

शहीद धर्मभक्त राष्ट्रिय प्रत्यारोपण केन्द्र
नेपाल स्वास्थ्य सेवा, फिजियोथेरापि समूह, सातौँ (७) तहको फिजियोथेरापिष्ट पदको प्रतियोगितात्मक परीक्षाको
लागि 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 | Basic Science | १०० | ४० | वस्तुगत | बहुवैकल्पिक प्रश्न | ५० प्रश्न x २ अङ्क | ४५ मिनेट |
| द्वितीय | Physiotherapy | १०० | ४० | विषयगत | | १० प्रश्न x १० अङ्क | ३ घण्टा |

द्वितीय चरण (Second Phase)

| विषय | पूर्णाङ्क | परीक्षा प्रणाली |
|--------------|-----------|-----------------|
| अन्तर्वार्ता | ३० | मौखिक |

द्रष्टव्य :

- यो परीक्षा योजनालाई प्रथम चरण (लिखित परीक्षा) र द्वितीय चरण (अन्तर्वार्ता) गरी दुई चरणमा विभाजन गरिएको छ ।
- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
- प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- परीक्षामा सोधिने प्रश्नसंख्या, अङ्क र अङ्कभार यथासम्भव सम्बन्धित पत्र/विषयमा तोकिए 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 ।
- बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
- विषयगत प्रश्नका लागि तोकिएका १० अङ्कका प्रश्नहरूको हकमा १० अङ्कको 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 प्रश्नमा प्रत्येक पत्र/विषयका प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परिक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरू परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्भन्नु पर्दछ ।
- प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम लागू मिति :-

Paper I: Basic Science

1. Applied Anatomy and Physiology

1.1 Applied Anatomy

1.1.1 Regional (Muscles, Bones, Joints, Nerves, Blood vessels, Lymphatics)

1.1.1.1 Upper limb

1.1.1.2 Lower limb

1.1.1.3 Head

1.1.1.4 Neck

1.1.1.5 Trunk

1.1.2 Systemic

1.1.2.1 Muscular

1.1.2.2 Skeletal

1.1.2.3 Nervous

1.1.2.4 Cardio-vascular

1.1.2.5 Respiratory

1.1.2.6 Metabolic & Endocrine

1.1.2.7 Excretory

1.1.2.8 Reproductive

1.1.2.9 Integumentary system

1.1.3 Radiological

1.1.3.1 Investigation

1.1.3.2 Finding

1.1.4 Surface Anatomy

1.2 Physiology

(Physiology of the following systems)

1.2.1 Muscular

1.2.2 Skeletal

1.2.3 Nervous

1.2.4 Cardio-vascular

1.2.5 Respiratory

1.2.6 Metabolic & Endocrine

1.2.7 Excretory

1.2.8 Reproductive

1.2.9 Integumentary system

2. Pharmacology, Pathology, Microbiology, Biochemistry

2.1 Pharmacology

2.1.1 Drug allergy

2.1.2 Drug toxicity

2.1.3 Methods of administration

2.1.4 Hormones

2.1.5 Vitamins

2.1.6 Drugs acting on neuromuscular junction and muscles

2.1.7 Drugs acting on cardio-respiratory system

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2.1.8. Drugs acting on CNS, PNS, ANS

2.1.9. Chemotherapeutic agents

2.2 Pathology

2.2.1 Inflammation/ tissue repair/ cell repair

2.2.2 Infection/tumors-etiology spreads and types

2.2.3 Blood: Anemia, rheumatic and coronary heart diseases

2.2.4 Respiratory system: Pneumonia, asthma, bronchitis, bronchiectasis, emphysema

2.2.5 Bones and joints disease: auto immune disease, different arthritis, osteomyelitis

2.2.6 Skin: leprosy

2.2.7 Polio, myopathies, CNS infections and psoriasis

2.3 Microbiology

2.3.1 Sterilization

2.3.2 Bacteriology/virology

2.3.3 Immunity

2.3.4 Allergy and hypersensitivity

2.4 Biochemistry

2.4.1 Metabolism of carbohydrates, vitamins, fats, proteins

3. Organ donation and transplantation

3.1 Basic concept of solid organ donation and transplantation

3.2 Importance of physiotherapy after organ transplantation surgery

3.3. Human Organ Transplant Act and Regulations

3.3.1. Human Organ Transplantation (Regulation and Prohibition) Act- 2055

3.3.2. Human Organ Transplantation (Regulation and Prohibition) Act- 2072

3.3.3. Human Organ Transplantation Regulations- 2073

3.3.4. Concept and practice of International rules and regulations on Organ donation and transplantation

4. General knowledge about Shahid Dharmabhakta National Transplant Center

Paper II: Physiotherapy
Section (A): 30 %

1. **Biomechanics and Kinesiology**
 - 1.1 Basics principles of mechanics including Centre of gravity, line of gravity, force, newton's law, friction, stability, equilibrium, levers etc
 - 1.2 Biomechanics of spine, upper extremity and lower extremity
 - 1.3 Biomechanics of posture and its deviations
 - 1.4 Biomechanics of gait and its deviations

2. **Rehabilitation in Neurology:** (Clinical condition and different exercises regimes, therapeutic modalities and equipment's, prosthetics and orthotics used for the management of the condition)
 - 2.1 Cerebral vascular accident
 - 2.2 Acquired brain injury, spinal cord injury
 - 2.3 Tumors
 - 2.4 Degenerative neurological/neuromuscular disorder
 - 2.5 Demyelinating disorders
 - 2.6 Inflammatory/ infectious condition
 - 2.7 Cerebellar/ vestibular disorders
 - 2.8 Neuropathies
 - 2.9 Developmental/ birth injuries e.g. CP
 - 2.10 Dementia and other cognitive disorder

3. **Rehabilitation in Musculoskeletal and Sports:** (Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 3.1 Muscle contusion/strain/ ligament sprain/tear/weakness
 - 3.2 Pelvic floor dysfunction
 - 3.3 Tendinopathy, tendon tear/ rupture/ tendonosis
 - 3.4 Joint derangement/dysfunction, fracture, dislocation, subluxation
 - 3.5 Degenerative joint diseases, osteoporosis, osteopenia
 - 3.6 Amputation
 - 3.7 Congenital malformation
 - 3.8 Sports injuries
 - 3.9 Mechanical spinal abnormalities
 - 3.10 Inflammatory/infectious conditions
 - 3.11 Nerve compression/ radiculopathy/ peripheral nerve injuries

4. **Rehabilitation in Cardio-respiratory:** (Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 4.1 Heart diseases, malformation, injury
 - 4.2 Myocardial ischemia, infarction, heart failure, cor-pulmonale
 - 4.3 Tumors
 - 4.4 Pneumonia, atelectasis, ARDS, asthma, COPD, pulmonary edema
 - 4.5 Arterial and venous diseases

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4.6 Pleural effusion, cystic fibrosis, tuberculosis

Section (B): 40 %

5. **Rehabilitation in Pediatrics:** (Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 5.1 Congenital and acquired musculoskeletal disorders
 - 5.2 Congenital and acquired neurological disorders
 - 5.3 Congenital and acquired cardio-pulmonary disorders
 - 5.4 Developmental disorder, learning disorders, burns, vitamins deficiency
6. **Rehabilitation in Gynecology:** (Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 6.1 Pregnancy, stages of labour, complications
 - 6.2 Gynecological disorders- salpingitis, parametritis, retro-uterus, prolapse of uterus, pelvic inflammatory diseases, urinary incontinence
7. **Rehabilitation in Geriatrics**
(Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 7.1 Musculoskeletal disorder
 - 7.2 Cardiopulmonary disorder
 - 7.3 Neurological disorders
 - 7.4 Burns, nutritional disorders
 - 7.5 Dementia, depression
8. **Rehabilitation in Multisystem**
(Clinical condition and different exercises regimes, therapeutic modalities and equipments, prosthetics and orthotics used for the management of the condition)
 - 8.1 HIV/AIDS, autoimmune disease, hemophilia
 - 8.2 Fibromyalgia, chronic pain
 - 8.3 Obesity, burns
 - 8.4 Wounds/ ulcers
 - 8.5 Skin condition like dermatitis, psoriasis

Section (C): 30 %

9. **Ethics, Management, Research, and Evidence based practice**
 - 9.1 Ethics
 - 9.1.1 Ethics and professionalism
 - 9.1.2 Standard of practice, competency
 - 9.1.3 Continuing Physical Therapy education, lifelong learning
 - 9.2 Management
 - 9.2.1 People management, communication and team work
 - 9.2.2 Development and implementation of policies and procedures
 - 9.2.3 Budgets
 - 9.2.4 Staffing and Record keeping
 - 9.2.5 Job descriptions, roles and responsibilities

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- 9.2.6 Performance evaluations and appraisals
- 9.2.7 Interviewing
- 9.3 Research
 - 9.3.1 Introduction to research, research design
 - 9.3.2 Questionnaires, surveys and sampling
 - 9.3.3 Ethical issues in research, elements of informed consent
 - 9.3.4 Structure of a research proposal
 - 9.3.5 Reliability and validity
 - 9.3.6 Research design and types of research
 - 9.3.7 Errors in research, hypothesis testing
- 9.4 Evidence based practice

- 10. Clinical Practice**
 - 10.1 Data collection
 - 10.2 Tests/measurements
 - 10.3 Data interpretation
 - 10.4 Prognosis
 - 10.5 Goal setting and care planning
 - 10.6 Implementation
 - 10.7 Education/communication with patients and their family members
 - 10.8 Intervention progression

- 11. Organ donation and transplantation**
 - 11.1 Basic concept of solid organ donation and transplantation
 - 11.2 Concept of immunology in transplantation
 - 11.3 Role of Physiotherapy after organ transplantation

- 12. Human Organ Transplant Act and Regulations**
 - 12.1 Human Organ Transplantation (Regulation and Prohibition) Act- 2055
 - 12.2 Human Organ Transplantation (Regulation and Prohibition) Act- 2072
 - 12.3 Human Organ Transplantation Regulations- 2073
 - 12.4 Concept and practice of International rules and regulations on Organ donation and transplantation