

शहीद धर्मभक्त राष्ट्रिय प्रत्यारोपण केन्द्र
नेपाल स्वास्थ्य सेवा, रेडियोलोजि समूह, रेडियो डाइग्नोसिस उपसमूह, सिनियर रजिष्ट्रार/ रजिष्ट्रार आठौं (८)
तहको 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)

Paper	Subject		Marks	Full Marks	Pass Marks	No. Questions & Weightage	Time Allowed
I	General Subject	Part I: Management	35	100	40	3 × 5 = 15 (Short answer) 2 × 10 = 20 (Long answer)	3.00 hrs
		Part II: General Health Issues	35			3 × 5 = 15 (Short answer) 2 × 10 = 20 (Long answer)	
		Part III: Human Organ Donation & Transplantation	30			3 × 10 = 30 (Long answer)	
II	Technical Subject			100	40	10 × 10 = 100 (Long answer)	3.00 hrs

द्वितीय चरण (Second Phase)

Subject	Full Marks	Examination
Interview	30	Oral

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 ।
- प्रथम पत्रको Part I, Part II र Part III को लागि छुट्टाछुट्टै (Part I को लागि एउटा, Part II को लागि एउटा र Part III को लागि एउटा) उत्तरपुस्तिका हुनेछ भने द्वितीय पत्रको लागि प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रममा जे सुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियमहरू, परीक्षाको मिति भन्दा ३ महिना अगाडी (संशोधन भएका वा संशोधित भई हटाईएका वा थप गरी संशोधित भई कायम रहेका) लाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- प्रथम चरणको परीक्षाबाट छनोट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम लागू मिति :-

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Paper I: General Subject
(Management, General Health Issues, Human Organ Donation & Transplantation)

Part I: Management

1. Management: - concept, principles, functions, scope, role, level and skills of managers
2. Hospital management
3. Participative management: concept, advantages and disadvantages, techniques of participation
4. Time management: concept, advantages, and disadvantages
5. Conflict management: concept, approaches to conflict, levels of conflict, causes of conflict and strategies for conflict management
6. Stress management: concept, causes and sources of stress, techniques of stress management
7. Leadership: concept, functions, leadership styles, leadership and management effectiveness
8. Coordination: concept, need, types, techniques, and approaches of effective coordination
9. Communication: concept, communication process and barrier to effective communication, techniques for improving communication

Part II: General Health Issues

1. Present Constitution of Nepal (health and welfare issues)
2. National Health Policy, 2071
3. International health agencies: role and responsibilities of WHO, UNICEF, UNFPA and interagency relationships
4. Medical ethics in general and its application
5. Indigenous and traditional faith healing and health practices
6. Supervision, types and its usage in health sector
7. Monitoring and evaluation system in health
8. Health management information system
9. Health insurance and financing in health care
10. Effects of environment in public health: air/noise pollution, domestic pollution
11. Importance of water, sanitation and hygiene in public health
12. Effects of disaster in public health: deforestation, land slide, flood, earthquake and fire
13. Health volunteers involvement in health service delivery
14. Counseling: - concept, type, importance and its application in health service delivery

Part III: Human Organ Donation and Transplantation

1. General concept of solid organ donation and transplantation
 - 1.1 History of organ transplantation in Nepal
 - 1.2 Immunology and immunosuppressant drugs used in organ transplantation
 - 1.3 Complications among organ transplant recipients and management
2. Human Organ Transplant Act and Regulations
 - 2.1 Human Organ Transplantation (Regulation and Prohibition) Act- 2055
 - 2.2 Human Organ Transplantation (Regulation and Prohibition) Act- 2072
 - 2.3 Human Organ Transplantation Regulations- 2073
 - 2.4 Concept and practice of international rules and regulations on organ donation and transplantation
3. General knowledge about Shahid Dharmabhakta National Transplant Center

Paper II: Technical subject

Section (A): 40 %

1. Anatomy

- 1.1 Respiratory system
- 1.2 Cardiovascular system
- 1.3 Gastrointestinal system
- 1.4 Hepatobilliary system
- 1.5 Genito- urinary system
- 1.6 Musculo-Skeletal system
- 1.7 Cross sectional anatomy
- 1.8 Central Nervous system

2. Radiation Physics

- 2.1 Electromagnetic radiation & its properties
- 2.2 Radiation measurement and units
- 2.3 Production and properties of X-ray
- 2.4 Interaction of radiation with matter
- 2.5 Properties of X-ray film, film processing
- 2.6 Intensifying and fluorescent screens
- 2.7 X-ray absorption on the radiographic image
- 2.8 Grid and filter
- 2.9 Principles of fluoroscopy and IIT
- 2.10 Principles of diagnostic ultrasound
- 2.11 Principles of CT
- 2.12 Principles of MRI
- 2.13 Principles of Nuclear medicine and Imaging
- 2.14 Radiation Hazards, its effects and methods of radiation protection
- 2.15 Principle of DSA
- 2.16 Basic knowledge on Contrast media
- 2.17 Basic knowledge in general radiology

3. Cardiovascular- X-ray/MRI/CT

- 3.1 Normal heart and pericardium
- 3.2 Pulmonary circulation- CT angiography/CECT
- 3.3 Diseases of heart
- 3.4 Role of radiologist in cardiac imaging

4. Respiratory

- 4.1 Normal chest
- 4.2 Tumors of the lung(malignant, benign)- X-ray/CT findings
- 4.3 Inflammatory diseases of the lung- X-ray/CT findings

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- 4.4 Remaining diseases of lung, pleura and soft tissue and bony thoracic cage of chest
- 4.5 Chest trauma- X-ray, CT findings, Post operative X-ray in ICU
- 4.6 Chest in children
- 5. Gastrointestinal tract and abdomen- X-ray/USG/CT/MRI**
 - 5.1 Diseases of pharynx, esophagus, stomach and duodenum
 - 5.2 Diseases of small bowel and large bowel, Acute abdomen
 - 5.3 Diseases of biliary tract
 - 5.4 Diseases of Liver, spleen and pancreas
 - 5.5 Role of radiology in liver transplant
- 6. Urogenital tracts**
 - 6.1 Congenital lesions
 - 6.2 Cystic diseases of the kidney
 - 6.3 Tumors of the kidney and ureter
 - 6.4 Renal calculi and Nephrocalcinosis
 - 6.5 Renal vascular diseases
 - 6.6 Diseases of bladder and prostate
 - 6.7 Gynecological diseases and obstetrical study
- 7. Central Nervous System- Basic**
 - 7.1 Normal and abnormal skull
 - 7.2 Diseases of brain and spine
 - 7.3 Congenital diseases
 - 7.4 Brain and spinal tumor
- 8. Musculo-skeletal systems**
 - 8.1 Congenital skeletal anomalies
 - 8.2 Diseases of bone and joints
 - 8.3 Tumors and tumors like conditions of bone
 - 8.4 Skeletal disorders of metabolic and endocrine diseases and inflammatory condition
 - 8.5 Skeletal trauma
- 9. Endocrine and metabolic diseases**
 - 9.1 Ultrasound imaging of the whole body
 - 9.2 CT imaging of the whole body
 - 9.3 MRI imaging of the whole body

Section (B): 40 %

- 10. Radiological Procedures/ Interventional radiology**
 - 10.1 Urinary tract
 - 10.1.1 IVU

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- 10.1.2 MCU
- 10.1.3 RGU and RGP
- 10.1.4 PCN
- 10.1.5 Renal embolization
- 10.2 Biliary tract and pancreas
 - 10.2.1 T-tube cholangiography
 - 10.2.2 PTC, PTBD, MRCP- Interventional radiology
- 10.3 GIT
 - 10.3.1 Barium swallow, barium meal, barium follow through, Barium enema
 - 10.3.2 Sinogram, Fistulogram
- 10.4 Vascular system- special attention to upper, lower limbs and neck vessels, abdominal vessels
 - 10.4.1 Angiography, embolization, angioplasty, stenting, coiling
 - 10.4.2 Venography
- 10.5 Radiology in emergency medicine: Evaluation of emergency radiology and imaging examination with respect to medico-legal cases/procedures.
- 10.6 Basic knowledge about contrast media

Section (C): 20 %

11. Human organ donation and Transplantation

- 11.1 Basic concept of solid organ donation and transplantation
- 11.2 Interventional procedures- for kidney and liver transplant cases
- 11.3 Radiology role in transplant (Pre and post transplant evaluation)-DTPA, DSA, USG, CT, X-ray, MRI etc
- 11.4 Transplant Immunology
- 11.5 Drugs used in renal and liver Transplant with their side-effects