

नेपाल सरकार
गृह मन्त्रालय
प्रहरी प्रधान कार्यालय
(मानवश्रोत एवं प्रशासन विभाग, भर्ना तथा छनौट महाशाखा)
नक्साल, काठमाण्डौ ।

प्राबिधिक प्रहरी नायव उपरीक्षक (चिकित्सक) कन्सल्टेन्ट कार्डियोलोजी (MD Cardiology) समूहको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम ।

पाठ्यक्रमको रूपरेखा:- यस पाठ्यक्रमको आधारमा निम्नानुसार दुई चरणमा परीक्षा लिईने छ :-

प्रथम चरण:- लिखित परीक्षा (Written Examination)

पूर्णाङ्क :- २५०

द्वितीय चरण:- अन्तरवार्ता (Interview)

पूर्णाङ्क :- ३५

प्रथम चरण:- लिखित परीक्षा योजना (Examination Scheme)

Paper	Subject	Part	Marks	Full Marks	Pass Marks	No. and Weight of Question	Time
प्रथम	Hospital Administration, Management and General Health Issues	I-Hospital Administration and Management	10	50	20	5X2=10 (Short Answer)-1	2.00 hrs.
		II- General Health Issues	40			2X15=30 (Long Answer) 1X10=10 (Long Answer)	
द्वितीय	Service Specific	I-General Subject	25	150	60	1X15=15 (Critical Analysis) 1X10=10 (Long Answer)	4.00 hrs
		II- Technical Subject	125			4X20=80 (Critical Analysis) 3X15=45 (Problem Solving)	
तृतीय	नेपाल प्रहरी सेवा सम्बन्धी	नेपाल प्रहरी सेवा सम्बन्धी	१०	५०	२०	बस्तुगत बहुउत्तर $१० \times १ = १०$	१ घण्टा १० मिनेट
			४०			विषयगत लामो उत्तर $१ \times १० = १०$ छोटो उत्तर $६ \times ५ = ३०$	

द्वितीय चरण (Second Phase):-

परीक्षाको किसिम	पूर्णाङ्क	परीक्षा प्रणाली
व्यक्तिगत अन्तरवार्ता	३५	मौखिक

द्रष्टव्य:

- १) लिखित परीक्षाको प्रश्नहरू अंग्रेजी भाषामा हुनेछन् र उत्तर लेख्दा नेपाली वा अंग्रेजी अथवा नेपाली अंग्रेजी दुवै भाषामा लेख्न सकिनेछ ।
- २) पाठ्यक्रममा भएका यथासंभव सबै पाठ्यांशहरूबाट प्रश्न सोधिनेछन् ।
- ३) बस्तुगत बहुउत्तर (Multiple Choice) प्रश्नहरूको उत्तर सही दिएमा प्रत्येक सही उत्तर बापत पुरा अङ्क प्रदान गरिनेछ भने गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २०% अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- ४) प्राविधिक प्रहरी नायब उपरिक्षकहरूको खुल्ला प्रतियोगिताको प्रथम पत्रको परीक्षा सबै उपसमुहलाई संयुक्त रूपमा एकै प्रश्नपत्रबाट एकैदिन हुनेछ ।
- ५) द्वितीय पत्रको परीक्षा समुह/उपसमुह अनुसार छुट्टाछुट्टै एकैदिन हुनेछ ।
- ६) तृतीय पत्रको परीक्षा सबै उपसमुहहरूलाई संयुक्त रूपमा एकै प्रश्नपत्रबाट एकैदिन हुनेछ ।
- ७) प्रथम पत्रको Part I को उत्तर पुस्तिका एउटा मात्र हुनेछ भने Part I र द्वितीय पत्रको दुवै Part का लागि प्रत्येक प्रश्नको उत्तरपुस्तिकाहरू छुट्टाछुट्टै हुनेछन् ।
- ८) यस पाठ्यक्रममा जे सुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियमहरू, परीक्षाको मितिभन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधित भई हटाइएका वा थप गरी संशोधित भई कायम रहेका) लाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- ९) अन्तरवार्ताको अंकभार सम्बन्धमा प्रहरी सेवाको पदमा नियुक्ति र वढुवा गर्दा अपनाउनु पर्ने सामान्य सिद्धान्त २०६९ को अनुसूची-१९ मा ब्यबस्था भए बमोजिम हुनेछ ।
- १०) पाठ्यक्रम लागू मिति:- २०७८/०५/०१ गते ।

प्राविधिक प्रहरी नायव उपरीक्षक (चिकित्सक) कन्सल्टेन्ट कार्डियोलोजी (MD Cardiology) पदको खुला
प्रतियोगितात्मक परीक्षाको प्रथम पत्रको पाठ्यक्रम

Paper I: Hospital Administration, Management and General Health Issues

Part I: Hospital Administration and Management

- 1. Introduction to Management**
 - 1.1 Management Process
 - 1.2 Managerial Roles & Skills
 - 1.3 Nature of Managerial work
- 2. Environmental Context**
 - 2.1 The external environment
 - 2.2 The internal environment
 - 2.3 Organizational Culture
 - 2.4 Organization environmental Relationship
 - 2.5 Environmental – organizations effectiveness
- 3. Managing Interpersonal & Communication**
 - 3.1 Interpersonal nature of Organization
 - 3.2 Forms of Communication
 - 3.3 Managing Organizational Communication
- 4. Planning & Organizing**
 - 4.1 Planning process
 - 4.2 Organizational goal
 - 4.3 Kinds of Organizational Plans
 - 4.4 Time frames for planning
- 5. Concept of Hospital Planning**
 - 5.1 Information and concept of Hospital planning
 - 5.2 Guiding Principles in Planning Hospital facilities & services
 - 5.3 Concept of Hospital unitization and its influencing factor
 - 5.4 Master plan
- 6. Background of Hospital**
 - 6.1 Distinguishing Characteristics of Hospital
 - 6.2 Complexities of Hospital
 - 6.3 Organogram of the Hospital
 - 6.4 Governing Board and its functions
- 7. Quality / Customer Service and Measuring Quality**
 - 7.1 Define Customer and Identify Customers
 - 7.2 Domains of Quality
 - 7.3 Customer Experience: Core Service & Delivery of Service
 - 7.4 Excellent Customer Service; Caring Service
 - 7.5 Individual Behavior: Stress, Communication and Interpersonal Relationship
- 8. Patient Satisfaction and Quality Audit**
 - 8.1 Setting Objectives and Agreeing upon Standards
 - 8.2 Assessment of Patient Satisfaction
 - 8.3 Feedback: Customers, Staff, Suppliers etc.
 - 8.4 Quality Audit and Review Techniques
- 9. Hospital Store, Planning & Distribution**
 - 9.1 Definitions, Objectives, Importance
 - 9.2 Material cycle
 - 9.3 Integrative Material Management

9.4 Factors Affecting & types for distribution

10. Miscellaneous

10.1 Problem solving & decision making models

10.2 Procurement, Receipt & Inspection in Hospital store

10.3 Equipment planning, selection, utilization

10.4. Import, maintenance & Audit of Hospital Equipments

Part II: General Health Issues

1. National Health Policy, 2016
2. Guideline for Health Institutions Established Upgrade standard, 2010(Updated Version)
3. Health and Human Right including Women's Right, Children's Right, Professional's Right, Client Right and Informed Consent
4. Gender Issues and Health
5. International Health Agencies: Role and Responsibilities of WHO, UNICEF, UNFPA and Interagency Relationships
6. Professional Council and Related Regulations
7. Medical Ethics
8. Health Management Information System (HMIS)
9. Health Insurance and Financing in Health Care
10. Continue medical Education (CME)

प्राविधिक प्रहरी नायव उपरीक्षक (चिकित्सक) कन्सल्टेन्ट कार्डियोलोजी (MD Cardiology) पदको खुला
प्रतियोगितात्मक परीक्षाको द्वितीय पत्रको पाठ्यक्रम ।

Paper II: Service Specific

Part I: General Subject

1. Applied and Developmental Anatomy of Chest, Heart and Major Blood Vessels
2. Principles of Clinical Pharmacology specially in cardiovascular diseases
3. Principles of Biochemistry, particularly that of Carbohydrate and Lipid Metabolism and Nutrition
4. Principles of Immunology, Genetics and Molecular Biology as relevant to Clinical Medicine
5. Principles of Medical Ethics and Medical Informatics
6. Evidence Based Medicine / Critical Appraisal of Scientific Literature
7. Principles of Research Methodology and Scientific Writing
8. Methodology, design, variables, sampling, data collection, data entry, descriptive statistics, research reports, random number.
9. Principles of Medical Education
10. Principle of Communication and Patient Counseling
11. Epidemiology and Principle of Prevention and Control of Non-communicable Diseases
12. National Health Policy, Health Services Delivery System, Principles of Primary Health Care and ongoing major national public health programs
13. Rational use of drugs, drug policies.
14. Public health and epidemiology.
15. TB Control.
16. HIV/AIDS control.
17. Land mark trial and practice changing guidelines
18. Recent advances of 2020
19. Principles of pharmacology therapy
20. Major manifestations, monitoring and management of critical illness
21. Basic of infection
22. Diabetes mellitus: Classification, epidemiology, aetiology, pathophysiology, clinical feature, diagnosis, management, acute and long-term complications of diabetes, special problems in management, prospects in diabetes.
23. Obesity
24. Cardiovascular system and disease as required for General Physicians
25. Functional anatomy, physiology and investigations
26. Tumors of the bronchus and lung
27. Pulmonary vascular disease
28. Disease of the pleura, diaphragm and chest wall
29. Functional anatomy, physiology and investigations
30. Physiology and electrolytes, water and acid-base
31. Renal vascular disease
32. Renal involvement in systemic diseases
33. Drugs and the kidney
34. Major manifestations of blood diseases
35. Bleeding disorders
36. Venous thrombosis
37. Major manifestations of nervous system and psychiatric disease
38. The clinical interview

- 39. Modern molecular methods in human disease
- 40. Major manifestations and investigations of skin disease

Part II: Technical Subject 100 Marks

1. Clinical:

(Definition, Pathophysiology, Epidemiology, Features of History, Examination findings, Differential Diagnosis, Investigations indicated, detailed initial management and principles of ongoing management (counseling, lifestyle, medical, surgical, care setting and follow up)

- 1.1 Coronary artery Diseases
- 1.2 Rheumatic Fever and Rheumatic Heart Diseases
- 1.3 Congenital Heart diseases
- 1.4 Vascular Disorders
- 1.5 Pulmonary Thrombo-embolism and Pulmonary Hypertension
- 1.6 Systemic Hypertension
- 1.7 Systemic Diseases involving Heart and its Vessels
- 1.8 Heart Muscle Diseases
- 1.9 Tumors of Heart
- 1.10 Genetics, molecular biology and immunology related to Cardiology
- 1.11 Geriatric heart diseases
- 1.12 General Anaesthesia and non-cardiac surgery in heart patients
- 1.13 Pregnancy and heart diseases
- 1.14 Epidemiology, preventive and rehabilitative cardiology
- 1.15 Pericardial Diseases
- 1.16 Cardiac Arrhythmias
- 1.17 Approach to common cardiac symptoms like Chest pain, Shortness of Breath and Syncope.

2. Core Procedures and Investigations:

- 2.1 Basic Investigations: (Investigations for the diagnosis and assessment of patients with cardiac disease - Level 3)
 - 2.1.1 Electrocardiograms
 - 2.1.2 Ambulatory ECG
 - 2.1.3 Exercise Testing
 - 2.1.4 CXR 2.1.5 Ambulatory BP

2.2 Echocardiography (Core)

- 2.2.1 Role of echocardiography in the management of patients with cardiac disease (Level 3)
- 2.2.2 To be able to satisfactorily perform, interpret and report transthoracic echocardiography for the diagnosis & assessment of adult patients (Level 3)
- 2.2.3 To recognise the indications for advanced echocardiography, e.g. transoesophageal and stress echocardiography (Level 1 and 2)
- 2.2.4 Demonstrate knowledge of:
 - 2.2.4.1 Indications for echocardiography in emergency, in-patient and outpatient settings. Ethics and sensitivities of patient care.
 - 2.2.4.2 Basic principles of ultrasound imaging, spectral and colour flow Doppler. Basic instrumentation and scanning. Standard methods of measurement and analysis.
 - 2.2.4.3 the echocardiographic assessment of ventricular structure and function in normal and abnormal cases
 - 2.2.4.4 the echocardiographic assessment of the cardiac valves in normal and abnormal cases, including prosthetic heart valves

- 2.2.4.5 Echocardiographic assessment of the thoracic aorta in normal (e.g. screening) and abnormal cases
- 2.2.4.6 Use of echocardiography to assess the right heart; measurement of pulmonary artery pressure
- 2.2.4.7 Role and echocardiographic assessment of patients with suspected or confirmed endocarditis, intracardiac mass, pericardial disease
- 2.2.4.8 Indications for and limitations of advanced echocardiography: tissue Doppler/strain analysis, contrast echo, 3D echocardiography, transoesophageal echocardiography, stress echocardiography, perioperative echocardiography

2.3 Nuclear cardiology (Core):

- 2.3.1 To be able to define the indications for nuclear Cardiology investigations
- 2.3.2 To understand the clinical significance and limitations of the results of nuclear Cardiology investigations having participated in stress, imaging, and reporting sessions
- 2.3.3 Knowledge on : the indications for MPS and ERNV, the importance of radiation protection IRMER, the methods of stress used in MPS Exam, the radiopharmaceuticals and protocols used in MPS and ERNV Exam, the equipment and techniques used in nuclear Cardiology imaging IRMER, the clinical value of MPS and ERNV in different clinical settings

2.4 CMR Resonance (core)

- 2.4.1 To have a basic understanding of the role of CMR and its capabilities, including its indications
- 2.4.2 To have a basic understanding of how the procedures are carried out, in particular the safety issues
- 2.4.3 To have a basic understanding of image analysis, post-processing and interpretation of images and data with emphasis on patient management
- 2.4.4 Knowledge on : the indications and contra-indications to CMR Exam, the basics of CMR safety, the basics of CMR image acquisition and image processing, the basics of CMR imaging protocols (anatomical imaging and functional imaging) The limitations of CMR

2.5 Cardiac CT (core)

- 2.5.1 Cardiac Computed Tomography Techniques including contrast administration
- 2.5.2 Modalities: Ultra-fast CT and Coronary angiogram (including grafts and stents)
- 2.5.3 Indications for: Calcium score Exam and CT coronary angiography

2.6 Heart Rhythm Training (core):

- 2.6.1 Common cardiac arrhythmia particularly in emergency setting like supra ventricular tachycardia, atrial fibrillation, ventricular tachycardia and do temporary pacing
- 2.6.2 Basic concepts, and theoretical knowledge of different rhythm management procedures like permanent pacing, AICD, CRT etc.

2.7 Invasive and Interventional Cardiology (core)

- 2.7.1 Basic understanding, indications, contraindications and technical aspects of various invasive diagnostic procedures like, coronary angiography, right heart catheterization, left heart catheterization, hemodynamic study, Pericardiocentesis, electrophysiological study and others.
- 2.7.2 Basic understanding, indications, contraindications and technical aspects of temporary and permanent pacemaker implantation.
- 2.7.3 Basic understanding, indications, contraindications and technical aspects of coronary angioplasty, mitral balloon valvoplasty and other non-coronary percutaneous interventions.

2.8 Pericardiocentesis: Candidates must be capable of performing pericardiocentesis

3. General Internal Medicine:

- 3.1 Specialist level competence in the diagnostic evaluation and management of life threatening acute medical conditions including Advanced Cardiac Life Support (ACLS)
- 3.2 Specialist level competence in general internal medicine including the evaluation, diagnosis and management of major clinical conditions related to pulmonary, renal, gastrointestinal, musculoskeletal, endocrine, hematologic, nervous system and infectious diseases
- 3.3 Principle of Geriatric Medicine and Palliative Care

-समाप्त-