FELLOWSHIP IN CRITICAL CARE NURSING

ABOUT THE COURSE:

Malla Reddy School of Nursing Science and Technology believes that registered nurses need to be trained in Critical Care Nursing in clinical and community settings in order to provide competent care to patients and enhance their quality of life. Nurses play vital role in prevention, promotion, curative and rehabilitative care. Expanding roles of nurses and advances in technology necessitate additional training to prepare them for effective participation in providing such vital role. This Fellowship program is designed for nurses to enhance their knowledge and skills towards Critical care nursing.

This fellowship course is developed to help the student to recognize the etiology, pathophysiology, symptomatology, diagnostic measures, and management of patients with malignant conditions affecting various systems. The course will further help the graduates to acquire knowledge and skills in providing comprehensive nursing care to such patients and attempts to explore and expand nursing knowledge through nursing research.

OBJECTIVES:

The graduates of fellowship students will be able to:

- Provide quality care to critically ill patients.
- Manage & supervise care of critically ill patients.
- Teach nurses, allied health professionals and family members in areas related to critical care nursing.
- Conduct research in areas of critical care nursing.

ELGIBILITY

- Registered BSc Nursing in India or equivalent.

DURATION: 52 Weeks or One Academic Year

COURSE DESCRIPTION

The course is designed to prepare registered B.Sc (N) with specialized knowledge, skills and attitude in providing advance quality care to critically ill patients and their families at all the three levels of care.

EVALUATION

The examination will be conducted by school of nursing science and technology, Malla Reddy Vishwavidhyapeeth deemed to be university.

CRITERIA TO APPEAR THE EXAM

- 80% attendance in theory
- 100% attendance in practical

CRITERIA TO PASS

- In order to pass a candidate should obtain 50% in theory and 50% in practical separately
- A candidate should get 50% in internal assessment.

AWARD OF CERTIFICATE

Certificate will be awarded by Malla Reddy Vishwavidhyapeeth deemed to be university

S.No	COURSE CODE	SUBJECTS	THEORY	LAB	CLINICAL	TOTAL
1		Basic Nursing For Critical Care **(No Exam)**	60	20	120	200
2		Critical Care Nursing – I	80	20	300	400
3		Critical Care Nursing – II	80	20	300	400

BASIC NURSING FOR CRITICAL CARE

Theory: 60 hours
Lab: 20 hours
Practical: 120 hours

Unit	Hours	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
I	20	● Review relevant anatomy and physiology ● Understand changes in malignancy ● Recognize opioid use implications	**Applied Anatomy & Physiology** ➢ Review ● Cell structure and physiology ✔ Normal cell ✔ Malignant cell ● Neurological system ● Respiratory system ● Blood and lymphatics ● Cardiovascular system ● Gastro intestinal system ● Endocrine system ● Musculoskeletal system ● Genitourinary system ● Reproductive system ● Sensory system Documentation and Instruction to be taken while taking opioids ● Nurses role while administering opioids and observing the client for side-effects	• Lectures • Diagrams & charts • Case-based discussion • Opioid role-play & scenarios	• Written test • Viva voce • Practical demonstration • Case study evaluation
Unit II	10	● Understand pharmacodynamics/kinetics ● Identify key drug groups in palliative care ● Safe drug administration	**Pharmacology** ➢ Review ● Pharmacokinetics ● Analgesics ● Sedatives and Narcotics ● Antibiotics, antiseptics ● Drug reaction & toxicity ● Drugs used in cancer chemotherapy ● Blood and blood components Principles of drug administration, role of nurse and care of drugs	• Lectures • Drug cards • Case scenarios • Demo on safe administration	• Drug chart assignments • MCQs • Practical OSCE • Peer discussion
Unit	10	●Communicat	**Psychosocial and Family Support**	• Group	• Reflective

III		e effectively with patients/families ● Support grief and end-of-life needs ● Address caregiver stress	• Communication with patients and families • Stress management for patients and caregivers • End-of-life care and decision-making • Grief, loss, and palliative approach	discussions • Role plays • Family meeting simulation • Counseling session observation	journaling • Peer feedback • Case presentations
Unit IV	10	● Conduct physical assessments ● Interpret clinical data ● Evaluate consciousness and pain	**Basic Assessment of the Critically Ill Patient** • Primary and secondary assessment (ABCDE) • Monitoring vital signs and level of consciousness • Head to Toe Assessment • System wise Assessment • Glasgow Coma Scale (GCS) • Input-output charting • Pain assessment in non-verbal patients	•Demonstration • Supervised practice • Simulation labs • Clinical case sheets	• OSCE • Skill checklist • Chart review • Logbook
Unit V	10	● Build interpersonal relationships (IPR) ● Communicate across teams and families ● Support in difficult conversations	**Communication skills and IPR** ● Process and methods ● Establishing and maintaining good IPR & communication with family, staff and colleagues ● Multidisciplinary team and role of nurse ● Breaking bad news ● Guidance and counseling	• Lecture + discussion • Role play on breaking bad news • Counseling demo • MDT team interaction	• Case-based assessment • Reflection journal • OSCE scenario evaluation

CRITICAL CARE NURSING – I

Theory: 80 hours
Lab: 20 Hours
Practical: 300 hours

Unit	Hours	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
Unit - I	10	●Understand evolution and principles of critical care ● Identify unit setup, roles, and equipment usage	**Introduction to Critical Care nursing** ● Historical review ● Concepts of critical care nursing ● Principles of critical care nursing ● Scope of critical care nursing ● Critical care unit set up including equipment, supplies, use and care of various type of monitors, ventilators ● Flow sheets	• Lecture • ICU tour •Demonstration of equipment • Group discussion	• Written test • Checklist of ICU equipment • Viva
Unit - II	20	● Apply holistic approach in critical care ● Recognize psychosocial impacts ● Support patients and families	**Concept of Holistic care applied to critical care nursing practice** ● Psychophysiological & Psychosocial impact of critical care unit on patients:- ● Risk factors, Assessment of patients, Critical care psychosis, Prevention & nursing care for patients affected with Psychophysiological & Psychosocial problems of critical care unit, Caring for the patient's family, family teaching ● The dynamics of healing in critical care unit:- ● Dynamics of touch, Relaxation, Music therapy,	• Case discussions • Guided imagery/mindfulness session • Family care plan design • Staff burnout reflection activities	• Case study evaluation • Reflective journal • Presentation

			Guided Imagery ● Stress and burnout syndrome among health team members		
Unit - III	10	●Understand pain theories & types ● Assess and manage pain effectively ● Provide sedation to critically ill	**Pain Management** ● Pain & sedation in critically ill Theories of pain, Types of pain, Pain assessment, Systemic responses to pain Pain management, Sedation in critically ill patients, Placebo effect	• Lecture • Pain scale demo • Case simulation • Discussion	• OSCE • Clinical observation • MCQs
Unit IV	10	● Prevent and manage ICU infections ● Apply standard precautions and sterilization techniques	**Infection control in intensive care** ● Nosocomial infection in intensive care unit; methyl resistant staphylococcus aureus (MRSA). Disinfection, Sterilization, Standard Precautions, Prophylaxis for staff	•Demonstration • Infection control drill • Poster making	• Infection control audit • Practical demo checklist • Quiz
Unit V	10	● Apply nursing process in care planning ● Develop critical thinking in patient management	**Introduction to Nursing Process** ● Assessment ● Nursing diagnosis ● Nursing care plan ● Implementation ● Evaluation	• Lecture • Case studies • Care plan writing workshop	• Care plan review • Process charting • Oral presentation
Unit VI	10	● Assess nutrition in critically ill ● Provide enteral and parenteral nutrition ● Manage fluid and electrolytes	**Nutritional Management in the critically ill patient** ● Assessing nutritional status of patient ● Implications of under nourishment in critically ill patients ● Fluid & electrolyte management ● Administering nutrition support, ● Therapeutic diet - Various disease conditions, Total parenteral and enteral nutrition	• Lab demos • Diet planning • Group discussion	• Nutrition charting • Fluid balance sheet • Skill demonstration

Unit VII	10	● Provide compassionate end-of-life care ● Support grief and organ donation processes	**Care of dying patients** ● Spiritual support to the dying ● Grief and grieving process Bereavement support ● Organ donation & Counselling ● Care of dead	• Role-play • Discussion with palliative care team • Case reflections	• Reflection journal • OSCE • Case-based discussion

CRITICAL CARE NURSING – II

Theory: 80 hours
Lab: 20 Hours
Practical: 300 hours

Unit	Hours	Learning objectives	Content	Teaching Learning Activity	Assessment Methods
Unit-I	10	● Understand GI emergencies and their management	**Gastrointestinal System** ● Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis, Management: medical, surgical and Nursing management of:- - Acute Gastrointestinal Bleeding, Hepatic Disorders:- ● Fulminant hepatic failure. Hepatic encephalopathy, Acute Pancreatitis, Acute intestinal obstruction, peritonitis Perforate	• Case presentations • Simulation labs • Group discussion	• Case-based assessment • Clinical observation • MCQs
Unit-II	10	● Understand renal failure types and dialysis modalities	**Renal System** ● Causes, pathophysiology, Clinical types, Clinical features, diagnosis. Prognosis, Management: medical, surgical and Nursing management. of: - Acute Renal Failure, Chronic Renal failure, Acute tubular necrosis, Bladder trauma	•Demonstrations • Dialysis machine practice • Bedside teaching	• Skill checklists • OSCE • Short answer test

			Management Modalities Haemodialysis, Peritoneal Dialysis, Continuous Ambulatory Peritoneal Dialysis, Continuousarteries venous haemodialysis, Renal Transplant		
Unit - III	10	● Manage common neurological conditions in ICU	**Nervous System** ● Causes, pathophysiology, Clinical types, Clinical features, diagnosis, Prognosis Management: medical, surgical and Nursing management. of: ● Common Disorders: Neurological. Cerebrovascular disease. Cerebrovascular accident, Seizure disorders, Guillen-Barre-Syndrome, Myasthenia Gravis, Coma, Persistent vegetative state, Encephalopathy, Head injury, Spinal Cord Injury ● Management Modalities Assessment of Intracranial pressure, Management of intracranial hypertension, Craniotomy ● Problems associated with neurological disorders Thermal regulation, Unconsciousness, Herniation syndrome	• Neuro case study • GCS practice • ICP monitoring demo	• OSCE • Neuro exam checklist • Case reflections
Unit-IV	5	● Identify and treat endocrine emergencies	**Endocrine System** ● Causes, pathophysiology, Clinical types, Clinical feature Prognosis, Manager surgical and Nursing management of ● Hypoglycaemia, Diabetic ketoacidosis. Thyroid crisis, Myxoedema coma, Adrenal crisis, Syndrome of Inappropriate/ hypersecreting of Antidiuretic Hormone (SIADH)	• Case reviews • Simulation drills • Lab value interpretation	• Quiz • Practical demo • Scenario-based viva

Unit-V	5	● Manage trauma and systemic emergencies	**Management of other Emergency Conditions** ● Trauma Mechanism of injury. Thoracic injuries, Abdominal injuries, Pelvic fractures, Complications of trauma, Head injuries ● Shock Shock syndrome, Hypovelmic shock, Cardiogenic shock, Anaphylactic shock, Neurogenic shock, Septic shock ● Systemic Inflammatory Response The inflammatory response. Multiple organ dysfunction syndrome **Disseminated Intravascular Coagulation, Drug Overdose and Poisoning. AIDS: Acquired Immunodeficiency Syndrome**	• Emergency drills • Group discussion • Simulation	• Case-based MCQs • Emergency response checklist
Unit-VI	10	● Assess and manage cardiovascular emergencies	**Intensive Cardiothoracic Nursing** ● Principles of Nursing in caring for patient's with Cardio thoracic disorders ● Assessment: Cardiovascular System Heart sounds, Diagnostic studies: Cardiac enzymes studies, Electrocardiographic monitoring, Halter monitoring, Stress test, Echo cardiograph. Coronary angiography, Nuclear medicine studies ● Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis, Management: medical, surgical and Nursing management of:- - Hypertensive crisis, Coronary artery disease, Acute	• ECG practice • Cardiac monitor demo • BCLS/ACLS workshop	• ECG interpretation • Skills OSCE • CPR return demo

			Myocardial 2 Infarction, Cardiomyopathy. Deep vein thrombosis, Valvular diseases, Heart block, Cardiac arrhythmias & conduction. disturbances, Aneurysms, Endocarditis, Heart failure Cardio pulmonary resuscitation - BCLS/ACLS ● Management Modalities ● Thrombolytic therapy, Pacemaker temporary permanent, Percutaneous transluminal coronary angioplasty. Cardioversion, Intra Aortic Balloon Pulsations. Defibrillations, Cardiac surgeries, Coronary Artery Bypass Grafts (CABG/MICAS), Valvular surgeries, Heart Transplantation, Autologous Blood Transfusion, Radiofrequency Catheter Ablation.		
Unit-VII	10	● Assess, diagnose, and manage respiratory failure	**Respiratory System** ● Acid base balance & imbalance ● Assessment: History & Physical Examination Diagnostic Tests: Pulse Oximetry, End-Tidal Carbon Dioxide Monitoring, Arterial blood gas studies. Chest Radiography. Pulmonary Angiography. Bronchoscopy, Pulmonary function Test, Ventilation perfusion scan, Lung ventilation scan ● Causes, pathophysiology, Clinical types, Clinical features, Prognosis Management: medical, surgical and Nursing management of Common	• ABG lab • Ventilator simulation • Chest physiotherapy demo	• ABG interpretation test • Ventilator checklist • Case logs

			Pulmonary Disorders:- Pneumonia, Status asthmatics, Interstitial lung disease, Pleural effusion, Chronic obstructive pulmonary disease, Pulmonary tuberculosis, Pulmonary oedema, Atelectasis, Pulmonary embolism, Acute respiratory failure, Acute respiratory distress syndrome(ARDS), Chest Trauma Haemothorax, Pneumothorax **Management Modalities:** Airway Management ● Ventilator Management:- Invasive, non-invasive, long term mechanical ventilations ● Bronchial Hygiene: Nebulization, deep breathing exercise, chest physiotherapy, postural drainage Inter Costal Drainage, Thoracic surgeries		
Unit-VIII	5	● Provide total burn care and rehabilitation	**BURNS** ● Clinical types, classification, pathophysiology, Clinical features, assessment, diagnosis, Prognosis Management: medical, surgical and Nursing management of burns ● Fluid and electrolyte therapy-calculation of fluids and its administration ● Pain management. ● Wound care ● Infection control ● Prevention and management of	• Fluid calculation practice • Dressing demonstration • Burn unit observation	• Wound care OSCE • Fluid calculation assessment

			burn complications ● Grafts and flaps ● Reconstructive surgery Rehabilitation		
Unit-IX	10	● Manage pediatric/neonatal emergencies	**Neonatal Paediatric Nursing** Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis, Management: medical, surgical and Nursing management of ● Neonatal emergencies Assessment of new born, Low Birth Weight infant, Asphyxia Neonate, Pathological Jaundice in Neonates, Neonatal seizures, Metabolic disorders, Intra cranial Haemorrhage, Neonatal Sepsis, RDS/HMD (Respiratory Distress Syndrome/Hyaline Membrane Disease), Status asthmatics ● Congenital disorders:- Cyanotic heart disease, trachea oesophageal fistula, congenital hypertrophic pyloric stenosis, imperforate anus ● Paediatric emergencies ● Dehydration, Acute bronco pneumonia, Acute respiratory distress syndrome, Poisoning. Foreign bodies ● Psychosocial issues of the child & family ● Management modalities ● Management of hypothermia, ventilator management	• NICU rounds • Pediatric case studies • Equipment handling	• Growth charting • Neonatal resuscitation skills
Unit-X	5	● Respond to maternal complications in ICU	**Obstetrical emergencies** Causes, pathophysiology, Clinical types, Clinical features, diagnostic, Prognosis Management: medical,	• Role play • Case scenario discussion	• Skill-based OSCE • Clinical

			surgical and Nursing management of: ● Antepartum Preeclampsia, haemorrhage, eclampsia, Obstructed labour and ruptured uterus, Post partum haemorrhage, Puerperal sepsis, obstetrical shock	• Emergency drill	reflections • Short answer test

Research Activity:

An independent research is to be carried out by the student.

ESSENTIAL CRITICAL CARE NURSING SKILLS

I. Procedures Observed

1. CT Scan
2. MRI
3. EEG
4. Hemodialysis
5. Endoscopic Retrograde cholangio Pancreaticogram(ERCP)
6. Heart/ Neuro/GI./ Renal Surgeries

II. Procedures Assisted

1. Advanced life support system
2. Basic cardiac life support
3. Arterial line/arterial pressure monitoring/blood taking
4. Arterial blood gas
5. ECG recording
6. Blood transfusion
7. IV cannulation therapy
8. Arterial Catheterization
9. Chest tube insertion
10. Endotracheal intubations
11. Ventilation
12. Insertion of central line/cvp line
13. Connecting lines for dialysis

III. Procedure Performed

1. Airway management

a. Application of oropharyngeal airway
b. Oxygen therapy
c. CPAP (Continuous Positive Airway pressure)
d. Care of tracheostomy
e. Endotracheal extubation
2. Cardiopulmonary resuscitation, Basic cardiac life support, ECG
3. Monitoring of critically ill patients – clinically with monitors, capillary refill time (CRT) assessment of jaundice, ECG.
4. Gastric lavage
5. Assessment of critically ill patients
Identification & assessment of risk factors, Glasgow coma scale, and dolls eye movement, arterial pressure monitoring, cardiac output/pulmonary artery pressure monitoring, and detection of life threatening abnormalities
6. Admission & discharge of critically ill patients
7. Nutritional needs – gastrostomy feeds, pharyngeal feeds, jejunostomy feeds, TPN, formula preparation & patient education.
8. Assessment of patient for alteration in blood sugar levels monitoring blood sugar levels periodically & administering insulin periodically.
9. Administration of drugs: IM, IV injection, IV cannulation & fixation of infusion pump, calculation of dosages, use of insulin syringes/ tuberculin, monitoring fluid therapy, blood administration.
10. Setting up dialysis machine and starting, monitoring and closing dialysis
11. Procedures for prevention of infections:
Hand washing, disinfection & sterilization surveillance, and fumigation universal precautions.
12. Collection of specimen.
13. Setting, use & maintenance of basic equipment, ventilator, O2 analyzer, monitoring equipment, transducers, defibrillator, infusion & syringe pumps, centrifuge machine.

Signature of Resident/SNO