

शहीद गंगालाल राष्ट्रिय हृदय केन्द्र

पदपूर्ति समिति

पद: रजिष्ट्रार कार्डियोलोजी (सेवा - प्राविधिक, समूह - मेडिकल, उप-समूह - कार्डियोलोजी) को खुल्ला प्रतियोगितात्मक लिखित 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)

Paper	Subject	Full Marks	Pass Marks	No. Questions & Weightage	Time Allowed
I	Technical Subject	100	40	50 × 2 = 100 (Objective Multiple Choice Questions)	1.00 hrs
II		100	40	6 × 10 = 60 2 × 20 = 40 (Subjective Descriptive Type)	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 पत्रको विषयवस्तु एउटै हुनेछ ।
- प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै 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 ।
- विषयगत प्रश्नको हकमा प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै 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 लागू मिति :- २०७६।११।१९

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खुल्ला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

**Paper I & II : - Technical Subject**

**Section (A): 60 % Marks**

**1. Clinical Cardiology**

- 1.1 History taking and physical examination in cardiology
- 1.2 History, physical examination, diagnosis, management and prognosis of following cardiovascular diseases and conditions:
  - 1.2.1 Coronary artery disease
  - 1.2.2 Systemic hypertension
  - 1.2.3 Rheumatic fever and rheumatic heart disease
  - 1.2.4 Congenital heart disease
  - 1.2.5 Pulmonary arterial hypertension
  - 1.2.6 Cardiomyopathy
  - 1.2.7 Vascular diseases
  - 1.2.8 Tumors of heart
  - 1.2.9 Heart failure
  - 1.2.10 Arrhythmia
  - 1.2.11 Sudden cardiac death and cardiopulmonary resuscitation (CPR)
  - 1.2.12 Pericardial diseases
  - 1.2.13 Systemic diseases involving heart and blood vessels
  - 1.2.14 Non-cardiac surgery in heart patients
  - 1.2.15 Pregnancy in heart diseases

**2. Epidemiology of cardiovascular diseases, preventive cardiology, cardiac rehabilitation and recent advances in cardiology**

- 2.1 Epidemiology and worldwide burden of cardiovascular diseases
- 2.2 Cardiovascular risk factors
- 2.3 Primordial, primary and secondary prevention of coronary heart disease
- 2.4 Prevention of congenital heart diseases
- 2.5 International and national prevention policies
- 2.6 Major recent and land marks studies and trials in cardiology
- 2.7 Cardiac rehabilitation: principles, rationale, recommendation and guidelines, practical implication of cardiac rehabilitation programs

**3. Non-invasive Cardiology and Imaging**

- 3.1 Principles, technique, interpretation of Electrocardiogram (ECG)
- 3.2 Chest X-ray in cardiovascular diseases
- 3.3 Principles, indication, technique, interpretation of Holter monitoring
- 3.4 Principles, indication, technique, interpretation of Ambulatory blood pressure monitoring
- 3.5 Techniques, exercise protocols, indication, contraindication, interpretation, limitations of Exercise ECG stress test
- 3.6 Echocardiography
  - 3.6.1 General principles
  - 3.6.2 Trans-thoracic echocardiography
  - 3.6.3 Three dimensional echocardiography
  - 3.6.4 Trans-esophageal echocardiography
  - 3.6.5 Principles of Doppler echocardiography

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- 3.6.6 Assessment and quantification of chambers
- 3.6.7 Assessment and quantification of vascular lesions
- 3.6.8 Assessment and quantification of LV/RV function
- 3.6.9 Tissue Doppler, strain imaging and speckle tracking
- 3.6.10 Contrast echocardiography
- 3.6.11 Non-invasive estimation of pressure; volume and shunt lesions
- 3.6.12 Assessment of myocardial ischemia and viability using echocardiography
- 3.6.13 Echocardiography in emergency room
- 3.6.14 Segmental approach in congenital heart disease
- 3.6.15 General introduction of Fetal echocardiography
- 3.6.16 Assessment of prosthetic valve by echocardiography
- 3.6.17 Assessment of pericardial diseases by echocardiography
- 3.7 Nuclear cardiac Imaging: Types, indication, contraindications, interpretation clinical application
- 3.8 Cardiac CT: Indication, contraindication, interpretation, clinical application, use of CT coronary angiogram

**Section (B): 40 % Marks**

4. **Invasive cardiology / cardiac electrophysiology**
  - 4.1 Right and left heart catheterization: Indications, technique, interpretation
  - 4.2 Invasive hemodynamic assessment
  - 4.3 Coronary angiogram: Indication, contraindication, technique
  - 4.4 Coronary Intervention: Principles, indication, technique
  - 4.5 Different types of coronary stents and principles of use
  - 4.6 Temporary pacemaker insertion: Indication, technique, complications
  - 4.7 Pericardio centesis: Indication, contraindication, technique
  - 4.8 Intervention in structural and congenital heart diseases
  - 4.9 Radiation hazard and protection
  - 4.10 Complications in cardiac cath lab and their management
  - 4.11 Basics of intra-cardiac ECG
  - 4.12 General introduction to radiofrequency ablation
  - 4.13 Pacemakers, ICD and CRT: General introduction and indications
5. **Etiology, clinical features, diagnosis and management of the following**
  - 5.1 Respiratory diseases
  - 5.2 Diseases of GI tract
  - 5.3 Blood and lymphatic disorders
  - 5.4 Renal diseases
  - 5.5 Endocrine and metabolic diseases
  - 5.6 Neurologic diseases
  - 5.7 Connective tissue disorders