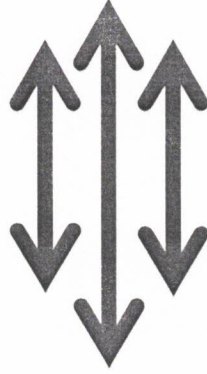
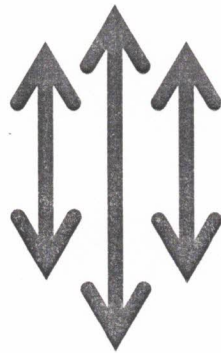


नेपाली सेना
श्री भर्ना छनौट निर्देशनालय, कार्यरथी विभाग,
जंगी अड्डा



प्रा.उ.से. फ़िजियोथेरेपिस्ट (खुला) पदको लिखित
परीक्षाको पाठ्यक्रम



२०७८

नेपाली सेना

प्रा.उ.से. फिजियोथेरेपिस्ट (खुला) पदको लिखित परीक्षाको पाठ्यक्रम

समय: ४ घण्टा १५ मिनेट

पूर्णाङ्क : १५०

उत्तीर्णाङ्क : ६०

यो पाठ्यक्रम नेपाली सेनाको प्रा.उ.से. फिजियोथेरेपिस्ट (खुला) पदको उम्मेदवार छनौट परीक्षाको लागि निर्धारण गरिएको हो । लिखित परीक्षामा सरिक हुने उम्मेदवारहरूको पेशा सम्बन्धी विषयलाई आधारमानी प्रश्नहरू सोधिने छ ।

- (क) लिखित परीक्षाको माध्यम नेपाली/अंग्रेजी वा दुवै भाषा हुनेछ ।
- (ख) लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र अर्को चरणको परीक्षामा सम्मिलित गराइनेछ ।
- (ग) प्रश्नपत्र निर्माण गर्दा पाठ्यक्रममा समावेश भएका सबै विषयहरूलाई यथासंभव समेटिनेछ ।
- (घ) वस्तुगत र विषयगत संयुक्त रूपमा पूर्णाङ्क र उत्तीर्णाङ्क कायम गरिनेछ ।
- (ङ) वस्तुगत र विषयगत परीक्षाको पाठ्यक्रम एउटै हुनेछ ।
- (च) वस्तुगत र विषयगत विषयको लिखित परीक्षा एकैपटक वा छुट्टाछुट्टै गरी लिन सकिनेछ ।
- (छ) यो पाठ्यक्रम मिति २०७८/११/२२ गतेबाट लागु हुनेछ ।

लिखित परीक्षाको योजना र पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली		प्रश्न संख्या अङ्क	समय
पेशा सम्बन्धि	७५	६०	वस्तुगत (Objective)	बहु वैकल्पिक प्रश्न (MCQs)	७५ प्रश्न x १ अङ्क=७५	१ घण्टा १५ मिनेट
	७५		विषयगत (Subjective)	छोटो उत्तर	९ प्रश्न x ५ अङ्क = ४५	३ घण्टा
				लामो उत्तर	३ प्रश्न x १० अङ्क = ३०	



प्रा.उ.से. फिजियोथेरेपिस्ट (खुला) पदको लिखित परीक्षाको पाठ्यक्रम

1. Human Anatomy:

1. Human regional musculoskeletal system including Bone, Muscles, Joints, Ligaments and other soft tissues of upper limb, lower limb, trunk, pelvis, Head and neck.
2. Anatomy of nervous system: subdivisions and their functions, neurons, nerve fibers and synapses
3. General principles and basic structural concept of gross anatomy of skin, fascia, muscles, joints, heart, stomach, intestines, liver, and gallbladder, lungs, spleen, kidneys, uterus, ovary, testes, pituitary, thyroid, parathyroid and adrenal glands.
4. Gross anatomy and organization of various systems: gastrointestinal and hepatobiliary, respiratory, cardiovascular, genitourinary and reticulo-endothelial system.

2. Human Physiology and Biochemistry:

1. Neurophysiology: sensory receptors, reticular formation, cerebellum and basal ganglia, Spinal Tracts, EMG
2. Reproduction: regulation of functions of male and female gonads.
3. Cardiovascular system: mechanical and electrical properties of heart including ECG, regulation of cardio-vascular functions.
4. Gastro intestinal and hepatobiliary system: bilirubin metabolism, liver function tests, digestion and absorption of fats, metabolism of carbohydrates.
5. Respiration: regulation of respiration, Spirometry, Gas transport, Pulmonary Circulation. Ventilation-perfusion ratio, Respiratory changes during exercise.
6. Endocrine: structure and functions of Endocrine Glands and its disorders.
7. Special Sensory Organs: Eye, Tongue, Ear
8. Renal physiology: tubular function, regulation of pH.
9. Nucleic acids: RNA, DNA, genetic code and protein synthesis.
10. Fluids and electrolytes balance and their regulation

3. Pathology and Microbiology:

1. Inflammation and Repair: Features, causes, types and classifications of Acute and Chronic Inflammations, Wound Healing
2. Immune system: Hypersensitivity, Immune disorders AIDS, SLE
3. Infectious Disease: TB, Leprosy, Polio
4. Circulatory Disturbances: Ischemia, Hemorrhage, Edema, Thrombosis, Embolism and Shock
5. Growth Disturbances and Neoplasia: Atrophy, Hypertrophy, Hyperplasia, Aplasia, Hypoplasia, Metaplasia, Malformation, agenesis, dysplasia.
6. Routes of infection and spread; endogenous and exogenous infections; source at reservoir of infections.
7. Sterilization, disinfection and universal precautions in relation to patient care and disease prevention
8. Immunology: Basic principles of immunity, lymphoid organs and tissues. Antigen, Antibodies, antigen and antibody reactions with relevance to pathogenesis and serological diagnosis. Humoral immunity and its role in immunity Cell mediated immunity and its role in immunity. Immunology of hypersensitivity, measuring immune functions.

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4. Pharmacology:

1. General Pharmacology : Introduction, Definitions, Classification of drugs, Sources of drugs, Routes of drug administration, Distribution of drugs, Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, Adverse effects.
2. Drugs used in Treatment of parkinsonism, Rheumatic Arthritis, Osteoarthritis, Gout
3. Steroids and NSAIDS, Central and Peripheral acting muscle relaxants

5. Community Medicine:

1. Principles of epidemiology and health care delivery
2. Concept and general principles of prevention of diseases and promotion of health, Organization of Nepal army health services, national health services, National health programs (National Immunization Program,
3. Nutrition, nutrients, nutritional requirements and the concept of balanced diet.
4. Family planning methods.
5. Principle of health care ethics and professionalism.
6. Effects of environmental pollution and climate change on health

6. Biomechanics

1. Kinetics and kinematics
2. Biomechanics of peripheral joints, spine, thorax, temporomandibular joint
3. Analysis of Posture and Gait
4. Movement Analysis
5. Goniometry and Waling Aids

7. Therapeutic Exercises

1. Range of motion, Manual Muscle Testing, Relaxation, Active and Passive Movements, Types of Exercises, Exercise regimen, Aerobic Exercises
2. Proprioceptive Neuromuscular Facilitations, Functional Reeducation, Stretching,
3. Manual Therapy and Joint Mobilizations
4. Balance, Coordination, Posture, gait, Hydrotherapy, massage

8. Electrotherapy

1. Burns: electrical & chemical burns, prevention and management.
2. Therapeutic Currents: Characteristics, classifications, physiological effects, therapeutic effects, dangers, indications and contraindications of Low frequency, medium Frequency and High Frequency currents.
3. Electro diagnosis: FG test, SDC, Nerve Conductions and EMG
4. Thermotherapy: characteristics, physiological effects, therapeutic effects, dangers, indications and contraindications and methods of application of SWD, MWD, IRR, Wax, Hydro collator, Ultrasound, UVR, Laser, Contrast bath, Cryotherapy

9. General Medicine and Surgery:

1. Respiratory Diseases: Acute Bronchitis, Chronic Obstructive Airway Disease, Bronchial Asthma, Pneumonias, Tuberculosis, Bronchogenic Carcinoma, Bronchiectasis, Occupational Lung Diseases, Respiratory Failure, SARS, Pleural effusion, Pneumothorax
2. Cardiovascular Diseases: Rheumatic Fever, Rheumatic Heart Disease (MS, MR, AS, AR), Congestive Cardiac Failure, Acute LVF, Ischemic Heart Disease, Myocardial Infarction,



- Hypertension, Infective Endocarditis, Congenital Heart Diseases, Cardiomyopathies, Cor pulmonale, Cardiac arrhythmias, Cardiogenic Shock
3. Neurological Diseases: Cerebro-Vascular Accident, Meningitis, Encephalitis, Parkinson's Disease, Paraplegia, Multiple Sclerosis, Myasthenia Gravis, Epilepsy, Neuro-cysticercosis, Bell's palsy, GBS, Neurosyphilis, Coma, Headache, Spina bifida, Neurogenic Shock, Cerebral Malaria
 4. Endocrine and Metabolic Diseases: Diabetes Mellitus, Hypothyroidism, Cushing's Syndrome, Addison's Disease, Hyperparathyroidism, Tetany, Hypogonadism, Diabetes Insipidus
 5. Burn, Pulmonary Embolism, Lung Abscess, Bronchogenic Carcinoma, Breast abscess and Carcinoma breast, Wound
 6. Disorders of lungs, chest and mediastinum: chest wall deformities, chest wall tumors, Bronchial Adenomas, Metastatic tumors of the Lung, tracheal Stenosis, Congenital tracheomalacia, Neoplasm of the trachea, Carcinoma of the female breast.

10. Obstetrics and Gynecology:

1. Antenatal, Natal and Postnatal care, Stages of labour, Retained Placenta
2. Ruptured Uterus, Genital prolapsed, Family Planning

11. Orthopedics

1. Traumatology: Fracture of upper limb, lower limb, spine, chest and skull. Fracture healing. Complications of fractures. Conservative and surgical approaches. Principles of management – reduction (open/closed, immobilization etc). Subluxation/ dislocations,
2. Soft Tissue Injuries, Amputations, Traumatic spinal cord injuries, Hand Injuries Deformities, Infective, inflammatory and Degenerative diseases of Bones, joints and soft tissues
3. Peripheral nerve injuries, Plexus Injuries, Cervical and lumbar pathology
4. Regional conditions of Upper limb and lower limb: Capsulitis, tendinitis, Strain, Sprain and Sports Injuries

12. Neurology

1. Cortical mapping
2. Classification of neurological involvement depending on level of lesion
3. Neurological assessment: Principles of clinical diagnosis, higher mental function, assessment of brain & spinal cord function, evaluation of cranial nerves and evaluation of autonomic nervous system
4. Investigations: principles, methods, views, normal/abnormal values/features, types of following investigative procedures- skull x-ray, CT, MRI, evoked potentials, lumbar puncture, CSF examination, EMG, NCV
5. Cranial nerve lesions
6. Cerebrovascular lesions, Head Injury, Higher cortical, neuro psychological and neurobehavioral disorders, Movement Disorders, Cerebellar and Coordination disorders, Spinal Cord disorders
7. Motor neuron Diseases, Multiple Sclerosis, Guillain Barre Syndrome, Polyneuropathy
8. Neurosurgery: Craniotomy, Cranioplasty, Stereotactic surgery, Deep brain stimulation, Burr-hole, Shunting, Laminectomy, Hemilaminectomy, Rhizotomy, Microvascular decompression surgery, Endarterectomy, Embolization, Pituitary surgery, Ablative surgery - Thalamotomy and Pallidotomy, Coiling of aneurysm, Clipping of aneurysm, and Neural implantation.

13. Musculoskeletal and Sports Physiotherapy

1. SOAP format of Physiotherapy assessment for orthopedic conditions
2. Physiotherapy assessment and management of fractures and dislocations of bones and joints of upper limb, lower limb and spine
3. Physiotherapy assessment and management of soft tissue injuries and Sports injuries
Selection and application of physiotherapeutic techniques, maneuver's, modalities for preventive, curative and rehabilitative means in all conditions
4. Physiotherapy assessment and management of degenerative, infective and inflammatory orthopedic conditions
5. Postural Analysis, assessment and rehabilitations
6. Congenital and Acquired Deformities: assessment, medical, surgical and physiotherapy management
7. Amputation, leprosy, poliomyelitis: assessment, medical, surgical and physiotherapy management
8. Joint Replacements: assessment, medical, surgical and physiotherapy management
9. Regional Orthopedic conditions: assessment, medical, surgical and physiotherapy management

14. Neurology and Neurosurgery Physiotherapy

1. Neurological assessment: Cognitive, sensory, motor and autonomic assessments
2. Neuro physiological Techniques – Concepts, Principles, Techniques, Effects of following Neurophysiological techniques: NDT, PNF, Vojta therapy, Rood's Sensory motor Approach, Sensory Integration Approach, Brunnstorm movement therapy, Motor relearning program, Contemporary task oriented approach, Muscle re-education approach and Constraint induced movement therapy.
3. Neurophysiological approaches & Modalities in pediatrics
4. Evaluation and Management of Brain and Spinal Cord Disorders
5. valuation and Management of Cerebellar, Spinal Cord and Muscle Disorders
6. Evaluation and Management of Peripheral Nerve Injuries and Disorders
7. Assessment and management of Neurological gait
8. Pre and Post surgical assessment and treatment following neurological disorders

15. Cardio-Respiratory Physiotherapy

1. Adult and pediatric Lungs: differences and bedside assessment
2. Investigations and tests – Exercise tolerance Testing – Cardiac & Pulmonary, Radiographs, PFT, ABG, ECG, Hematological and Biochemical Tests
3. Physiotherapy techniques to increase lung volume – controlled mobilization, positioning, breathing exercises, Neurophysiological Facilitation of Respiration, Mechanical aids - Incentive Spirometry, CPAP, IPPB
4. Physiotherapy techniques to decrease the work of breathing – Measures to optimize the balance between energy supply and demand, positioning, Breathing re-education – Breathing control techniques
5. Physiotherapy techniques to clear secretions – Hydration, Humidification & Nebulisation, Mobilization and Breathing exercises, Postural Drainage, Manual techniques – Percussion, Vibration and Shaking, Rib Springing, ACBT, Autogenic Drainage, Mechanical Aids – PEP, Flutter, IPPB, Facilitation of Cough and Huff, Nasopharyngeal Suctioning
6. Drug therapy – Drugs to prevent and treat inflammation, Drugs to treat Bronchospasm, Drugs to treat Breathlessness, Drugs to help sputum clearance, Drugs to inhibit coughing, Drugs to improve ventilation, Drugs to reduce pulmonary hypertension, Drug delivery doses, Inhalers and Nebulisers
7. Pulmonary and cardiac Rehabilitations

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8. Peripheral vascular Diseases and Physiotherapy
9. Burns management
10. ICU: ICU monitoring –Apparatus, Airways and Tubes used in the ICU - Physiotherapy in the ICU – Common conditions in the ICU – Tetanus, Head Injury, Lung Disease, Pulmonary Edema, Multiple Organ Failure, Neuromuscular Disease, Smoke Inhalation, Poisoning, Aspiration, Near Drowning, ARDS, Shock; Dealing with an Emergency Situation in the ICU
11. ACLS, BLS, ATLS
12. Health Fitness and Promotion: Fitness Evaluation, Analysis of Body composition, Evaluation and prescription of Exercise, Factors affecting exercise Performance, Exercise Prescription for Specific groups: Elderly, Women and Children.

16. Community Based Rehabilitations

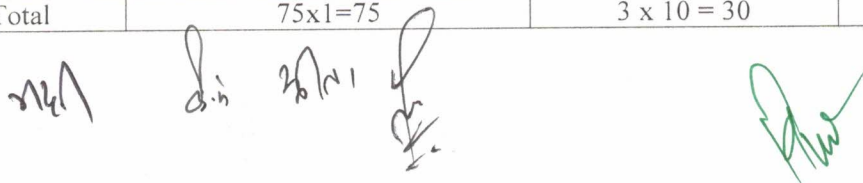
1. Concept of CBR, Need for CBR, Difference between Institution based and Community based Rehabilitation, Objectives of CBR, Scope of CBR, Members of CBR team, Models of CBR
2. Planning and management of CBR Programs
3. Disability: Impairment, Handicap and Disability, Difference between impairment, handicap and disability, Causes of disability, Types of disability, Prevention of disability, Disability in developed countries, Disability in developing countries. Disability Surveys: Demography. Screening: Early detection of disabilities and developmental disorders, Prevention of disabilities- Types and levels
4. Role of Physiotherapy in CBR
5. Screening and rehabilitation of pediatric disorders in the community

17. Acts related to Health and Medical Profession:

Nepal Health Services Act, Nepal Health Service Regulation, National Health Policy, Disability Acts, Nepal Health Professionals Act, World physiotherapy, Nepal Physiotherapy Association,

माथि उल्लेखित पाठ्यक्रमका एकाइहरूबाट सोधिने प्रश्नहरूको संख्या निम्नानुसार हुनेछ

Section number	MCQs number	Long answer question	Short answer question	
1.	10	-	-	
2.				
3.				
4.				
5.				
6.	25	1 x10 = 10	3 x 5 = 15	
7.				
8.				
9.	5	-	2 x 5 = 10	
10.				
11.	10	2 x 10 = 20		
12.				
13.	25		4 x 5 = 20	
14.				
15.				
16.				
17.				
Total	75x1=75	3 x 10 = 30	9x5=45	



प्रा.उ.से. फ़िजियोथेरेपिस्ट (खुला) पदको प्रयोगात्मक परिक्षाको पाठ्यक्रम

समय : ६० मिनेट

पूर्णाङ्क: ५०

उत्तीर्णाङ्क: २५

SN	Topic	Full marks	Time
1	History taking	5	10
2	Examination of patient	9	10
3	Treatment Goal	3	5
4	Therapeutic Interventions	15	15
5	Communications	3	5
6	Viva	15	15
Total		50	60

The End

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19/11/20