प्राज्ञिक सेवा, हाड जोर्नी रोग समूह, सहायक-प्राध्यापक पद, नवौं (९ ख) तहको
खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजनगरिएको 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, General Health Issues, Academic Research and Teaching-Learning Practices	50	100	40	10 × 5 = 50 (Subjective)	1.30 hrs	2.15 hrs
		Part II: Technical Subject (Relevant Subject)	50			50 × 1 = 50 (Objective Multiple Choice)	45 min	
II	Technical Subject (Relevant Subject)			100	40	7 × 10 = 70 (Long answer) 2 × 15 = 30 (Critical Analysis)		3.00 hrs
द्वितीय चरण (Second Phase)								
	Interview			30		Oral		

द्रष्टव्य :

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।

२. प्रतिष्ठानको प्राज्ञिक सेवा अन्तर्गतका सवै समूह/सवै उपसमूहहरुको लागि प्रथमपत्रको Part I को पाठ्यक्रमको विषयवस्तु एउटै हुनेछ । तर प्रथम पत्रको Part II र द्वितीयपत्र Technical Subject को पाठ्यक्रम समूह/उपसमूह अनुरुप फरक फरक हुनेछ ।

३. प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ । प्रथम पत्रको Part II र द्वितीय पत्रको विषयवस्तु एउटै समूहको हकमा समान हुनेछ । परीक्षामा सोधिने **प्रश्नसंख्या र अङ्कभार** यथासम्भव सम्बन्धित पत्र, विषयमा दिइए अनुसार हुनेछ ।

४. वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरुको 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 ।

५. 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 ।

६. बहुवैकल्पिक प्रश्नहरु हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।

७. विषयगत प्रश्नहरुको हकमा एउटै प्रश्नका दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरु (Short notes) सोध्न सकिने छ ।

८. विषयगत प्रश्नमा प्रत्येक पत्र/विषयका प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरु हुनेछन् । परिक्षार्थीले प्रत्येक खण्डका प्रश्नहरुको उत्तर सोही खण्डका उत्तरपुस्तिकामा लेख्नुपर्नेछ ।

९. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरु परीक्षाको मितिभन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्क्रममा परेको सम्भन्नु पर्दछ ।

१०. प्रथम चरणको परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको परीक्षामा सम्मिलित गराइनेछ ।

११. पाठ्यक्रम लागु मिति : २०७८/१०/१७

Paper I: General Subject
Part I:
(Management, General Health Issues, Academic Research and Teaching - Learning Practices)
Section (A) - 25 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

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

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. Patan Academy of Health Sciences Act, Mission, Goals, Organogram
2.20. Scope and function of Patan Academy of Health Sciences executive bodies (senate, executive committee, academic council, faculty board, hospital management committee, subject committee), various other committees

Section (B) - 25 Marks

3. **Academic Research**
   3.1 Ethics, Bio-ethics and Professionalism
   3.2 Human dignity and Human Right
   3.3 Benefit and Harm
   3.4 Autonomy and Individual responsibility
   3.5 Consent and capacity to consent
   3.6 Privacy and confidentiality
   3.7 Respect for humans and personal integrity
   3.8 Non-discrimination and non-stigmatization
   3.9 Respect for cultural diversity and pluralism
   3.10 National Health Research Council (NHRC) and its guidelines
   3.11 Research process: ethical research proposal development, research principles, methods and materials, conclusion/recommendation/lesson learnt, commonly used referencing styles
   3.12 IRB/IRC forms, types, use, importance; getting IRB/IRC clearance
   3.13 Ethics on research methodology: sample selection, sample size calculation, ensuring reliability and validity of the instruments as well as methods proposed for health research
   3.14 Quantitative and Qualitative studies
   3.15 Data analysis (data visualization, descriptive statistics, inferential statistics with statistical hypotheses and appropriate tools/methods for quantitative studies; theme and code generation, thematic analysis, content analysis, grounded theory for qualitative and triangulation for mixed method studies)
   3.16 Research ethics on vulnerable and non-vulnerable population
   3.17 Research proposal/protocol/publication:
   3.18 Publication ethics, plagiarism including self-plagiarism

4. **Teaching - Learning, Assessment and Evaluation**
   4.1 Lancet Commission Report on Education of Health Professionals
   4.2 Adult learning: Theories, principles, use, importance and outcomes, Adragogy vs. Pedagogy

4.3   Conventional teaching - learning: Didactic lectures, Teacher centred approaches, use and importance

4.4   Surface learning, deep learning and metacognition

4.5   Integrated teaching: Genesis, use, importance and outcomes

4.6   Problem-based learning: Genesis, use, importance and outcomes

4.7   SPICES model its use, importance and outcomes

4.8   Socialization, self-directed learning, mentoring, role model

4.9   Community orientation/community posting, re-orientation of medical education camp, community based learning and community engaged teaching-learning methods/models, use, importance and outcomes

4.10 Outcome Based Education (Competency-based Medical/Health Professions Education): Genesis, use, importance and outcomes

4.11 Experiential learning, Reflective practice, Feedback and feed-forward, Situated learning, Co-operative learning, Communities of practice

4.12 Assessment of students

    4.12.1 Blueprinting (Table and specification) : use, importance and outcomes

    4.12.2 Bloom's taxonomy of cognitive, psychomotor and affective domains, use and importance

    4.12.3 Diagnostic, Formative, Summative and Professional exams

4.13 Assessment of knowledge: Selection methods like Multiple Choice Questions, Extended Matching Items and supply methods like Short Answer Question, Problem Based Question, Long Answer Question with or without model answers and marking schemes, unstructured, semi-structured and structured viva-voce examination, advantages and limitations, use and importance, outcomes and its use in quality control

4.14 Assessment of performance (in-vitro): Direct observation of skills in the simulated setting, lab, ward etc. with or without checklist, Objective Structured Practical Examination, Objective Structured Clinical Examination, Standardized patients, use and importance, analysis, quality assurance, outcomes and its use in quality control

4.15 Assessment of performance (in-vivo): Mini-Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedural Skills (DOPS), Case-Based Discussion (CbD), OSATS/ PBA, Multi-Source feedback (360 degree evaluation) use and importance for competency based health professions education, analysis, quality assurance, outcomes and its use in quality control

4.16 Assessment of observable behaviours in small groups e.g. Problem Based Learning sessions, Community Based Learning and Education sessions, Clinical clerkship rotations

4.17 Evaluation: Difference between assessment and evaluation, theory of change and its use in health professions education, process and outcome evaluation, qualitative, quantitative and mixed methods used in evaluation of health professions education

Paper I
Part II: Technical Subject
Section (C) - 25 Marks

1. **Applied Basic Sciences**
   1.1   Applied anatomy
   1.2   Applied Physiology
   1.3   Applied Pathology
   1.4   Applied Pharmacology
   1.5   Applied immunology
   1.6   Applied biostatics
   1.7   Applied research methods
   1.8   Applied Molecular biology and genetics

2. **Recent Advances**
   2.1   Arthroscopy
   2.2   Endoscopic surgery (Spine, Knee, etc)
   2.3   Illizarov external fixator
   2.4   Total joint replacement
   2.5   Limb sparing surgery
   2.6   Bone Banking, Laser surgery, etc.

3. **Emergencies: Orthopedics**
   3.1   Acute Osteomyelitis
   3.2   Septic Arthritis
   3.3   Compartmental Syndrome
   3.4   Cauda Equina Syndrome
   3.5   Necrotizing fasciitis

4. **Emergencies : Trauma**
   4.1   All fractures and dislocations
   4.2   Open fractures
   4.3   Crush injuries
   4.4   Hand injuries
   4.5   Spinal injuries

Section (D) - 25 Marks

5. **Principles and practice of : Orthopedic Surgery**
   5.1   General orthopedics
   5.2   Regional Orthopedics
   5.3   Pediatric Orthopedics
   5.4   Orthopedic Oncology
   5.5   Orthopedic Neurology

5.6   Sports Medicine

5.7   Physical Medicine and Rehabilitation

6.   **Principles and practice of : Trauma Surgery**

6.1   General principles of Trauma including Pathophysiology

6.2   General practice of Trauma: Early management of injured, Management of Polytrauma, Disaster, Mass casualty, and management of Neglected trauma

6.3   Definite management of Musculoskeletal injuries; their operative treatment and rehabilitation