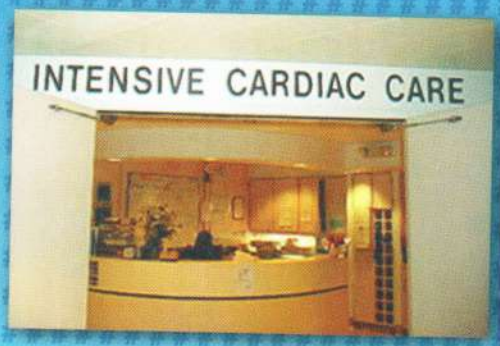
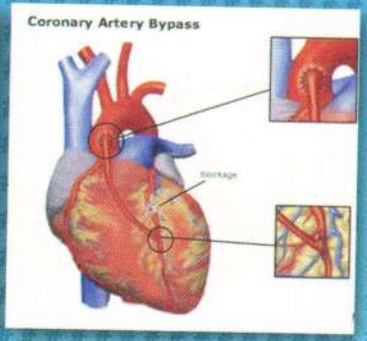
SYLLABUS AND REGULATIONS

POST BASIC DIPLOMA

CARDIO- THORACIC NURSING





INDIAN NURSING COUNCIL

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POST BASIC DIPLOMA IN CARDIO-THORACIC NURSING

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PREFACE

National Health Policy (NHP 2002) recognises the need for training of Nurses in various speciality courses to function effectively in the Health Care Team. In this direction Indian Nursing Council has prepared one year post-basic Diploma in Cardiac Nursing to provide Specialised Nursing Care to the patients in the Hospital and in the community.

Cardiac Diseases have nearly doubled in India. The incidence of Cardiac affliction getting detected under the age group of 40 is increasing. It is estimated that by 2010 they would be closed to 100 million cardiac patients in India. On an average about 2 million patients in India currently undergo cardio-vascular surgical procedure every year. Cases of Cardio Vascular Diseases (CVD) may increase from about 2.9 crore is 2000 to as many as 6.4 crore in 2015. Deaths from CVD will also be more than double.

In view of the above there is need to prepare nurses in cardio thoracic for promoting competent nursing care in various health settings.

I take this opportunity to acknowledge the contribution of Dr. Abanti Gopan and other expert Nursing personnel in preparing syllabus. I also acknowledge Ms K.S. Bharati from Indian Nursing Council for designing and formatting documents.

T. Dileep Kumar
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and Nursing Adviser to
Govt. of India

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POST BASIC DIPLOMA IN CARDIO-THORACIC NURSING

INTRODUCTION

Cardio related problems of the Indians are fast becoming major health problem owing to the rapid change in the life style. It has passed a great concern among the health professionals to meet this challenge. It affects all level of the people. Therefore, it is essential for the health care system to meet such needs in a specialized manner.

The National Health Policy (NHP) 2002 emphasizes on the preventive, promotive, curative and rehabilitative aspects of the care. Since 1983 the NHP has guided the health care system in meeting the needs of the people to a great extent. The policy recognizes the need for establishing the training courses for the specialty nurses required for tertiary care institutions.

Post basic diploma in Cardio-Thoracic Nursing is designed to prepare specially trained Cardio-Thoracic Nurses. The outcome of the programme will be to have more nurses prepared as cardio-thoracic nurses for providing competent nursing care in various health care settings.

PHILOSOPHY

Indian Nursing Council believes that registered nurses need to be trained in cardio-thoracic nursing in clinical settings in order to provide competent care to patients with cardio thoracic problems. Expanding roles of nurses and advances in technology necessitates additional training to prepare them for effective participation in cardio thoracic care.

PURPOSE

The purpose of the course is to train nurses to:

1. Provide quality care to patients with cardio thoracic disorders.
2. Manage & supervise care of patients with cardio thoracic disorders.

3. Teach nurses, allied health professionals and family members in areas related to cardio thoracic nursing.

4. Conduct research in areas of cardio thoracic nursing.

COURSE DESCRIPTION

The course is designed to prepare registered nurses (GNM or B.Sc) with specialized knowledge, skills and attitude in providing advance quality care to patients with cardio thoracic problems and their families.

GUIDELINES FOR STARTING THE POST BASIC DIPLOMA IN CARDIO-THORACIC NURSING

THE PROGRAMME MAY BE OFFERED AT

A) The Government (State/Center/Autonomous) nursing teaching institution offering diploma or degree programmes in nursing having parent/affiliated Government Hospital facilities of cardio-thoracic units, Intensive Cardiac Care Unit/Coronary care unit/ Intensive Care Unit (10-20 cardio thoracic beds).

Or

B) Other non-Govt. nursing teaching institution offering diploma or degree programmes in nursing having parent Hospital facilities of cardio-thoracic units, Intensive Cardiac Care Unit/ Coronary care unit/Intensive Care Unit (10-20 cardio thoracic beds).

Or

C) 50-100 bedded Cardiac Hospital, which has CCU, ICCU and ICU units with own thoracic unit or affiliated thoracic unit.

RECOGNITION PROCEDURE

1. Any institution which wishes to start post basic diploma in cardio-thoracic nursing should obtain the No Objection/ Essentiality certificate from the State government. The institutions which are already recognized by INC for offering diploma/ degree programmes in nursing are exempted for obtaining the No Objection/Essentiality certificate.
2. The Indian Nursing Council on receipt of the proposal from the Institution to start nursing program, will undertake the inspection to assess suitability with regard to physical infrastructure, clinical facility and teaching faculty in order to give permission to start the programme.
3. After the receipt of the permission to start the nursing programme from Indian Nursing Council, the institution shall obtain the

approval from the State Nursing Council and Examination Board/University.

4. Institution will admit the students only after taking approval of State Nursing Council and Examination Board/University.
5. The Indian Nursing Council will conduct inspection for two consecutive years for continuation of the permission to conduct the programme.

STAFFING

1. Full time teaching faculty in the ratio of 1:5

   Qualification:

   1. M.Sc Nursing with Medical Surgical /Cardio thoracic Specialty
   2. Basic B.Sc (N) with Post basic diploma in Cardio thoracic nursing

   Experience: Minimum 3 years

2. *Guest faculty* - Multi-disciplinary in related specialties

BUDGET

There should be budgetary provision for staff salary, honorarium for part time teachers, clerical assistance, library and contingency expenditure for the programme in the overall budget of the institution.

PHYSICAL FACILITIES

1. *Class room* – 1
2. *Nursing Laboratory* – 1
3. *Library* – Permission to use medical/hospital library having current nursing textbooks & journals in cardio-thoracic, medical surgical, cardiac, respiratory, emergency nursing, neuro, renal, trauma nursing etc.
4. *Teaching Aids* - Facilities for the use of
   - Overhead projector
   - Slide Projector, Slides

- TV with VCP or VCR, CD/DVD Player, Video cassettes
- LCD projector
- Computer, CDs
- Internet facility
- Equipment for demonstration of skills (manikins, simulators, pacemakers, ventilators, ECG, CPR manikin, pulmonary function equipments, Pulse oxymeter, Monitors, Cardiac Catheters, various chest drainage tube sets, defribillator, Incentive spirometer, tracheostomy sets, laryngoscope, bronchoscope, nebulisers, oxygen supply, suction apparatus, emergency cart etc).

5. *Office facilities* -

- Services of typist, peon, safai karamchari
- Facilities for office, equipment and supplies:-
  - Stationary
  - Computer with printer
  - Xerox machine/Risograph
  - Telephone and fax

ADMISSION TERMS AND CONDITIONS

The student seeking admission to this course should:

1. Be a registered nurse (R.N & R.M) or equivalent
2. Possess a minimum of one year experience as a staff nurse.
3. Nurses from other countries must obtain an equivalence certificate from INC before admission.
4. Be physically fit.
5. No. of seats –

   Maximum number of seats =25

   Student patient ratio= 1:3 (For calculation of students intake)

ORGANIZATION OF THE COURSE

A. Duration: Duration of the course is one academic year.

B. Distribution of the Course:

1.	Teaching: Theory & Clinical practice	42 weeks
2.	Internship	4 weeks
3.	Examination (including preparation)	2 weeks
4.	Vacation	2 weeks
5.	Public holidays	2 weeks
		52 weeks

C. Course objectives:

General Objective

At the end of the course the student will be able to develop an understanding of philosophy, principles, methods and issues, management, education and research in cardio-thoracic nursing. Further more, this course will enable them to develop skills and attitude in providing competent cardio-thoracic nursing care.

Specific Objectives:

At the end of the course the student will be able to

1. Describe the concepts and principles of cardio-thoracic nursing.
2. Perform advance cardiac life support skills.
3. Apply nursing process in caring of patients with cardio thoracic diseases.
4. Communicate effectively with patients having cardio thoracic problems and their family members

5. Demonstrate skills in management of cardio-thoracic services/ units.
6. Participate effectively as a member of the cardiac care team
7. Make a plan for organization of cardiac and thoracic units.
8. Conduct research in cardio thoracic nursing.
9. Teach and supervise nurses and allied health workers.

D. Course of Studies:

	Theory	Practical
1. Clinical Nursing-I (Inclusive of foundation courses)	155 Hours	Integrated Clinical Practice 1280 Hours
2. Clinical Nursing-II	155 Hours	
3. Supervision & Management, Clinical Teaching, Elementary Research & Statistics		
(i) Supervision & Management	30 Hours	
(ii) Clinical Teaching	30 Hours	
(iii) Elementary Research & Statistics	30 Hours	
4. Internship		160 Hours
TOTAL	**400 Hours**	**1440 Hours**

- Hours distribution for theory and practice
  42 weeks X 40 hours / week
  = 1680 hours
- Block classes
  4 weeks X 40 hours/week
  = 160 hours
- Integrated theory & clinical practice
  38 weeks X 40 hours/week
  = 1520 hours

- (Theory 400 hrs) * Theory 6 hours/week
  38 weeks X 6 hours/week
  = 240 hours
- Clinical experience 34 hours/week
  38 weeks X 34 hours/week
  = 1280 hours
- Internship: 4 weeks x 40 hours
  = 160 hours

E. Clinical Experience

Areas of clinical experience required

Clinical experience must be provided as the stipulated clinical hours. The students should be posted in cardio-thoracic Units.

Sl. No.	Units / Departments	No. of weeks
1.	Cardio thoracic – Medical – Surgical	– 6 weeks – 6 weeks
2.	OTs (Cardiac and thoracic)	– 6 weeks
3.	Casualty	– 2 weeks
4.	Diagnostic labs including cath lab	– 2 weeks
5.	ICCU	– 4 weeks
6.	ICU	– 4 weeks
7.	CCU	– 4 weeks
8.	Paediatric Intensive	– 2 weeks
9.	OPD	– 2 weeks
	Total	**– 38 weeks**
	Internship*	**– 4 weeks**

* Two weeks evening and two weeks night [40 hrs per week]

EXAMINATION SCHEME

	Int. Ass. Marks	Ext. Ass. Marks	Total marks	Duration (in hours)
A. Theory				
Paper I - Clinical Nursing I	50	150	200	3
Paper II - Clinical Nursing II	50	150	200	3
Paper III - Supervision & Management, Clinical Teaching, Elementary Research & Statistics	50	150	200	3
B. Practical				
Clinical Nursing (teaching & supervision to be integrated)	100	100	200	
Grand Total	**250**	**550**	**800**	

C. Conditions for Admission to Examination

The Student:

1. Has attended not less than 75% of the theoretical instruction hours in each subject during the year.
2. Has done not less than 75% of the clinical practical hours. However, students should make up 100% of attendance for integrated practice experience and internship in term of hours and activities before awarding the certificate.

EXAMINATION

The examination to be conducted by the State Nursing Registration Council/State Nursing Examination Board/University recognized by the Indian Nursing Council.

Standard of Passing

1 In order to pass a candidate should obtain at least 50% marks separately in internal assessment and external examination in each of the theory practical and papers.

2 a) Less than 60% is Second division,

b) 60 % and above and below 75% is First division,

c) 75 % and above is Distinction.

3. Students will be given opportunity of maximum of 3 attempts for passing

CERTIFICATION

A. TITLE - Post Basic Diploma In **Cardio-thoracic nursing.**

B. A diploma is awarded upon successful completion of the prescribed study programme, which will state that

i) Candidate has completed the prescribed course of cardio-thoracic nursing.

ii) Candidate has completed prescribed clinical experience.

iii) Candidate has passed the prescribed examination.

CLINICAL NURSING - I

(Including Foundation Courses)

Description:

This course is designed to develop an understanding of the principles of related biological and behavioral sciences and cardio-thoracic nursing

Objectives:

At the end of the course the student will be able to:

1. Describe the concept and principles of behavioral, biological and nursing sciences as applied to cardio thoracic nursing
2. Describe the various drugs used in cardio thoracic disorders and nurses responsibility
3. Apply nursing process in providing comprehensive care to patients with cardio-thoracic disorders and emergencies
4. Practice infection control measures
5. Describe the nurse's role in various diagnostic measures
6. Identify the psychosocial problems of patients and family members and provide holistic care.
7. Plan the dietary regimen of patients with cardio thoracic disorders
8. Assisting patient and family to cope with emotional and spiritual distress and grief anxiety

Theory = 155 hours

Subject	Hours	Content
Unit I Psychology	10	❑ **Review** • Individual differences • Learning, Motivation, attention & perception • Emotions • Human behavior & needs in crisis • Stress & coping in crisis situations • Leadership • Communication and IPR • Counselling • Attitude and humanizing care
Unit II Microbiology	10	❑ **Review** • Immunity • Infection • Principles of asepsis, Sterilization & disinfection • Diagnostic tests in Microbiology & related nurses' responsibility • Standard safety measures & biomedical waste management
Unit III Applied Anatomy & Physiology	20	❑ **Review** • Respiratory system • Cardiovascular system (heart, lung, thoracic cavity & blood vessels, Embryology of heart and lung) • Neurological system • Endocrine system
Unit IV Pharmacology	10	❑ **Review** • Pharmacokinetics • Analgesics/Anti inflammatory agents • Antibiotics, antiseptics • Drug reaction & toxicity • Drugs used in cardiac emergencies

Subject	Hours	Content
		• Blood and blood components • Antithrombolytic agents • Inotropic agents • Beta-blocking agents • Calcium channel blockers. • Vaso constrictors • Vaso dilators • ACE inhibitors • Anticoagulents • Antiarrhythmic drugs • Anti hypertensives • Diuretics • Sedatives and tranquilizers • Digitalis • Antilipemics • Principles of drug administration, role and responsibilities of nurses and care of drugs
Unit V Genetics	10	❑ Meaning of genetics and heredity ❑ Mendelian laws of inheritance ❑ Genetic disorders • Chromosomal errors • Inborn errors of metabolism • Congenital anomalies ❑ Genetic counseling ❑ Nurses' role in genetic counseling
Unit VI	10	❑ Introduction to Cardio-thoracic nursing ❑ Historical developmental & advancement in the cardio thoracic field ❑ Cardio-thoracic diseases – major health problems. ❑ Cardiac thoracic surgery ❑ New technology, developments and nursing practice ❑ Levels of cardiac care and role of nurse

Subject	Hours	Content
Unit VII	15	❑ Introduction to Nursing Process • Assessment • Nursing diagnosis • Nursing care plan • Implementation • Evaluation ❑ Cardio-thoracic nursing assessment • History taking • Health assessment – Physical examination, chest examination
Unit VIII	30	❑ Diagnostic Measures ❑ Non-Invasive • ECG – abnormal ECG & interpretation, • Echo, Cardiography • Pulmonary function test • Cardiac monitoring techniques, chest lead and modified lead placement, telemetry. • Echocardiogram, 2-D, 3-D, Color Doppler, Tans-esophageal echocardiogram. • Nuclear diagnostic procedures. • Magnetic Resonance Imaging. • Chest X-Ray ❑ Invasive • Bronchoscopy and graphics. • C.V.P. & J.V.P. • Blood gases and its significance. • Cardiac catheterization and angiographies. • Arterial monitoring, swan Ganz monitoring. • Diagnostic radiographies of chest & C.V.S. Latest diagnostic measures Nurse's role in diagnostic tests

Subject	Hours	Content
Unit-IX	20	❑ Cardio thoracic emergency interventions • CPR- BLS and ALS • Use of ventilator, defibrillator, pacemaker • Post resuscitation care.
Unit X	5	❑ Diet in Cardiac thoracic Conditions • Dietary principles • Diet in hypertension. • Diet in Myocardial Infarction/ angina/CAD • Diet in congestive cardiac failure.
Unit XI	10	❑ Communication Skills & IPR • Process & methods • Establishing & maintaining good IPR & communication with family, staff and colleagues • Breaking of bad news • Multidisciplinary team & role of nurses ❑ Guidance & Counseling
Unit XII	5	❑ Care of dying patients • Spiritual support to the dying • Grief and grieving process • Bereavement support • Organ donation & Counselling • Care of dead

CLINICAL NURSING – II

Description:

This course is designed to develop an understanding of cardio thoracic disorders, emergencies and their management.

Objectives:

The students will be able to:

1. Describe the etiology, pathophysiology, signs & symptoms investigations, nursing management of adult and children with cardio thoracic disorders
2. Describe nurses role in various diagnostic & therapeutic procedures
3. Discuss the pre and post operative nursing care of adult and children with cardio thoracic surgery

Total Hours : 155

Unit	Hours	Subject
Unit I	20	Cardio-thoracic disorders ❑ Etiology, clinical manifestations, diagnois, prognosis, related pathophysiology and nursing management of: • Coronary Artery Disease. • Angina of various types. • Cardiomegaly • Myocardial Infarction, Congestive cardiac failure • Heart Failure, Pulmonary Edema, Shock. • Hypertension. • Rheumatic Valve Diseases. • Inflammatory Heart Diseases, Infective Endocarditis, Myocarditis, Pericarditis.

Subject	Hours	Content
		• Cardiomyopathy, dilated, restrictive, hypertrophic. • Associated illnesses
Unit II	20	Altered pulmonary conditions ❑ Etiology, clinical manifestations, diagnois, prognosis, related pathophysiology and nursing management of: • Bronchitis • Bronchial asthma • Bronchiectasis • Pneumonias • Lung abscess, lung tumour • Pulmonary tuberculosis, fibrosis, pneumoconiosis etc • Pleuritis, effusion • Pneumo, haemo and pyothorax • Interstitial Lung Disease • Acute and Chronic obstructive pulmonary disease (conditions leading to) • Acute respiratory failure • Adult respiratory distress syndrome • Pulmonary embolism • Pulmonary Hypertension
Unit III	5	❑ Nursing Care of patients with temporary or permanent pacemaker • Types of temporary and permanent pacemakers. • Indications for each type. • Principles of pacing procedure. • Patient teaching before, during and after pacing.
Unit IV	5	❑ Nursing Care of patients after Coronary revascularization. • Percutaneous Transluminal Coronary Angioplasty; Stunt,

Subject	Hours	Content
		• Balloon, Types: Indications, procedure complications • Laser therapy for revascularization.
Unit V	5	Nursing care of patients with Arterio – Vascular diseases, Aortic aneurysms
Unit VI	15	❑ Interpretation, Management of Dysrhthmias and Nurse's Role - • Sinus arrhythmias • Atrial Arrhythmias • Junctional or Nodal arrhythmias • Ventricular arrhythmias • A V Blocks • Pathophysiological responses. • Recircuit arrhythmias and ablation therapy • Automatic Implantable Cardioverter Defibrillator Nurses role and responsiblities
Unit VII	5	❑ Nursing Care of patient with chest drainage tubes • Principles of under-water seal drainage. • Equipment, set up, assessment, care of patient, complications. • Principles of autotransfusion, indications, complications, care, setup.
Unit VIII	15	❑ Congenital Heart Diseases Etiology, clinical manifestations, diagnois, prognosis, related pathophysiology and nursing management of: • Embryological development of heart. • Classification – cyanotic and acyanotic heart disease. • Tetralogy of Fallots.

Subject	Hours	Content
		• Atrial Septal Defect, Ventricular Septal Defect., Eisenmenger's complex. • Patent ductus arteriosus, AP window • Truncus Arteriosus. • Transposition of great arteries. • Total Anomaly of Pulmonary Venous Connection. • Pulmonary stenosis, atresia. • Coarctation of aorta. • Ebstein's anomaly • Double outlet right ventricle, Single ventricle, Hypoplastic left heart syndrome.
Unit IX	10	❑ Nursing care of pediatric patient with cardio thoracic disorders • Review of growth and Development • Psychosocial aspects of pediatric care, and family. • Pre, peri and post operative cardio thoracic care. • Pediatric pain assessment and management.
Unit X	40	❑ Nursing Care of patient undergoing cardio thoracic surgery • Indications, selection of patient • Preoperative assessment and preparation; patient teaching. • Intraoperative care: Principles of open heart surgery, equipment, anaesthesia, cardiopulmonary by pass. • Surgical procedures for Coronary Artery Bypass Grafting, recent advances and types of grafts, Valve

Subject	Hours	Content
		replacement or reconstruction, cardiac transplant, Palliative surgery and different Stunts, vascular surgery, other recent advances. • Thoracic surgery: lobectomy, pneumonectomy, tumour excision etc • Immediate postoperative care: assessment, post operative problems and interventions: Bleeding, Cardiac tamponade, Low cardiac output, Infarction, Pericardial effusion, Pleural effusion, Pneumothorax, Haemothorax, Coagulopathy, Thermal imbalance, Inadequate., ventilation/perfusion, Neurological problems, renal problems, Psychological problems. • Chest physiotherapy • Pain assessment and nursing interventions, complimentary therapy/alternative systems of medicine. • Intermediate and late post operative care after CABG, valve surgery, others. • Rehabilitation after cardiac surgery
Unit XI	15	❑ Nursing care of a patient with obstructive airway • Assessment • Use of artificial airway • Endotracheal intubation, tracheostomy and its care • Complication, minimum cuff leak, securing tubes

Subject	Hours	Content
		❑ Oxygen delivery systems. • Nasal Cannula • Oxygen mask, Venturi mask • Partial rebreathing bag • Bi-PAP and C-PAP masks • Uses, advantages, disadvantages, nursing implications of each. ❑ Mechanical Ventilation • Principles of mechanical ventilation • Types of mechanical ventilation and ventilators. • Modes of ventilation, advantage, disadvantage, complications. • PEEP therapy, indications, physiology, and complications. Weaning off the ventilator. • Nursing assessment and interventions of ventilated patient. • Ventilator adjustments related to correcting ABG abnormality. • Care of a chronic ventilated patient.

Supervision & Management, Clinical Teaching, Elementary Research & Statistics

Total Hours: 90

Section-A	**Supervision & Management**	– 30 Hrs
Section-B	**Clinical Teaching**	– 30 Hrs
Section-C	**Elementary research & Statistics**	– 30 Hrs

Description:

This course is designed to develop an understanding of the principles of supervision and management, clinical teaching and research.

Objectives:

At the end of the course the student will be able to:

1. Describe Professional trends.
2. Describe role of nurse in management and supervision of nursing personnel in Cardio- thoracic unit, ICCU & ICU.
3. Teach nurses and allied health workers about cardiac thoracic nursing.
4. Describe research process and perform basic statistical tests.
5. Plan and conduct research in cardiac thoracic nursing

Unit	Hours	Subject
Unit I	20	SUPERVISION & MANAGEMENT ❑ Management • Definition & Principles • Elements of management of ICCU, cardio thoracic Unit:- Planning, Organizing, Staffing, Reporting, Recording and Budgeting • ICU & coronary care unit management :- Time, material & personnel

Unit	Hours	Subject
		• Layout and Design of a Cardio thoracic Unit & ICU/ICCU. • Cardiac patients transport services – Mobile coronary care unit. ❑ Clinical supervision • Introduction, definition and objectives of supervision • Principles & Functions of supervision • Qualities of supervisors • Responsibilities of clinical supervisors • Practice Standards of Cardio thoracic units – Policies and Procedures – Establishing Standing orders and Protocols • Orientation programme for new recruits ❑ Quality Assurance Programme in cardio thoracic units • Nursing audit ❑ Performance Appraisal • Principles of performance evaluation • Tools of performance appraisal – Rating scales – Checklists – Peer reviews – Self appraisals ❑ Staff development • Introduction & purposes • In-service education • Continuing education
Unit II	5	❑ Professional trends • Introduction • Code of Ethics, code of professional conduct and practice standards of Nursing in India

Unit	Hours	Subject
		• Ethical issues in coronary care unit • Expanding role of the nurse: Specialist nurse, Nurse Practitioner etc. • Professional organizations
Unit III	5	❑ Medico-Legal aspects • Legislations and regulations related to cardio thoracic care. • Consumer Protection Act (CPA) • Negligence & Malpractice • Legal responsibilities of nurses – Bill of right of a patient, Case studies of judgment with regard to negligence of services in the Hospital • Records and Reports • Role of the nurse in Legal issues • Professional practice issues in the cardio thoracic Unit – Bioethical Issues in Cardio thoracic Care:- Ethics, Ethical principles, Withholding & withdrawing treatment, Ethical decision making in a cardio thoracic unit Code of Professional conduct and Practice Standards
Unit IV	30	❑ Teaching learning process • Introduction and concepts • Principles of teaching and learning • Formulation of learning objectives • Lesson Planning • Teaching methods – Lecture – Demonstration, Simulation – Discussion – Clinical teaching methods – Micro teaching – Self learning

Unit	Hours	Subject
		• Evaluation – Assessment of Students o Purposes o Type o Steps o Tools for assessing knowledge, skill and attitude • Use of media in teaching learning process
Unit V	30	❑ Research • Research and research process • Types of Research • Research Problem/Question • Review of Literature • Research approaches and designs • Sampling • Data collection: Tools and techniques • Analysis and interpretation of data: • Communication and utilization of Research • Research priorities in cardio-thoracic ❑ Statistics • Sources and presentation of Data – qualitative and quantitative – Tabulation; frequency distribution, percentiles – Graphical presentation • Measures of central tendency – mean; median, mode • Measures of variance • Normal Probability and tests of significance • Co-efficient of correlation. • Statistical packages and its application • Preparing a research proposal ❑ Application of computers

Teaching Learning Activities

(i) Methods of Teaching:

- √ Lecture
- √ Demonstration & Discussion
- √ Supervised practice
- √ Seminar
- √ Role play
- √ Workshop
- √ Conference
- √ Skill training
- √ Simulations
- √ Field visits
- √ Research project

(ii) A.V. Aids:

- √ Over head projector
- √ Slide Projector
- √ Black board
- √ Graphic Aids
- √ Programmed – Video shows
- √ Models & Specimens
- √ LCD projector
- √ Computer

METHODS OF ASSESSMENT:

- √ Written examination
- √ Objective type
- √ Short notes
- √ Assignments
- √ Case studies/care notes
- √ Clinical presentation
- √ Seminars
- √ Project

ESSENTIAL CLINICAL/PRACTICAL ACTIVITIES

- Patient Care Assignments
- Writing of Nursing care plan for assigned patients with cardiac thoracic disorders.
- Writing case studies – 5
- Case presentations – 5
- Writing Observation report
- Planned health teaching – 3
- Project – 1
- Clinical teaching – 3
- Drug study – 2
- Conduct bedside rounds
- Prepare clinical rotation plan
- Prepare clinical teaching plan for students
- Perform clinical evaluation of students/staff
- Unit management plan- Designing
- Supervision techniques- Writing unit report, Performance appraisal, Guidance, Staff assignment, Material management
- Maintenance of Records and Reports

Essential cardio thoracic nursing skills

I. Procedures Observed:

i. Echo cardiogram
ii. Ultrasound
iii. Monitoring JVP , CVP
iv. CT SCAN
v. MRI
vi. Pet SCAN
vii. Angiography
viii. Cardiac cathetrisation
ix. Angioplasty
x. Various Surgeries
xi. Any other

II. Procedures Assisted:

i. Monitoring JVP
ii. Advanced life support system

iii. Arterial Blood Gas analysis
iv. ECG Recording
v. Arterial catheterization
vi. Chest tube insertion
vii. Endotracheal intubation
viii. Tracheostomy
ix. Ventilation
x. Central line, Arterial line, Cardiac pacing
xi. Swan – Ganz catheter
xii. Intra – Aortic Ballon Pump
- Physiology of IABP
- Indications, Contraindications
- Complications
- Care of patients on IABP

xiii. Left Ventricular Assist Device, Right ventricular assist device
xiv. Centrifugal, Pulsatile, Implantable devices
xv. Extra corporeal membrance oxygenation cannulation
xvi. Use of defibrillator, Cardio pulmonary resuscitation
xvii. Bronchoscopy
xviii. Chest drainage.
xix. Pacemaker

III. Procedures Performed:

i. Pulse oxymetry
ii. Arterial B P monitoring
iii. Venous access, ABG collection monitoring
iv. Oxygen administration, Suctioning, Respiratory therapy, Tracheostomy toilet
v. CPR
vi. Airway Management
   a) Application of Oro.Pharyngeal Airway
   b) Oxygen therapy
   c) CPAP (Continuous Positive Airway Pressure)
   d) Care of Tracheostomy
   e) Endotracheal Intubation
vii. Defibillator
viii. Care of intercostals drainage
ix. Nebulisation, Inhalations
x. Chest physiotherapy

xi. Monitoring of patients with cardiac disorders – clinically & with monitors, CRT (Capillary Refill Time), ECG
xii. Gastric Lavage
xiii. Setting of Ventilators
xiv. Hemodynamic monitoring of central venous pressure, Arterial pressure, Pulmonary artery pressure.
xv. Admission & discharge of patients with cardiac thoracic disorders
xvi. OG (Orogastric) tube insertion
xvii. Thermoregulation - management of thermoregulation & control, Use of hypothermia machines
xviii. Administration of Drugs: I/M, IV injection, IV Cannulation & fixation infusion pump, Calculation of dosages, Monitoring fluid therapy.
xix. Administration of Blood and its components.
xx. Procedures for prevention of infections: Hand washing, disinfections & sterilization, surveillance, fumigation
xxi. Collection of specimens related to cardiac care.
xxii. Maintenance of intake and output chart
xxiii. Mechanical Ventilation
xxiv. PEEP Therapy
xxv. Cardiac output – Thermodilution procedure

IV. Other Procedures