

प्रदेश लोक सेवा आयोग, लुम्बिनी प्रदेश

प्रदेश निजामती सेवा तथा स्थानीय सरकारी अन्तर्गत स्वास्थ्य सेवा, सबै समूह, सबै उपसमूह, नवौं तह वा सो सरहका पदहरूको खुला, आन्तरिक र अन्तर तह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

पाठ्यक्रमको रूपरेखा :- 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	50	100	40	6 X 5 = 30 (Short answer) 2 x 10 = 20 (Long answer)	3:00 hrs.
		Part II: General Health Issues and Legal Aspects	50			4 X 5 = 20 (Short answer) 3 X 10 = 30 (Long answer)	
II	Technical Subject			100	40	4 X 15 = 60 (Critical Analysis) 2 X 20 = 40 (Problem Solving)	3:00 hrs.

द्वितीय चरण : (Second Phase)

Paper	Subject	Full Marks	Time Allowed
	Interview	30	

दृष्टव्यः

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुबै हुन सक्नेछ ।
- स्वास्थ्य सेवा अन्तर्गतका सबै समूह/सबै उपसमूहहरूको लागि प्रथम पत्रको पाठ्यक्रमको विषयवस्तु एउटै हुनेछ । तर द्वितीय पत्र Technical Subject को पाठ्यक्रम समूह/उपसमूह अनुरूप फरक फरक हुनेछ ।
- प्रथमपत्रको लिखित परीक्षा समूह/उपसमूहका लागि संयुक्त रूपमा एउटै प्रश्नपत्रबाट एकैदिन वा छुट्टाछुट्टै प्रश्नपत्रबाट छुट्टाछुट्टै दिन पनि हुन सक्नेछ । यसैगरी द्वितीय पत्रको परीक्षा पनि समूह/उपसमूह अनुसार अलग अलग दिन छुट्टाछुट्टै प्रश्नबाट हुनेछ ।
- प्रथम पत्रको Part I र Part II को लागि छुट्टाछुट्टै (Part I को लागि एउटा र Part II को लागि एउटा) उत्तरपुस्तिकाहरू हुनेछन् भने द्वितीय पत्रको लागि प्रत्येक प्रश्नका उत्तरपुस्तिकाहरू छुट्टाछुट्टै हुनेछन् ।
- यस पाठ्यक्रममा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, नीति, ऐन, नियमहरू यो पाठ्यक्रम स्वीकृत हुँदा कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनुपर्नेछ ।
- पाठ्यक्रम स्वीकृत मिति :- २०८१/०५/०६

प्रदेश लोक सेवा आयोग, लुम्बिनी प्रदेश
प्रदेश निजामती सेवा तथा स्थानीय सरकारी अन्तर्गत स्वास्थ्य सेवा, सबै समूह, सबै उपसमूह, नवौं तह वा सो
सरहका पदहरुको खुला, आन्तरिक र अन्तर तह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

Paper I: General Subject

Part I: Management

(50Marks)

1. Management: - concept, principles, functions, scope, role, level and skills of managers
2. Hospital management system and administration
3. Health manpower recruitment and development
4. Participative management: concept, advantages and disadvantages, techniques of participation
5. Time management: concept, advantages, and disadvantages
6. Conflict management: concept, approaches to conflict management, levels of conflict, causes of conflict and strategies for conflict management
7. Stress/burnout management: concept, causes and sources of stress, techniques of stress/burnout management
8. Disaster management: concept, importance and its implication in service delivery
9. Change management: concept, importance and its implication in service delivery
10. Diversity management: concept, importance and its implication in service delivery
11. Appreciative inquiry: concept, basic principles and management
12. Financial management: concept, approaches, budget formulation and Implementation, auditing, fiscal management and financial accountability
13. Human resource management: concept, functions and different aspects
14. Planning: concept, principles, nature, types, instrument and steps
15. Leadership: concept, functions, leadership styles, leadership and management effectiveness
16. Coordination: concept, need, types, techniques, and approaches of effective coordination
17. Communication: concept, communication process and barrier to effective communication, techniques for improving communication
18. Good governance: Concept and characteristics

प्रदेश लोक सेवा आयोग, लुम्बिनी प्रदेश
प्रदेश निजामती सेवा तथा स्थानीय सरकारी अन्तर्गत स्वास्थ्य सेवा, सबै समूह, सबै उपसमूह, नवौं तह वा सो
सरहका पदहरूको खुला, आन्तरिक र अन्तर तह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

Part II: General Health Issues and Legal Aspects

(50 Marks)

1. Constitution of Nepal (health and welfare issues)
2. National Health Policy, 2076
3. Health services act 2053, health service regulation, 2055
4. Public Health Service Act,2075
5. Public Health Service Regulation,2077
6. Province Civil Service Act,2080
7. Province Civil Service Regulation,2080
8. Province Good Governance Act, 2076
9. Province Good Governance Regulation, 2077
10. Public Procurement Act,2063
11. Public Procurement Regulation,2064
12. Economic Procedure and Financial Accountability Act,2076
13. Economic Procedure and Financial Accountability Regulation,2077
14. Security of Health Workers and Organization Act,2066
15. Local Government Operation Act,2074 (Health sector)
16. Current Periodic Plan of Nepal and Lumbini Province
17. Second long term health plan (1997-2017)
18. Sustainable Development Goal(SDG)
19. Health sector organizational structures : Federal, Provincial and Local level
20. International health agencies: role and responsibilities of WHO, UNICEF, UNFPA and interagency relationships
21. Professional councils and related regulations
22. Medical and health professional ethics : In general and its application
23. Indigenous and traditional faith healing and health practices
24. Supervision, types and its usage in health sector
25. Monitoring and evaluation system in health
26. Health Management information system (HMIS)
27. Health insurance and financing in health care
28. Effects of environment in public health: air pollution, domestic pollution, noise pollution

प्रदेश लोक सेवा आयोग, लुम्बिनी प्रदेश

प्रदेश निजामती सेवा तथा स्थानीय सरकारी अन्तर्गत स्वास्थ्य सेवा, सबै समूह, सबै उपसमूह, नवौं तह वा सो सरहका पदहरूको खुला, आन्तरिक र अन्तर तह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

29. Health care waste management
30. Climate change and its impact on public health
31. Importance of water, sanitation and hygiene in public health
32. Effects of disaster in public health: deforestation, land slide, flood, earthquake and fire
33. Health volunteers' involvement in health service delivery
34. Community involvement in health service delivery
35. Counseling: - concept, type, importance and its application in health service delivery

Paper II: Technical Subject

1. General Pathology and Histo-cyto techniques

- 1.1. Cellular adaptation, injury and death
- 1.2. Acute and chronic inflammation
- 1.3. Tissue Repair and Removal
- 1.4. Neoplasia
- 1.5. Hemodynamic Disorders
- 1.6. Various Histological equipment's, their uses and care
- 1.7. Immunohisto chemistry
- 1.8. Electron Microscope
- 1.9. Liquid based cytology
- 1.10. Flow cytometry and Advanced Molecular Technique

2. Histopathology

2.1. Different systems of Histopathology

- 2.1.1. Describe the gross anatomy and histology of specimens and tissues of gastrointestinal (GIT), cardiovascular (CVS), respiratory (RS) systems.
- 2.1.2. Describe the normal physiology of above systems.
- 2.1.3. Identify and describe the gross anatomical alterations in the surgically removed specimens.
- 2.1.4. Correlate the gross pathological diagnosis of the lesions of gastrointestinal (GIT), cardiovascular (CVS), respiratory (RS) system with the given clinical information.
- 2.1.5. Explain different types and functions of fixatives in histopathology laboratory.
- 2.1.6. Explain different types of chemicals, and equipment used in tissue processing and perform the procedure.
- 2.1.7. Explain the steps and principles of H and E staining and mounting and perform them.
- 2.1.8. Interpret the microscopic findings of various types of lesions of gastrointestinal (GIT), cardiovascular (CVS), and respiratory (RS) system.
- 2.1.9. Recall the biochemical changes in a tissue or organ in above mentioned conditions.
- 2.1.10. Diagnose the above mentioned lesions and differentiate them from other similar lesions in view of the clinical findings provided.
- 2.1.11. Describe the gross anatomy and histology of specimens and tissues of renal electrolytes and reproductive systems.
- 2.1.12. Identify and describe the gross anatomical alterations in the surgically removed specimen of renal electrolytes respiratory systems and metabolic disorders.
- 2.1.13. Diagnose and differentiate with various other lesions of above mentioned system.
- 2.1.14. Describe the gross anatomy and histology of specimen and tissues from musculoskeletal system, neuro sensory systems, eye, ENT and skin.
- 2.1.15. Describe the normal physiology of the above mentioned systems.
- 2.1.16. Describe the gross anatomical alterations in the surgically removed specimen of above mentioned systems.
- 2.1.17. Correlate the gross findings with the microscopic features and clinical presentations.
- 2.1.18. Explain the use of museum and importance of preservation of specimens.
- 2.1.19. WHO classification of tumors of various systems, gross and histological features, their grading and staging.
- 2.1.20. Hodgkin's and Non- Hodgkin's Lymphoma etiology, pathogenesis, gross and histological features and prognosis.
- 2.1.21. Congenital anomalies, inflammatory diseases and pre-neoplastic conditions of various systems.

प्रदेश निजामती सेवा अन्तर्गत स्वास्थ्य सेवा, प्याथोलोजी समूह, जनरल प्याथोलोजी उपसमूह अधिकृत स्तर नवौं तह कन्सल्टेण्ट प्याथोलोजिष्ट पदको खुला तथा अन्तरतह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

2.2. Frozen Section

2.1.22. Describe the principle and function of cryostat.

2.1.23. Perform frozen section of intraoperative specimens and diagnose.

3. Cytopathology

- 3.1. Describe the normal cell morphology in vaginal, cervical and endometrial specimens and sputum specimen.
- 3.2. Prepare the above mentioned smears, fix and stain with Pap staining and mount them.
- 3.3. Describe different types of fixatives used in cytopathological laboratory and explain their functions.
- 3.4. Perform fine needle aspiration biopsy procedure, prepare wet and dry smears fix and stain the slides with Pap stain and Giemsa stain.
- 3.5. Explain the principle of Pap stain and Giemsa stain.
- 3.6. Interpret the cellular morphological changes in sputum, vaginal, cervical and endometrial specimen and neoplastic conditions.
- 3.7. Correlate with the clinical findings and diagnose.
- 3.8. Describe the different methods of preparing smears from body fluids including urine and CSF.
- 3.9. Describe the principles of cyto centrifuge and Millipore filtration.
- 3.10. Describe the normal cell morphology in brushing, washing and body fluids smears.
- 3.11. Interpret the cellular morphological changes in brushing, washing and body fluid smears in different inflammatory, non-inflammatory, non-neoplastic and neoplastic conditions.
- 3.12. Correlate the findings with the clinical findings and diagnose them.
- 3.13. Explain sex chromatin. Describe the methods of obtaining and preparation of smears for the examination of sex chromatin.
- 3.14. Interpret the findings.
- 3.15. Describe the congenital anomalies in relation to sex chromosome.
- 3.16. Interpret FNAC smears and diagnose the lesions.
- 3.17. Cytology of bronchogenic carcinomas in sputum bronchial brushing and bronchioalveolar lavage
- 3.18. Nipple discharge cytology
- 3.19. Cytology of tumors of GI tract hepatobiliary tract and pancreas
- 3.20. Tumors of the urinary tract in urine and brushings
- 3.21. Cytology CSF in leukemias.
- 3.22. Cytology of central nervous system tumors in squash preparation
- 3.23. Benign, reactive and malignant lesion of oral cavity, larynx, trachea, Nasopharynx and para nasal sinuses

4. Haematopathology

- 4.1. Explain the normal hemopoiesis.
- 4.2. Describe the erythropoiesis.
- 4.3. Describe the structure, function, synthesis and metabolism of haemoglobin.
- 4.4. Classify the different types of Anaemias.
- 4.5. 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.
- 4.6. Perform routine as well as the following haematological tests and explain their principle:
 - 4.6.1. Reticulocyte count
 - 4.6.2. Osmotic fragility test

प्रदेश निजामती सेवा अन्तर्गत स्वास्थ्य सेवा, प्याथोलोजी समूह, जनरल प्याथोलोजी उपसमूह अधिकृत स्तर नवौं तह कन्सल्टेण्ट प्याथोलोजिष्ट पदको खुला तथा अन्तरतह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 4.6.3. Foetal haemoglobin
- 4.6.4. LE cell phenomenon
- 4.6.5. Hb electrophoresis
- 4.6.6. Serum Iron, Folic acid, Vit B12
- 4.6.7. Total Iron binding capacity
- 4.6.8. Serum ferritin
- 4.6.9. Sickling test- methods and types
- 4.6.10. HAMS test
- 4.6.11. G6PD deficiency test
- 4.7. Perform a fine needle bone marrow aspiration and stain with Wright's stain.
- 4.8. Interpret and diagnose the morphological changes in the blood and bone marrow specimen.
- 4.9. Perform the common haematological procedures and interpret the results.
- 4.10. Perform cytochemical test and interpret.
- 4.11. Classify Leukaemia
- 4.12. Identify different types and their morphological features
- 4.13. Explain principles and interpretation of
 - 4.13.1. Bleeding time
 - 4.13.2. Clotting time
 - 4.13.3. Prothrombin time
 - 4.13.4. Activated partial thromboplastin time
 - 4.13.5. Platelet function test
 - 4.13.6. Factor VII and IX Assay
 - 4.13.7. Bence Jones protein
- 4.14. Plan a strategy of investigations for common haematological diseases.
- 4.15. Sickle cell anaemia and related abnormalities: epidemiology, etiopathogenesis, classification, genetic mechanism, clinical and haematological features and laboratory diagnosis, complications
- 4.16. Primary and secondary polycythemia: Etiopathogenesis, clinical and haematological features, complications, lab diagnosis, management
- 4.17. Myeloproliferative disorders, myelodysplastic syndromes- etiopathogenesis, classification, laboratory diagnosis including molecular
- 4.18. Plasma cell Disorders: etiopathogenesis, classification, clinical features diagnosis treatment.
- 4.19. Amyloidosis, heavy chain diseases, monoclonal gammopathy
- 4.20. W.H.O. classification of various leukaemias, based on cytogenetic abnormalities, lab diagnosis, etiology and pathogenesis.

5. Gynecological cytopathology

- 5.1. Anatomy, Histology and cytology
- 5.2. Normal female genital tract
- 5.3. Bethesda system for reporting cervical cytology
- 5.4. Inflammation, bacterial and viral infections of cervix
- 5.5. Benign proliferative reaction, intraepithelial neoplasia and invasive cancers
- 5.6. Cytologic evaluation of menstrual disorders and hormonal abnormalities
- 5.7. Proliferative disorders and carcinoma of the endometrium
- 5.8. Disease of the vagina, vulva, perineum
- 5.9. Tumors of the ovary and fallopian tube
- 5.10. Effects of the therapeutic procedures on cytology of the female genital tract

6. Fine-needle Aspiration cytology

- 6.1. Techniques of Fine-needle Aspiration smear preparation and principle, interpretation.
- 6.2. Diagnostic pitfalls in FNA diagnosis of various lesions.
- 6.3. FNAC diagnosis and differential diagnosis of different lesions of head and neck including salivary glands
- 6.4. FNAC diagnosis and differential diagnosis of different lesions in lymph nodes , FNAC findings of different lymphoma
- 6.5. Reporting FNAC of thyroid nodules, FNAC findings in various thyroid lesions
- 6.6. Cytology reporting categories of breast nodules, FNAC diagnosis of various non-neoplastic and neoplastic lesion of breast
- 6.7. FNAC diagnosis of various lesion of lung, mediastinum, chest wall pleura
- 6.8. FNAC diagnosis of various lesion of kidney, adrenal and retroperitoneum
- 6.9. FNAC diagnosis of bone and soft tissue lesion
- 6.10. Evaluation of FNAC of testis for male infertility
- 6.11. FNAC diagnosis and differential diagnosis of testicular tumors and others lesions of male genital track

7. Autopsy pathology

- 7.1. Perform a complete/partial autopsy.
- 7.2. Identify the gross and microscopic features found in autopsy body and tissue sections respectively and correlate it with clinical history and diagnosis.
- 7.3. Write the provisional and final anatomical diagnosis reports correctly.
- 7.4. Gross and microscopy of organs in alcoholism and drug abuse
- 7.5. Evaluation of atherosclerosis, aneurysm myocardial infarctions, cardiomyopathy coronary anomalies and other vascular anomalies causes of death.
- 7.6. Post-mortem findings in lethal infections, sepsis and shock.
- 7.7. Cytological diagnosis in sexual offences
- 7.8. Death syndrome.

8. Blood Bank

- 8.1. Perform blood grouping and Rh typing tests and cross matching.
- 8.2. Perform Coombs test
- 8.3. Explain the principles and interpretations of above tests
- 8.4. Blood components indicators, preparation of blood component, selection of blood bags for component preparation, preparation of red cell concentrate, fresh frozen plasmas, platelet concentrate, cryoprecipitate, washed red cell, frozen red cell, component testing labeling, transportation and storage of blood components, metabolic changes in blood components during storage.
- 8.5. Basics of tissue banking and cord blood banking.
- 8.6. Medico legal aspect of blood transfusion.

9. Immunology

- 9.1. Observe and interpret simple immunological tests eg:
 - 9.1.1. Agar Gel precipitation
 - 9.1.2. Haemagglutination
 - 9.1.3. Immunolectrophoresis

प्रदेश लोक सेवा आयोग, लुम्बिनी प्रदेश

प्रदेश निजामती सेवा अन्तर्गत स्वास्थ्य सेवा, प्याथोलोजी समूह, जनरल प्याथोलोजी उपसमूह अधिकृत स्तर नवौं तह कन्सल्टेण्ट प्याथोलोजिष्ट पदको खुला तथा अन्तरतह प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 9.1.4. Identification of T and B cells in peripheral blood
- 9.1.5. Immuno Fluorescence technique
- 9.1.6. Counter current electrophoresis for demonstration of antigen
- 9.1.7. ELISA techniques.
- 9.1.8. Explain the principle lying behind these tests.
- 9.1.9. Explain the principle of fluorescent microscopy.

10. Medical statistics and information technology

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

11. Laboratory Management

- 11.1. Fundamental of total quality management
- 11.2. Element of quality assurance program
- 11.3. Concept of critical values and alert values in laboratory practice
- 11.4. Concept of reference laboratory
- 11.5. Standard operating procedure and their preparation
- 11.6. Internal and external quality control and proficiency testing
- 11.7. Preparation of quality policy manual
- 11.8. Laboratory accreditation key component of accreditation ISO 15189 and others laboratory related accrediting bodies
- 11.9. Quality control in procedure equipment, NEQSA, EQAS
- 11.10. Health and safety measures (physical, chemical, Biological, radiation)
- 11.11. Waste disposal

पाठ्यक्रम स्वीकृत मिति: २०८१/०५/२६