

बी.पी. कोइराला मेमोरियल क्यान्सर अस्पताल  
प्राविधिक (स्वास्थ्य) सेवा, मेडिकल (चिकित्सक) समुह, रेडियोडाईग्नोसिस तथा इमेजिङ्ग उपसमुह, अधिकृत नवौं  
तह, रजिष्ट्रार पदको खुला र 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

परीक्षा योजना (Examination Scheme)

प्रथम चरण (First Phase) : लिखित परीक्षा

Paper	Subject	Full Marks	Pass Marks	No. Questions & Weightage	Time Allowed
I	General Subject	100	40	10 × 5 = 50 (Short answer) 5 × 10 = 50 (Long answer)	3.00 hrs
II	Technical Subject	100	40	6 × 10 = 60 (Long answer) 2 × 20 = 40 (Problem Solving)	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 लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- परीक्षामा सोधिने प्रश्नसंख्या, अङ्क र अङ्कभार यथासम्भव सम्बन्धित पत्र/विषयमा तोकिए अनुसार हुनेछ ।
- विषयगत प्रश्नमा प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् । परीक्षार्थीले प्रत्येक खण्डका प्रश्नहरूको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रममा जे सुकै लेखिएको भएतापनि पाठ्यक्रममा परेका ऐन, नियमहरू, परीक्षाको मिति भन्दा ३ महिना अगाडी (संशोधन भएका वा संशोधित भई हटाईएका वा थप गरी संशोधित भई कायम रहेका) लाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम लागू मिति :- २०७८/०३/०४

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**Paper I: General Subject**

**Section (A): 40% Marks (4×5 marks, 2×10 marks)**

**1. Administration and Management**

- 1.1. Public Administration: concept, scope, functions and challenges
- 1.2. Management: concept, scope, functions, principles, and its practices
- 1.3. Contemporary management issues and challenges
- 1.4. Hospital Management : concept, scope, function, principle and its practices
- 1.5. Human resource management: concept, functions and different aspects
- 1.6. Basic managerial skills: coordination and public relation, communication and counselling, problem solving and decision making, leadership, team building, rapport building, planning, organizing, monitoring and evaluation
- 1.7. Emerging management concepts and their application in the Nepalese Public Management: Time management, Resource management (human, financial and physical), Technology management, Performance management, Stress management, Conflict management, Risk management and Participative management
- 1.8. Planning: concept, principles, nature, types, instrument and steps
- 1.9. Motivation, appreciative inquiry and social responsibility
- 1.10. Positive attitude and self-development
- 1.11. Group dynamic and organizational behavior
- 1.12. Grievance redressal and settlement
- 1.13. Financial Management: Concept, Approaches, Budget Formulation and Implementation, Auditing and topics related to Fiscal administration

**Section (B): 40% Marks (4×5 marks, 2×10 marks)**

**2. General Health Issues**

- 2.1. Present Constitution of Nepal (health and welfare issues)
- 2.2. National Health Policy
- 2.3. Health sector in current periodical plan
- 2.4. Health Service Act, 2053 and Health Service Regulation, 2055
- 2.5. Professional council related acts and regulations
- 2.6. Act Regulating Narcotics
- 2.7. NMC and National Health Agencies
- 2.8. Indigenous and traditional faith healing and health practices
- 2.9. International health agencies: Role and responsibilities of WHO, UNICEF, UNFPA and interagency relationships
- 2.10. Health and Human Right including Women's Right, Children's Right, Professional's Right, Client Right and Informed consent
- 2.11. Gender issues and health
- 2.12. Urbanization and health impacts
- 2.13. National health training system
- 2.14. Supervision, types and its usage in Health Sector

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- 2.15. Monitoring and Evaluation System in Health
- 2.16. Health Management Information System
- 2.17. Health economics - basic terms, health insurance and financing in Health Care
- 2.18. Federal governance and decentralization in health
- 2.19. Evidence Based Medicine / Critical Appraisal of Scientific Literature
- 2.20. Principles of Research Methodology and Scientific paper writing/publication
- 2.21. Professional and medical ethics
- 2.22. Informed Consent and Medico legal Issues
- 2.23. Medical Audit and Quality Assurance
- 2.24. Information technology and Tele medicine
- 2.25. Drug act and regulation
- 2.26. Rational use of drugs, national drug policy and importance of essential drug list
- 2.27. Ethics, Integrity and Accountability of health professionals
- 2.28. Private sector health institution its regulation and management
- 2.29. Health institution development and management
- 2.30. Patient safety & Breaking Bad News
- 2.31. Cancer Registry: Hospital and Community Based Cancer Registry
- 2.32. Preventive Oncology
  - 2.32.1. Epidemiology
  - 2.32.2. Primary prevention (Cancer Awareness, Cancer Education, Vaccination)
  - 2.32.3. Secondary Prevention (Screening, Screening Methods)
- 2.33. Multidisciplinary Approach in Cancer Management

**Section (C): 20% Marks (2×5 marks, 1×10 marks)**

**3. Organizational Knowledge**

- 3.1. B.P.Koirala Memorial Cancer Hospital : History, organizational structure, functions, roles, services, possibilities, problems and challenges
- 3.2. Service provided by B.P.Koirala Memorial Cancer Hospital-service types, quality, technology, citizen engagement in service design
- 3.3. Relations between Government and other national and international related organizations
- 3.4. Health manpower recruitment and development in B.P.Koirala Memorial Cancer Hospital
- 3.5. B.P.Koirala Memorial Cancer Hospital related act and regulations

**Paper II : Technical Subject**  
**Section (A) – 60 % Marks**

1. **Anatomy and Physiology**
  - 1.1 Cell and Tissues (Epithelial, Connective, Skeletal, Muscular and Nervous)
  - 1.2 Respiratory system
  - 1.3 Gastrointestinal system
  - 1.4 Hepatobiliary System
  - 1.5 Genito-urinary system
  - 1.6 Skeleton System
  - 1.7 Nervous System
  - 1.8 Skin and the organs of special sense (eye, ear, nose and tongue)
  - 1.9 Cross sectional anatomy
  
2. **Radiation Physics**
  - 2.1 Production and properties of X-ray
  - 2.2 Properties of X-ray film, film processing
  - 2.3 X-ray absorption on the radiographic image
  - 2.4 Principle of Diagnostic ultrasound
  - 2.5 Principle of CT
  - 2.6 Principle of MRI
  - 2.7 Radiation Hazards and its effects
  
3. **Radiology**
  - 3.1 Cardiovascular
    - 3.1.1 Normal heart and pericardium
    - 3.1.2 Pulmonary circulation
  - 3.2 Respiratory
    - 3.2.1 Normal Chest
    - 3.2.2 Tumors of the lung
    - 3.2.3 Inflammatory diseases of the lung
    - 3.2.4 Remaining diseases of lung, pleura and soft tissue and bony thoracic cage of chest
  - 3.3 Gastrointestinal tract and abdomen
    - 3.3.1 Malignant Diseases of Pharynx, esophagus, stomach and duodenum
    - 3.3.2 Malignant Diseases of small bowel and large bowel
    - 3.3.3 Malignant Diseases of biliary tract
    - 3.3.4 Malignant Diseases of Liver, spleen & pancreas
  - 3.4 Urogenital Tracts
    - 3.4.1 Malignant Cystic diseases of the kidney
    - 3.4.2 Tumours of the kidney and ureter
    - 3.4.3 Renal calculi and Nephrocalcinosis
    - 3.4.4 Malignant Diseases of Bladder and prostate
    - 3.4.5 Malignant Gynaecological diseases
  - 3.5 Malignant Diseases related to ENT, Eye and soft tissues
  - 3.6 Central Nervous System
    - 3.6.1 Normal and abnormal skull
    - 3.6.2 Malignant Diseases of brain and spine
    - 3.6.3 Malignant Brain and spinal tumor
  - 3.7 Bones and Joints

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- 3.7.1 Malignant Diseases of bone and joints
- 3.7.2 Tumors and tumors like conditions of bone
- 3.8 Endocrine and metabolic diseases
  - 3.8.1 Ultrasound imaging of the whole body
  - 3.8.2 CT Imaging of the whole body
  - 3.8.3 MRI Imaging of the whole body

### Section (B) – 40 % Marks

#### 4. Radiological Procedures

##### 4.1 First Aids and Emergency Care

4.1.1 Introduction to Haemorrhage, primary management of haemorrhage

##### 4.2 Contrast Media

4.2.1 Introduction, definition, types and uses of contrast media

4.2.2 Properties of contrast media

4.2.3 Adverse effects of contrast media and their management

##### 4.3 Biliary Tract and Pancreas

Definition, indications, contraindications, equipment required contrast media, preparation of the patient, technique / procedure, filming, post procedure care for following investigations:

4.3.1 Intravenous cholelithography (IVC)

4.3.2 Percutaneous transhepatic cholangiography (PTC)

4.3.3 T-tube cholangiography

##### 4.4 Urinary Tract

Definition, indications, contraindications, equipment required, contrast media, preparation of the patient, technique/procedure, filming, post procedure care for following investigations:

4.4.1 Intravenous urography (IVU)

4.4.2 Modification of IVU and additional techniques

4.4.3 Percutaneous renal puncture (PcRP)

4.4.4 Percutaneous nephrostomy (PCN)

4.4.5 Retrograde pyelography (RGP)

4.4.6 Micturating cysto-urethrography

##### 4.5 Reproductive System

Definition, indications, contraindications, equipment required contrast media, preparation of the patient, technique/procedure, filming, post procedure care for :

4.5.1 Hysterosalpingography

##### 4.6 Sinography

Definition, indications, contraindications, equipment required, contrast media, preparation of the patient, technique / procedure, filming, post procedure care for;

4.6.1 Sinography

##### 4.7 Interventional procedures :

USG guided FNAC, CT guided FNAC/ Biopsy.