

**निजामती कर्मचारी अस्पताल**  
**प्राविधिक सेवा, मेडिसिन समूह, मेडिकल अंकोलोजी उपसमूह, सिनीयर रजिष्ट्रार (स्पेसलिष्ट) पद, नवौं तहको खुला तथा**  
**आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम**

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजन गरिएको छ :

**प्रथम चरण :-** लिखित परीक्षा (Written Examination)

पूर्णाङ्क :- २००

**द्वितीय चरण :-** अन्तर्वार्ता (Interview)

पूर्णाङ्क :- ३०

**१. प्रथम चरण (First Phase): परीक्षा योजना (Examination Scheme)**

Paper	Subject		Marks	Full Marks	Pass Marks	No. Questions & Weightage	Time
I	General Subject	Part I: Management	50	100	40	6 × 5 = 30 (Short answer) 2 × 10 = 20 (Long answer)	3.00 hrs
		Part II: General Health Issues	50			6 × 5 = 30 (Short answer) 2 × 10 = 20 (Long answer)	
II	Technical Subject			100	40	4 × 15 = 60 (Critical Analysis) 2 × 20 = 40 (Problem Solving)	3.00 hrs

**२. द्वितीय चरण (Second Phase)**

Subject	Full Marks	Examination System
Interview	30	Oral

**द्रष्टव्य :**

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
- अस्पतालको प्राविधिक सेवा अन्तर्गतका सबै समूह/सबै उपसमूहहरूको लागि प्रथमपत्रको पाठ्यक्रमको विषयवस्तु एउटै हुनेछ । तर द्वितीयपत्र Technical Subject को पाठ्यक्रम समूह/उपसमूह अनुरूप फरक फरक हुनेछ ।
- प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ । परीक्षामा सोधिने **प्रश्नसंख्या र अङ्कभार** यथासम्भव सम्बन्धित पत्र, विषयमा दिईए अनुसार 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 ।
- वस्तुगत बहुवैकल्पिक हुने परीक्षामा परीक्षार्थीले उत्तर लेख्दा अंग्रेजी ठूलो अक्षर (Capital letter) A, B, C, D मा लेख्नुपर्नेछ । सानो अक्षर (Small letter) a, b, c, d लेखेको वा अन्य कुनै सङ्केत गरेको भए सबै उत्तरपुस्तिका रद्द हुनेछ ।
- बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
- विषयगत प्रश्नहरूको हकमा एउटै प्रश्नका दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरू (Short notes) सोध्न सकिने छ ।
- विषयगत प्रश्नमा प्रत्येक पत्र/विषयका प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरू परीक्षाको मितिभन्दा 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 :

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**Paper I: General Subject**  
**Part I: Management**  
**(6 × 5) + (2 × 10) = 50 Marks**

**1. Management**

- 1.1. Health care management system in Nepal and other parts of the world
- 1.2. Fundamental principles of healthcare institution and hospital management.
- 1.3. Effective hospital management principles
- 1.4. Purpose of medical and non-medical data and records
- 1.5. Ethics and responsibility of management
- 1.6. Concept of management and its application in health care including hospital
  - 1.7.1 Management: Concept, principles, functions, scope and role, level and skills of manager
  - 1.7.2 Planning: Concept, principles, nature, types, instruments and steps
  - 1.7.3 Leadership: Concept, function, leadership styles, leadership and management
  - 1.7.4 Coordination: Concept, types, techniques of effective coordination
  - 1.7.5 Communication and counselling: Concept, communication processes and barrier to effective communication, techniques for improving communication
  - 1.7.6 Decision making: Importance, types, rational process of decision making, problem solving techniques, improving decision making
  - 1.7.7 Participative management: Concept, advantage and disadvantage, techniques of participation
  - 1.7.8 Time management: Concept, essential factors and strategies for effective time management
  - 1.7.9 Conflict management: Concept, approaches to conflict, levels of conflict, causes of conflict and strategies for conflict management
  - 1.7.10 Stress management: Concept, causes and sources of stress, techniques of stress management
  - 1.7.11 Change management: Concept, sources of organizational change, resistance to change, management of resistance to change
  - 1.7.12 Appreciative inquiry: Concept, basic principle and management
  - 1.7.13 Human resource management: Concept, functions and different aspects
  - 1.7.14 Health manpower recruitment and development
  - 1.7.15 Financial management: Concept, approaches, budget formulation and implementation, Auditing and topics related to fiscal administration

**Part II: General Health Issues**  
**(6 × 5) + (2 × 10) = 50 Marks**

**2. General Health Issues**

- 2.1. Present constitution of federal republic of Nepal (including health and welfare issues)
- 2.2. Organizational structure of Ministry of Health at national/federal, regional/state, district (if applicable), municipal and village council level
- 2.3. Professional council and related regulations
- 2.4. National Health Policy
- 2.5. Health Service Act and Regulation
- 2.6. Second Long term health plan
- 2.7. Health Management Information System, forms, indicators, annual reports
- 2.8. Human Development Indices, Sustainable Development Goals
- 2.9. Health volunteers in the national health system, its rationale, use and effectiveness

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- 2.10. Local governance and community participation in health service delivery
- 2.11. Health Insurance and financing in health care
- 2.12. Alternative health care system: Ayurveda, homeopathy, Unani, Chinese etc.
- 2.13. Indigenous and traditional faith health and health practices
- 2.14. International Health Agencies: Roles and responsibilities of WHO, UNICEF, UNFPA, Inter-agency relationships, Government-agency coordination: Joint Annual Review meeting
- 2.15. Supervision, types and its usage in health sector
- 2.16. Monitoring and evaluation system in health sector
- 2.17. National Health Training Centre
- 2.18. National and International Disaster Plan, Coordination
- 2.19. General introduction of Civil Service Hospital and its Bylaws

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**Paper II: Technical Subject**

**Section (A) – 50 % Marks**

1. **Pharmacology and critical care medicine**
  - 1.1 Classification of Chemotherapeutic Drugs
  - 1.2 Plant alkaloids
  - 1.3 Alkylating agents
  - 1.4 Antimetabolites
  - 1.5 Anthracyclines, Antitumor antibiotics
  - 1.6 Topo-isomerase inhibitors, proteosome inhibitors
  - 1.7 Corticosteroids
  - 1.8 Principles of pharmacology therapy
  - 1.9 Pharmacology of different medicines
  - 1.10 Principles of critical care medicine
  - 1.11 Oxygen delivery
  - 1.12 Major manifestations, monitoring and management of critical illness
  - 1.13 Nutritional factors in health and disease
2. **Infection**
  - 2.1 Basic of infection
  - 2.2 Major manifestations of infections
  - 2.3 Principles of management of infection, including different antimicrobial agent and prevention of infection
  - 2.4 Diseases due to different organism like virus, bacteria, protozoa, helminthes
3. **Cancer of various Systems : Solid Tumors**
  - 3.1 Bone and soft tissue sarcomas
  - 3.2 Respiratory system
  - 3.3 GI Malignancies
  - 3.4 Genitourinary Malignancies
  - 3.5 CNS Tumors
  - 3.6 Hepatobiliary and pancreatic cancers
  - 3.7 Cardiovascular malignancies
  - 3.8 Cancer of unknown primary
  - 3.9 Cancer of breast
  - 3.10 Cancer of skin
  - 3.11 Cancer of endocrine system
  - 3.12 Mesotheliomas
  - 3.13 Gynaecologic cancers
  - 3.14 Malignant melanomas
4. **Haematological malignancies**
  - 4.1 Myelodysplastic Syndrome
  - 4.2 Acute and chronic leukemias
  - 4.3 Hodgkin,s and Non-Hodgkins Lymphomas
  - 4.4 Plasma cell Dyscrasias
  - 4.5 Myeloproliferative disorders

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5. **Manifestation of complications of cancer and cancer treatment in various systems and their management**
  - 5.1 Haematological complications
  - 5.2 Renal complications
  - 5.3 GI related complications
  - 5.4 Infection and sepsis
  - 5.5 Para- Neoplastic syndrome
  - 5.6 Cardiovascular complications
  - 5.7 Respiratory Complications
  - 5.8 CNS complications
  - 5.9 Metabolic Complications
  - 5.10 Neuromuscular complications
  - 5.11 Bone and joint complications
  - 5.12 Skin and Appendages
  - 5.13 Fertility issues
  - 5.14 Psychosocial issues
6. **Stem Cell Transplant**
  - 6.1 Indications and principles of stem cell transplant
  - 6.2 Sources of stem cells preparative regimen
  - 6.3 Procedure, complications, prognosis

**Section (B) – 50 % Marks**

7. **Cancer Diagnostics**
  - 7.1 Radiological diagnostics
  - 7.2 Molecular and cytogenetics
  - 7.3 Cytological and Histopathological diagnostics
  - 7.4 Biochemical Diagnostics
  - 7.5 Tumor markers, IHC (Immunohistochemistry), Flowcytometry
  - 7.6 Nuclear and Radionuclear imaging
  - 7.7 Interventional Radiology
  - 7.8 Basics of Radiation Oncology
  - 7.9 Basics of Surgical Oncology
8. **Recent Advances in cancer management**
  - 8.1 Genetics and disease
  - 8.2 Investigation of the molecular basic of disease
  - 8.3 Modern molecular methods in human disease
  - 8.4 Types of genetic disease
  - 8.5 Genetic factors in common diseases
  - 8.6 Essentials of Molecular Biology
  - 8.7 Molecular Biology of cancer
  - 8.8 Newer approaches in cancer; Immunotherapy, Biotherapy, Genetherapy
  - 8.9 Basics of high dose chemotherapy and newer modalities of treatment, principles of radiotherapy, the use of various radioisotopes
9. **Palliative Care**
  - 9.1 Introduction and basic concept including definition
  - 9.2 Guidelines for palliative care
  - 9.3 Different pharmacologic & non-pharmacologic methods

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- 9.4 Pain assessment and management, WHO ladder, balanced use of opioids
- 9.5 Common symptom management
- 9.6 Palliative anticancer medicine
- 9.7 Ethical issues in Palliative care
- 9.8 Psychosocial issues
- 9.9 End of life care
- 9.10 Supportive care and quality of life
- 9.11 Rehabilitation of cancer patient
- 9.12 Palliative radiotherapy
- 9.13 Palliative chemotherapy
- 9.14 Home care
- 9.15 Hospice care
10. **Non-communicable diseases and cancer related conditions**
  - 10.1 Epidemiology and control of cancers
  - 10.2 HIV and cancer
  - 10.3 TB and cancer
  - 10.4 Infections and cancer
  - 10.5 Diabetes and cancer
  - 10.6 Management of Anaemia in cancer
  - 10.7 Diet and nutrition in cancer patients
11. **Geriatrics and Skin system and disorders**
  - 11.1 Normal ageing
  - 11.2 Major manifestations of disease in frail older people
  - 11.3 Functional anatomy and physiology of the skin
  - 11.4 Major manifestations and investigations of skin disease
  - 11.5 Skin diseases
  - 11.6 The skin and systemic disease
12. **Nuclear medicine**
  - 12.1 Basic knowledge of use of nuclear medicine in diagnosis of both oncologic and non-oncological hematological disorders
13. **General Surgical Principles**
  - 13.1 Shock
  - 13.2 Surgical infection
  - 13.3 Fluid and electrolyte imbalance
  - 13.4 Preoperative and post-operative patient care
  - 13.5 TNM classification of cancers
14. TNM and other commonly used cancer staging systems
15. Common pediatric malignancy - Diagnosis, staging and treatment