

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

प्राबिधिक प्रहरी नायब उपरिक्षक (चिकित्सक) प्याथोलोजिष्ट (MD Pathologist) 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
I	Hospital Administration and Management	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)	
II	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 १०×१ = १०	१ घण्टा १० मिनेट
			४०			विषयगत लामो उत्तर १×१० = १० छोटो उत्तर ६×५ = ३०	

द्वितीय चरण

परीक्षाको किसिम	पूर्णाङ्क	परीक्षा प्रणाली
ब्यक्तिगत अन्तवार्ता	३५	मौखिक

दृष्टव्यः

- लिखित परीक्षाको प्रश्नहरू अंग्रेजी भाषामा हुनेछन् र उत्तर लेख्दा नेपाली वा अंग्रेजी अथवा नेपाली अंग्रेजी दुवै भाषामा लेख्न सकिनेछ ।
- पाठ्यक्रममा भएका यथासम्भव सबै पाठ्यांशहरूबाट प्रश्न सोधिनेछन्।
- बस्तुगत बहुउत्तर (Multiple Choice) प्रश्नहरूको उत्तर सही दिएमा प्रत्येक सही उत्तर बापत पुरा अङ्क प्रदान गरीनेछ भने गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २०% अङ्क कट्टा गरीनेछ। उत्तर नदिएमा त्यस बापत अङ्क दिइनेछैन र अङ्क कट्टा पनि गरिने छैन।
- प्राबिधिक प्रहरी नायब उपरिक्षकहरूको खुल्ला प्रतियोगिताको प्रथम पत्रको परीक्षा सबै उपसमुहलाई संयुक्तरूपमा एकै प्रश्नपत्रबाट एकैदिन हुनेछ।
- द्वितीया पत्रको परीक्षासमुह/उपसमुह अनुसार छुट्टाछुट्टै एकैदिन हुनेछ।
- तृतीया पत्रको परीक्षा सबै उपसमुहहरूलाई संयुक्तरूपमा एकै प्रश्नपत्रबाट एकैदिन हुनेछ।
- प्रथम पत्रका Part I को उत्तरपुस्तिका एउटामात्र हुनेछ भने Part I र द्वितीय पत्रको दुवै Part का लागि प्रत्येक प्रश्नको उत्तरपुस्तिकाहरू छुट्टाछुट्टै हुनेछन्।
- यस पाठ्यक्रममा जे सुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियमहरू, परीक्षाको मिति भन्दा ३ महिना अगाडि(संशोधन भएका वा संशोधित भई हटाइएका वा थप गरी संशोधित भई कायम रहेका)लाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ।
- अन्तवार्ताको अंकभार सम्बन्धमा प्रहरी सेवाको पदमा नियुक्ति र बढुवा गर्दा अपनाउनुपर्ने सामान्य सिद्धान्त २०६९ को अनुसुची-१९ मा ब्यबस्था भए बमोजिम हुनेछ।

प्राबिधिक प्रहरी नायब उपरिक्षक (चिकित्सक) प्याथोलोजिष्ट (MD Pathologist) समुहको खुल्ला
प्रतियोगितात्मक परीक्षाको 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

Paper 1

Part II: General Health Issues

- 1. National Health Policy, 2017
- 2. Guideline for Health Institutions Established Upgrade standard, 2017
- 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)

प्राबिधिक प्रहरी नायब उपरिक्षक (चिकित्सक) प्याथोलोजिष्ट (MD Pathologist) समहूको खुल्ला
प्रतियोगितात्मक परीक्षाको द्वितीया पत्रको पाठ्यक्रम ।

Paper II

Part I : General Subject

1. National drug policy-1995 and importance of essential drug list
2. Health legislation: ilaj garneko mahal, rape (karani), police act, prison act, evidence act, narcotic drug control act, drug act and regulation, disabled protection and welfare act, disaster relief act, children's act, government prosecution act, vehicle and transport act, compensation for torture act, consumer protection act, iodized salt act, human organ transplant act, breast milk substitute control act.
3. Evidence based medical practice.
4. Research Methodology
 - 4.1. Bio-statistics
 - 4.2. Basics in research methodology including search and critical review of medical literature, selection of appropriate study design, analysis of findings
5. Medical education and training
 - 5.1. General principle, curricular components, the fundamentals of educational process.
 - 5.2. Curriculum Development and Education Strategies
 - 5.3. Identification of learning resources to meet the learning objectives,
 - 5.4. Teaching/Learning Methods
 - 5.5. Teaching-Learning Aids: Use of overhead projectors, slides, models etc in the teaching learning objectives
 - 5.6. Classroom Presentation skills
 - 5.7. Evaluation and Assessment of Learning: methods of evaluation, questions type
 - 5.8. Organization, Management and Leadership
 - 5.9. Continuing Professional Development (CPD)
 - 5.10. Basics of Educational medicine.
 - 5.11. Problem oriented medical record

Part II : Technical Subject

1. Histopathology
 - 1.1. Identify and describe the gross anatomic and microscopic alteration in the surgically removed specimens and autopsy specimens. Interpret and diagnose when clinical and operative data are provided.
 - 1.2. Explain the principles of laboratory techniques and perform the procedures in histopathology laboratory
2. Cytopathology
 - 2.1. Interpret and diagnose the morphological changes in cytological specimens when clinical and operative data are provided.
 - 2.2. Explain the principles of laboratory techniques and perform the common procedures in cytopathology laboratory.
 - 2.3. Perform fine needles aspiration techniques.
3. Hematopathology
 - 3.1. Plan a strategy for investigating haematological disorders and perform and interpret them.
 - 3.2. Perform haematological procedures and interpret the results.
 - 3.3. Interpret and diagnose the morphological changes in the blood and bone marrow specimens.
 - 3.4. Perform a bone marrow aspiration.
4. Clinical Microbiology
 - 4.1. Routine and special tests of urine, stool and body fluids
 - 4.2. Staining technique, Gram's stain, AFB stain.
 - 4.3. Aerobic and anaerobic culture and sensitivity

- 4.4. Common serological tests.
5. Clinical Chemistry
 - 5.1. Interpretation and procedure of routine clinical chemistry tests.
 - 5.2. Equipments: Spectrophotometer, Colorimeter, Flame photometer, Blood gas analyzer, Auto analyzer.
6. Autopsy pathology
 - 6.1. Dissection of body partial/whole
 - 6.2. Preparation of provisional anatomical diagnosis and final anatomical diagnosis
7. Blood Bank
 - 7.1. Blood preservation
 - 7.2. Haematophoresis
 - 7.3. Blood grouping and cross matching
8. Immunology
 - 8.1. Basic immunology
 - 8.2. Immunological techniques used for diagnostic purpose and their principles.
9. Medical statistics and information technology

1. Histopathology

- 1.1.1. Describe the gross anatomy and histology of specimens and tissues of gastrointestinal (GIT), cardiovascular (CVS), respiratory (RS) systems.
- 1.1.2. Describe the normal physiology of above systems.
- 1.1.3. Describe the normal physiology of above systems.
- 1.1.4. Identify and describe the gross anatomical alterations in the surgically removed specimens.
- 1.1.5. Correlate the gross pathological diagnosis of the lesions of gastrointestinal (GIT), cardiovascular (CVS), respiratory (RS) system with the given clinical information.
- 1.1.6. Explain different types and functions of fixatives in histopathology laboratory.
- 1.1.7. Explain different types of chemicals, and equipment used in tissue processing and perform the procedure.
- 1.1.8. Explain the steps and principles of H and E staining and mounting and perform them.
- 1.1.9. Interpret the microscopic findings of various types of lesions of gastrointestinal (GIT), cardiovascular (CVS), and respiratory (RS) system.
- 1.1.10. Recall the biochemical changes in a tissue or organ in above mentioned conditions.
- 1.1.11. Diagnose the above mentioned lesions and differentiate them from other similar lesions in view of the clinical findings provided.
- 1.1.12. Describe the gross anatomy and histology of specimens and tissues of renal electrolytes and reproductive systems.
- 1.1.13. Describe the normal physiology of renal electrolytes and reproductive systems.
- 1.1.14. Describe metabolism of carbohydrate, fat protein, nucleic acids, vitamins, copper and minerals.
- 1.1.15. Identify and describe the gross anatomical alterations in the surgically removed specimen of renal electrolytes respiratory systems and metabolic disorders.
- 1.1.16. Correlate the gross pathological diagnosis of the lesions of renal electrolytes and reproductive systems with clinical data.
- 1.1.17. Interpret the microscopic findings of various lesions of renal electrolyte reproductive system and metabolic disorders.
- 1.1.18. Diagnose and differentiate with various other lesions of above mentioned system.
- 1.1.19. Describe the gross anatomy and histology of specimen and tissues from musculoskeletal system, neuro sensory systems, eye, ENT and skin.
- 1.1.20. Describe the normal physiology of the above mentioned systems.
- 1.1.21. Describe the gross anatomical alterations in the surgically removed specimen of above mentioned systems.
- 1.1.22. Correlate the gross findings with the microscopic features and clinical presentations.

- 1.1.23. Explain the use of museum and importance of preservation of specimens.
- 1.2. Frozen Section
 - 1.2.1. Describe the principle and function of cryostat.
 - 1.2.2.
 - 1.2.3. Perform frozen section of intraoperative specimens and diagnose.

2. Cytopathology

- 2.1. Describe the normal cell morphology in vaginal, cervical and endometrial specimens and sputum specimen.
- 2.2. Prepare the above mentioned smears, fix and stain with Pap staining and mount them.
- 2.3. Describe different types of fixatives used in cytopathological laboratory and explain their functions.
- 2.4. Perform fine needle aspiration biopsy procedure, prepare wet and dry smears fix and stain the slides with Pap stain and Giemsa stain.
- 2.5. Explain the principle of Pap stain and Giemsa stain.
- 2.6. Interpret the cellular morphological changes in sputum, vaginal, cervical and endometrial specimen and neoplastic conditions.
- 2.7. Correlate with the clinical findings and diagnose.
- 2.8. Describe the different methods of preparing smears from body fluids including urine and CSF.
- 2.9. Describe the principles of cytocentrifuge and Millipore filtration.
- 2.10. Describe the normal cell morphology in brushing, washing and body fluids smears.
- 2.11. Interpret the cellular morphological changes in brushing, washing and body fluid smears in different inflammatory, non-inflammatory, non-neoplastic and neoplastic conditions.
- 2.12. Correlate the findings with the clinical findings and diagnose them.
- 2.13. Explain sex chromatin. Describe the methods of obtaining and preparation of smears for the examination of sex chromatin.
- 2.14. Interpret the findings.
- 2.15. Describe the congenital anomalies in relation to sex chromosome.
- 2.16. Interpret FNAC smears and diagnose the lesions.

3. Haematopathology

- 3.1. Explain the normal hemopoiesis.
- 3.2. Describe the erythropoiesis.
- 3.3. Describe the structure, function, synthesis and metabolism of haemoglobin.
- 3.4. Classify the different types of Anaemias.
- 3.5. Explain the aetiopathogenesis and morphological findings in the peripheral and bone marrow smears in different types of anaemia and correlate with clinical data and diagnose correctly.
- 3.6. Perform routine as well as the following haematological tests and explain their principle:
 - 3.6.1. Reticulocyte count
 - 3.6.2. Osmotic fragility test
 - 3.6.3. Foetal haemoglobin
 - 3.6.4. LE cell phenomenon
 - 3.6.5. Hb electrophoresis
 - 3.6.6. Serum Iron, Folic acid, Vit B₁₂
 - 3.6.7. Total Iron binding capacity
 - 3.6.8. Serum ferritin
- 3.7. Perform a fine needle bone marrow aspiration and stain with Wright's stain.
- 3.8. Interpret and diagnose the morphological changes in the blood and bone marrow specimen.
- 3.9. Perform the common haematological procedures and interpret the results.
- 3.10. Perform cytochemical test and interpret.
- 3.11. Classify Leukaemia
- 3.12. Identify different types and their morphological features
- 3.13. Explain principles and interpretation of

- 3.13.1. Bleeding time
- 3.13.2. Clotting time
- 3.13.3. Prothrombin time
- 3.13.4. Activated partial thromboplastin time
- 3.13.5. Platelet function test
- 3.13.6. Factor VII and IX Assay
- 3.13.7. Bence Jones protein

3.14. Plan a strategy of investigations for common haematological diseases.

4. Clinical Microbiology

- 4.1. Perform the routine examination of urine and faeces and interpret the findings correctly.
- 4.2. Perform complete examination of CSF
- 4.3. Perform examination of peripheral blood for blood parasites.
- 4.4. Semen analysis
- 4.5. Identify the common aerobic and anaerobic bacteria in a culture plate.
- 4.6. Perform the Gram's stain and identify the common bacteria.
- 4.7. Perform sensitivity reactions of common bacteria.
- 4.8. Explain the principle of Gram's stain and ZN stain.
- 4.9. Explain the importance of collection of specimens of culture.
- 4.10. Explain principle of HbSAg, HIV tests.

5. Clinical Chemistry

- 5.1. Perform and interpret correctly the routine clinical chemistry tests.
- 5.2. Explain the working principles of spectrophotometer, colorimeter, flame photometer, blood gas analyzer, electrophoresis and automation in laboratory medicine.

6. Autopsy pathology

- 6.1. Perform a complete/partial autopsy.
- 6.2. Identify the gross and microscopic features found in autopsy body and tissue sections respectively and correlate it with clinical history and diagnosis.
- 6.3. Write the provisional and final anatomical diagnosis reports correctly.

7. Blood Bank

- 7.1. Perform blood grouping and Rh typing tests and cross matching.
- 7.2. Perform Coombs test
- 7.3. Explain the principles and interpretations of above tests

8. Immunology

- 8.1. Observe and interpret simple immunological tests eg:
 - 8.1.1. Agar Gel precipitation
 - 8.1.2. Haemagglutination
 - 8.1.3. Immunoelectrophoresis
 - 8.1.4. Identification of T and B cells in peripheral blood
 - 8.1.5. Immuno Fluorescence technique
 - 8.1.6. Counter current electrophoresis for demonstration of antigen
 - 8.1.7. ELISA techniques.
 - 8.1.8. Explain the principle lying behind these tests.
 - 8.1.9. Explain the principle of fluorescent microscopy.

9. Medical statistics and information technology

- 9.1. Explain the importance of statistical methods in assessing data from patient material and experimental studies, correlation coefficient, expected versus observed and their interpretations.
- 9.2. Calculate mean, standard deviation and standard error from given experimental data.
- 9.3. Familiarity with the use of the computer and other telecommunication devices like the fax for the storage, retrieval and sending of information.
- 9.4. Search for information in the Internet by electronic mail.