removal of urinary catheter for female patients ▪ TEDS ▪ Surgical dressing ▪ Starting and closing dialysis ▪ Application of Icthammol Glycerin/Magnesium Sulphate dressing for Thrombophlebitis/ extravasation ▪ Pin site care for patients on external fixators ▪ Isometric and isotonic exercises

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 NPETC 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 NPETC students.

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