

शहीद धर्मभक्त राष्ट्रिय प्रत्यारोपण केन्द्र

मानव अङ्ग प्रत्यारोपण विकास समिति, प्रविधिक सेवा, जनरल नर्सिङ्ग समूह, सातौँ तह, नर्सिङ्ग अधिकृत पदको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

एवं परीक्षा योजना

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजन गरिएको छ :

प्रथम चरण :- लिखित परीक्षा (Written Examination)

पूर्णाङ्क :- २००

द्वितीय चरण :- अन्तर्वार्ता (Interview)

पूर्णाङ्क :- ३०

प्रथम चरण (First Phase) : लिखित परीक्षा योजना (Written Examination Scheme)

पत्र	विषय	पूर्णाङ्क	उतीर्णाङ्क	परीक्षा प्रणाली		प्रश्नसंख्या X अङ्क	समय
प्रथम	Nursing I	१००	४०	वस्तुगत	बहुवैकल्पिक प्रश्न	१०० प्रश्न x १ अङ्क	१ घण्टा ३० मिनेट
द्वितीय	Nursing II	१००	४०	विषयगत	छोटो आउने प्रश्न	४ प्रश्न X ५ अङ्क	३ घण्टा
					लामो आउने प्रश्न	८ प्रश्न X १० अङ्क	

द्वितीय चरण (Second Phase) : अन्तर्वार्ता (Interview)

विषय	पूर्णाङ्क	परीक्षा प्रणाली
अन्तर्वार्ता	३०	मौखिक

द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
- प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- लिखित परीक्षामा सोधिने प्रश्नसंख्या र अङ्कभार यथासम्भव सम्बन्धित पत्र/विषयमा दिईए अनुसार हुनेछ ।
- वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- वस्तुगत बहुवैकल्पिक हुने परीक्षामा परीक्षार्थीले उत्तर लेख्दा अंग्रेजी ठूलो अक्षर (Capital letter) A,B,C,D मा लेख्नुपर्नेछ । सानो अक्षर (Small letter) a,b,c,d लेखेको वा अन्य कुनै सङ्केत गरेको भए सबै उत्तरपुस्तिका रद्द हुनेछ ।
- बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
- विषयगत प्रश्नहरूको हकमा एउटा लामो प्रश्न वा एउटै प्रश्नका दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरू (Short notes) सोध्न सकिने छ ।
- विषयगत प्रश्न हुने पत्रमा प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डको प्रश्नको उत्तर सोही खण्डको उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जुन सुकै कुरा लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम स्वीकृत मिति :- २०८१/०८/०४

Paper I: Nursing I

1. Nursing Concept and Principles (10 Marks)

- 1.1 Nursing Theory
 - 1.1.1 V. Henderson
 - 1.1.2 D. Orem
 - 1.1.3 Roy's
 - 1.1.4 Florence Nightingale
- 1.2 Nursing Process
 - 1.2.1 Steps of Nursing process
- 1.3 Pain and Stress management in renal diseases (Acute and Chronic)
 - 1.3.1 Nursing Management
 - 1.3.2 Medical Management
- 1.4 Holistic Health Care
 - 1.4.1 Components of holistic health care to renal failure
 - 1.4.2 Methods of holistic care
- 1.5 Creativity in Nursing related to organ transplantation
 - 1.5.1 Methods of creativity
 - 1.5.2 Barriers of creativity
- 1.6 Professional Development
 - 1.6.1 Nursing ethics in caring for the patient with organ failure
 - 1.6.2 Trends in the areas of organ transplantation
 - 1.6.3 Professional and client's right
 - 1.6.4 Ethical and legal aspect in Nursing
 - 1.6.5 Occupational safety considerations
 - 1.6.6 ICN code of Nursing
 - 1.6.7 Nursing Association of Nepal
 - 1.6.8 Nepal Nursing Council

2. Behavioral Science and Psychology applied in Nursing (10 Marks)

- 2.1 Major cultural groups and their health seeking behavior.
- 2.2 Factors affecting health of the people with special focus to organ failure
 - 2.2.1 Socio economic conditions
 - 2.2.2 Education
 - 2.2.3 Politics
 - 2.2.4 Gender
 - 2.2.5 Physical environment
 - 2.2.6 Occupation
 - 2.2.7 Nutrition
- 2.3 Social problems in Nepal
 - 2.3.1 Organ trafficking
 - 2.3.2 Gender bias related to organ donation
- 2.4 Psychology applied to Nursing
 - 2.4.1 Characteristics of human behavior
 - 2.4.2 Causes of behavioral changes
 - 2.4.3 Emotional development
 - 2.4.4 Control of emotion
 - 2.4.5 Counseling of the patient with chronic diseases

3. Education Science in Nursing (10 Marks)

- 3.1 Teaching and Learning
 - 3.1.1 Principles
 - 3.1.2 Factors which affect Teaching / Learning
- 3.2 Roles and Responsibilities of a Hemodialysis, Pre and post-Transplant nurse
- 3.3 Teaching Methods and Media
 - 3.3.1 Teaching methods
 - 3.3.1.1 Microteaching
 - 3.3.1.2 Evidenced based learning
 - 3.3.1.3 Self-directed learning
 - 3.3.1.4 Seminar/Symposium exhibition
 - 3.3.1.5 Case study presentation
 - 3.3.2 Media
 - 3.3.2.1 Audio Aids
 - 3.3.2.2 Video Aids
 - 3.3.2.3 Audio - Video Aids
- 3.4 In-service Education
 - 3.4.1 Need Assessment
 - 3.4.2 Planning, organizing & conducting training, CPD programs
 - 3.4.3 Micro teaching to patients visiting a transplant center
 - 3.4.4 Clinical Teaching to nurses working in a transplant center
 - 3.4.5 Evaluation and Feedback
- 3.5 Components of Curriculum Development
- 3.6 Evaluation
 - 3.6.1 Types
 - 3.6.2 Characteristics of evaluation tools

4. Health Care Management (10 Marks)

- 4.1 Overview on trends of Health Care delivery system in Nepal (Federal, Provincial and Local)
- 4.2 Management:
 - 4.2.1 Concept, principles and process
 - 4.2.2 Resource management
- 4.3 Planning:
 - 4.3.1 Elements, process
 - 4.3.2 Benefits and Limitation
- 4.4 Organization
 - 4.4.1 Types, Principles, elements
- 4.5 Organizational behavior
 - 4.5.1 Group Dynamic
 - 4.5.2 Communication with the patients, colleagues, senior and juniors
 - 4.5.3 Organizational conflict and management (Problem solving)
- 4.6 Organizational structures of Health Care Delivery system in Nepal
- 4.7 Leadership
 - 4.7.1 Types/ Styles
 - 4.7.2 Functions
 - 4.7.3 Characteristics
- 4.8 Supervision and monitoring
 - 4.8.1 Concept

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- 4.8.2 Purpose
- 4.9 Personnel development
 - 4.9.1 Motivation
 - 4.9.2 Leadership and decision making
- 4.10 Human Recourse Development
 - 4.10.1 Elements, steps
 - 4.10.2 Production/distribution
- 4.11 Performance evaluation
 - 4.11.1 Types
 - 4.11.2 Methods / Process
- 4.12 Health Economics
 - 4.12.1 Concepts
 - 4.12.2 Demand and supply
 - 4.12.3 Cost benefit and cost effectiveness in Nursing Management
 - 4.12.4 Application in Nursing service
- 4.13 Health Information Management System
- 4.14 Disaster Management
- 4.15 Quality Assurance Management
- 4.16 Job description
- 4.17 Nursing Audit

5. Research & Statistics (10 Marks)

- 5.1 Research Terminology
 - 5.1.1 Variables
 - 5.1.2 Principles
 - 5.1.3 Hypothesis
 - 5.1.4 Operational definitions
 - 5.1.5 Limitations & Delimitations
 - 5.1.6 Validity & Reliability
- 5.2 Ethics & Regulations in Health & Nursing Research
 - 5.2.1 Ethics in Research.
 - 5.2.2 National Ethical guidelines in Health research in Nepal (NHRC)
- 5.3 Methodology
 - 5.3.1 Types of research
 - 5.3.2 Sampling Techniques
 - 5.3.3 Method of data collection
 - 5.3.4 Development of Instrumentation
 - 5.3.5 Statistical Data analysis
 - 5.3.6 Report writing & Dissemination
- 5.4 Importance of Evidenced based Research in Nursing services

6. Applied Health Sciences (5 Marks)

- 6.1 Anatomy and physiology of all body systems
- 6.2 Body mechanisms, Fluid and electrolyte, Osmosis, Diffusion, Acid base balance, filtration
- 6.3 Common investigations and its significance
- 6.4 Patho- physiology
 - 6.4.1 Acute Tubular Necrosis
 - 6.4.2 Inflammation

- 6.4.3 Thrombosis
- 6.4.4 Embolism
- 6.4.5 Wound – healing
- 6.4.6 Organ failure
- 6.4.7 Kidney stones
- 6.4.8 Pain
- 6.4.9 Opportunistic infection
- 6.4.10 Graft rejection

7. Organ donation and transplantation (Kidney, Liver, Pancreas, Heart and Lungs) (35 Marks)

- 7.1 Basic concept of immunology and opportunistic infections after organ transplantation
- 7.2 Basic concept of organ failure, global and national scenario, complications and treatment modalities
- 7.3 Concept of organ donation and transplantation
- 7.4 Pre- and post-transplant care of organ donor and recipient
- 7.5 Pharmacology
 - 7.5.1 Principles of pharmacokinetics and pharmaco-dynamics
 - 7.5.2 Transplant Pharmacology
 - a. Immunosuppressants
 - b. Antimicrobial agent (Antibiotic, Antiviral, Antifungal, Antiprotozoal)
 - 7.5.3 Important drugs used in organ transplantation, brief mechanism of action and adverse reactions (Cardiac emergency drugs, drugs used for patients with CKD, during dialysis, antihypertensives, Oral antihypoglycemic drugs, Insulin, Immunosuppressant, sedatives, common emergency drugs)
- 7.6 Microbiology
 - 7.6.1 Classification of microorganisms common among transplant recipients
 - 7.6.2 Microbial Morphology and the process of
 - 7.6.2.1 Drug sensitivity testing
 - 7.6.2.2 Important terminologies
 - 7.6.2.3 Opportunistic infections in chronic diseases and organ transplantation
 - 7.6.3 Different methods and types of sterilization
 - 7.6.4 Hand hygiene, standard transmission-based precautions
- 7.7 Biochemistry
 - 7.7.1 Digestion and absorption of carbohydrate, protein and fat
 - 7.7.2 Malabsorption
 - 7.7.3 Classifications of vitamins and requirement of different age group
- 7.8 Nutrition
 - 7.8.1 Assessment of nutritional status of patients with organ failure
 - 7.8.2 Therapeutic diet in various chronic diseases and organ failures
 - 7.8.3 Menu planning and calculation of therapeutic calorie for different age groups
 - 7.8.4 Food belief and practice
- 7.9 Epidemiological aspects of chronic disease
- 7.10 Level of prevention
- 7.11 Screening of patients with chronic kidney disease

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- 8. Laws related to health, nursing and organ donation and transplantation (10 Marks)**
- 8.1 Medico-legal case
- 8.2 Disposal of dead body
- 8.3 Narcotic drugs
- 8.4 Human Organ Transplantation (Regulation and Prohibition) Act, 2055 with amendment.
- 8.5 Human Organ Transplantation Regulations, 2073
- 8.6 Guidelines on medical treatment of deprived citizens program, 2080
- 8.7 Human Organ Transplant Development Committee Personnel Administration Rules, 2069 (मानव अंग प्रत्यारोपण विकास समिति कर्मचारी प्रशासन नियमवाली, २०६९)
- 8.8 Human Organ Transplant Development Committee Formation Order, 2068 (मानव अंग प्रत्यारोपण विकास समिति गठन आदेश, २०६८)
- 8.9 General knowledge about Shahid Dharmabhakta National Transplant Center
- 8.10 Brain death donation: Brain death Declaration Criteria

Paper II: Nursing II

Section A

Short Question	2 Question × 5 Marks = 10 Marks	50 Marks
Long Question	4 Question × 10 Marks = 40 Marks	

1. Advanced Nursing (10 Marks)

- 1.1 Developmental tasks of different age groups (Early childhood to late adulthood)
- 1.2 Physiological, social and common medical problems of Geriatrics and their management
- 1.3 Problem solving approach in care of patient
- 1.4 Application of holistic approach in care of patient
- 1.5 Performance appraisal
- 1.6 Conflict management
- 1.7 Time management
- 1.8 Quality assurance of nursing procedures
- 1.9 Dealing with violent patients and their visitors
- 1.10 Advancement in the diagnostic procedures for different illnesses
- 1.11 Case study and case presentation

2. Infection Prevention and Control in Hospital (10 Marks)

- 2.1 Infection prevention and control in critical care unit, Hemodialysis, transplant ward and other general ward
- 2.2 Standard transmission-based precautions and its components
- 2.3 Hospital acquired infections, CRBSI, CLABSI, CAUTI, SSI, VAP and its prevention
- 2.4 Hospital waste management
- 2.5 Different methods of sterilization
- 2.6 Hand hygiene, use of personal protective equipment

3. Medical Surgical Nursing (Adult) Nursing Care & Management of clients suffering with diseases related to following systems (15 Marks)

- 3.1 Genito urinary problems
- 3.2 Cardiovascular problems
- 3.3 Neurological problems
- 3.4 Hepato-biliary problems
- 3.5 Endocrine problems
- 3.6 Gastrointestinal problems
- 3.7 Respiratory problems
- 3.8 Electrolyte problems

4. Noninvasive and invasive procedures (5 Marks)

- 4.1 Biopsy (Mainly Kidney, Lung & Liver)
- 4.2 Body composition monitor (BCM)
- 4.3 Tread mill test (TMT)
- 4.4 Ambulatory blood pressure (ABP) monitoring
- 4.5 Coronary angiogram
- 4.6 Holter
- 4.7 ECG and ECHO
- 4.8 Fluid tapping: Paracentesis and thoracocentesis

- 4.9 Endoscopic procedures
4.10 Peritoneal equilibrium test (PET)

5. Critical care (ICU, CCU, Operation theatre and recovery room (10 Marks)

5.1 ICU Care

- 5.1.1 Intubation tray preparation and resuscitation
5.1.2 Chest tube drainage and its management
5.1.3 Suctioning and use of defibrillator
5.1.4 Cardiopulmonary resuscitation (Basic Life Support, Advance cardiac Life Support)
5.1.5 Incentive spirometry
5.1.6 Modes of ventilator
5.1.7 Airway management
5.1.8 Assessment of critically ill patients
5.1.9 Nursing care of patients under ventilator

5.2 CCU Care

- 5.2.1 Nursing care of patients undergoing Percutaneous Coronary artery Angioplasty (PCI), Coronary Artery Bypass graft (CABG) and Valve replacement

5.3 Nursing management of patient in OT and recovery room:

- 5.3.1 Preparation of OT
5.3.2 Basic roles and responsibilities of nurses in Operation Theatre
5.3.3 Immediate post-operative management of patient after surgery under general anesthesia, spinal anesthesia

Section B

Short Question	2 Question × 5 Marks = 10 Marks	50 Marks
Long Question	4 Question × 10 Marks = 40 Marks	

6. Transplant Nursing (20 Marks)

- 6.1 Basic concept of organ donation and transplantation (Special focus on Kidney, Liver, Pancreas and Heart Transplantation)
6.2 Process of organ donation, list of documents required for organ donation
6.3 Definition, Indications, Contraindications, Benefits, Complications of organ transplantation especially renal, liver, pancreas and heart transplantation
6.4 Concept of immunology and immunological tests – Human leucocyte antigen (HLA), donor specific antibodies (DSA), Panel reactive antibodies (PRA) and complement dependent cytotoxicity (CDC) cross match
6.5 Preoperative preparation of recipient and donor
6.6 Postoperative care of donor and recipient
6.7 Post-transplant follow up
6.8 Counseling to the patient and family
6.9 Post-transplant complication and management
6.10 Post-transplant infection and malignancy
6.11 Common infection and their timing in the post-transplant period
6.12 Prevention and treatment of infection
6.13 Malignancy risk
6.14 Prevention and treatment of infection
6.15 Rejection, its types, signs and symptoms, prevention and management
6.16 Concept of immunology and common infections after organ transplantation

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- 6.17 Diet and lifestyles to be followed after transplantation
 - 6.18 Special drugs used for patient after transplantation
 - 6.19 Brain death organ donation, its challenges and advocacy among medical professionals and general public
 - 6.20 Re-Transplantation
- 7. Pre and post-transplant counseling, nursing care and responsibilities in organ donation (5 Marks)**
- 7.1 Pre and post-transplant counseling
 - 7.2 Steps of counseling
 - 7.3 Pre- requisites for counseling
 - 7.4 Assessment of level of understanding of the patients
 - 7.5 Important aspects in pre and post organ transplant counseling
 - 7.6 Counseling of the bereaving families for cadaveric organ donation
 - 7.7 Challenges in dealing with patients and families with chronic diseases and roles and responsibilities of a nurse in their management
- 8. Hemodialysis and its nursing management (10 Marks)**
- 8.1 Definition, indications, contraindications, complications, adequacy of hemodialysis
 - 8.2 Principles, adequacy and nurse's role in hemodialysis
 - 8.3 Diet, drugs and investigations during hemodialysis
 - 8.4 Vascular access and its care for hemodialysis
 - 8.5 Water treatment, hemodialysis machine preparation and disinfection
 - 8.6 Emergencies during hemodialysis
- 9. Peritoneal Dialysis, Continuous Renal Replacement Therapy and Plasmapheresis and its nursing management (5 Marks)**
- 9.1 Definition, types, indications, contraindications, complications of peritoneal dialysis
 - 9.2 Principles, adequacy and nurse's role in peritoneal dialysis, continuous renal replacement therapy (CRRT) and plasmapheresis
 - 9.3 Diet, self-care and follow up of patients for peritoneal dialysis, CRRT and plasmapheresis
 - 9.4 Types of catheters, fluids needed for peritoneal dialysis, CRRT and plasmapheresis
 - 9.5 Nurse's role in carrying out the peritoneal dialysis, CRRT and Plasmapheresis
- 10. General information (10 Marks)**
- 10.1 Human Organ Transplantation (Regulation and Prohibition) Act, 2055 with amendment.
 - 10.2 Human Organ Transplantation Regulations, 2073
 - 10.3 Guidelines on medical treatment of deprived citizens program, 2080
 - 10.4 Human Organ Transplant Development Committee Personnel Administration Rules, 2069 (मानव अंग प्रत्यारोपण विकास समिति कर्मचारी प्रशासन नियमवाली, २०६९)
 - 10.5 Human Organ Transplant Development Committee Formation Order, 2068 (मानव अंग प्रत्यारोपण विकास समिति गठन आदेश, २०६८)
 - 10.6 General knowledge about Shahid Dharmabhakta National Transplant Center