Gandaki University
गण्डकी विश्वविद्यालय

Syllabus for Written Examination

(For Special Internal Competition)

Post: **Assistant Professor/Lecturer**
Subject: **Physical Education**

1. **The knowledge of the related subject matters which are generally included in the concerned bachelor and master level courses (60%)**
   (a) **Foundations of Physical Education-** Meaning and importance of physical education. Principles and objectives of physical education. Relationship between physical education, sports, and health.
   (b) **History of Physical Education-** Historical development of physical education: Ancient, medieval, and modern periods; Development of physical education in Nepal; Global perspective on physical education. Role of physical education in society. History of the Modern Olympics: Origin, evolution, and significance; Olympic values and movement; Major Olympic Games and milestones
   (c) **Sports Training, Coaching, and Officiating-** Sports Training: Meaning, importance, objectives, and principles; Methods and types of sports training. Components of Fitness: Strength, endurance, speed, flexibility, and coordination; Fitness assessment and improvement strategies. Coaching and Officiating: Meaning, importance, objectives, and principles; Responsibilities of a coach and official; Rules, regulations, and ethics in officiating.
   (d) **Kinesiology and Biomechanics-** Introduction to kinesiology and its role in sports. Meaning, need, and importance of biomechanics in sports. Fundamental Biomechanical Concepts: Newton's Laws of Motion; Equilibrium and Stability; Mechanical Analysis of Human Movement. Role of biomechanics in injury prevention and performance enhancement.
   (e) **Sports Psychology-** Meaning, objectives, and scope of sports psychology. Psychological Aspects of Performance: Emotions and motivation in sports; Concentration, anxiety, and coping strategies. Personality and Sports Performance: Personality traits of successful athletes; Psychological factors influencing team dynamics. Goal-setting and mental preparation in sports.
   (f) **Measurement and Evaluation in Physical Education-** Meaning and importance of measurement and evaluation. Concept and Components of Physical Fitness and Motor Ability: Health-related fitness components; Performance-related fitness components. Principles of Measurement and Evaluation: Validity, reliability, and objectivity; Standardized testing procedures.
   (g) **Exercise Physiology-** Introduction to Exercise Physiology: Basic functions of muscular, cardiovascular, and respiratory systems; Energy metabolism and exercise. Physiological adaptations to exercise training. Effects of exercise on different age groups.
   (h) **Adapted Physical Education-** Definition and significance of adapted physical education. Principles and guidelines for inclusive physical activity. Sports for individuals with disabilities (Paralympics, Special Olympics)
   (i) **Health, Wellness, and Physical Activity-** Relationship between physical activity, health, and well-being. Lifestyle diseases and the role of physical education. Stress management and wellness programs

2. **Basic Knowledge of the recent trends in Physical Education (15%)**

   (a) Emerging Trends in Physical Education and Sports Science- Integration of technology in sports training and performance analysis (wearable fitness trackers, motion sensors, AI-driven coaching). E-sports and virtual reality (VR) in physical education: Gamification of fitness activities. Role of big data and analytics in sports performance assessment.

   (b) Advances in Sports Training and Coaching Techniques- High-Performance Training Models: Periodization, functional training, and micro-dosing strategies. Sports-Specific Training Programs: Customizing workouts based on individual athlete needs. Use of biofeedback, GPS tracking, and AI-driven coaching for performance enhancement.

   (c) Mental Health and Psychological Well-Being in Sports- Mindfulness and sports psychology techniques: Visualization, relaxation, and mental resilience training. Addressing anxiety, stress, and burnout among athletes. Cognitive-behavioral approaches in sports performance.

   (d) Innovations in Kinesiology and Biomechanics - Application of 3D motion analysis and wearable technology in movement assessment. Biomechanical research for injury prevention and rehabilitation. Advances in prosthetics and adaptive sports technology.

   (e) Exercise Physiology and Sports Nutrition Developments- Nutrigenomics in sports: Personalized nutrition plans based on genetic profiling. Hydration and recovery strategies: Cryotherapy, hyperbaric oxygen therapy, and muscle regeneration techniques. Anti-doping and ethical considerations in performance-enhancing substances.

   (f) Evolving Trends in Adapted Physical Education- Advances in inclusive sports for individuals with disabilities (Paralympics, Special Olympics, assistive technology). Policy and advocacy for adaptive physical education in schools and communities. Role of universal design in sports facilities.

   (g) Digital Transformation and Online Physical Education- Rise of online fitness programs and virtual physical education. Use of AI-driven fitness coaching apps and digital wellness platforms. Impact of social media on fitness motivation and sports promotion.

   (h) Sustainable Practices in Sports and Physical Activity- Eco-friendly sports infrastructure and equipment (sustainable materials in sports gear). Environmental awareness in outdoor physical activities. Green initiatives in major sporting events (carbon neutrality, waste management).

   (i) Holistic Wellness and Preventive Healthcare through Physical Activity - Integration of yoga, meditation, and holistic wellness programs in physical education. Exercise as medicine: Role of physical activity in managing chronic diseases (diabetes, cardiovascular conditions). Corporate wellness programs and physical activity in workplace settings.

3. **National and Global Trends and Issues Regarding higher education in Physical Education (10%)**

   (a) Curriculum Reforms and Modernization – Shift towards multidisciplinary approaches, competency-based education, and integration of technology in sports science.

   (b) Digitalization and Online Learning – Expansion of MOOCs, virtual simulations, AI-driven learning, and challenges in practical skill assessment.

   (c) Globalization and International Collaboration – Growth of exchange programs, dual degrees, and influence of international sports organizations on education.

   (d) Research and Innovation in Sports Science – Advances in performance analytics, neuroscience in sports, and evidence-based research in exercise physiology and biomechanics.

   (e) Policy Reforms and Government Initiatives – National policies promoting sports education, development of specialized sports universities, and impact of education policies on curriculum.

   (f) Inclusion and Diversity in Physical Education – Addressing gender disparities, promoting adaptive sports, and increasing diversity in coaching and leadership roles.

   (g) Industry-Academia Collaboration and Employment Trends – Rising demand for sports professionals, partnerships between universities and sports organizations, and entrepreneurship in fitness technology.

(h) Ethical and Legal Issues in Sports Education – Challenges in sports integrity, doping policies, and commercialization of university sports programs.

(i) Financial Challenges and Accessibility – High tuition fees, funding disparities, and the role of scholarships and government support in making sports education accessible.

(j) The Future of Physical Education – Integration of AI and robotics, sustainable sports infrastructure, and promotion of lifelong physical education programs.

4. **Teaching and Research Methodology (10%)**

   (a) Teaching Skills & Strategies – Effective communication, student-centered learning, classroom management, and use of technology in Physical Education.

   (b) Common research methods – Conceptualizing a Research Topic, Identifying research gaps, formulating hypotheses, data collection, aligning with current trends, and exploring multidisciplinary research areas.

   (c) Curriculum Review & Lesson Planning – Designing industry-relevant curricula, structuring lesson/work plans, integrating theory with practical learning, and incorporating emerging technologies.

   (d) Academic Planning & Reference Material Development – Preparing quality reference materials, using open educational resources (OER), and structuring academic calendars effectively.

   (e) Culturally Responsive Teaching – Promoting diversity and inclusion, adapting to different learning styles, and module based teaching & evaluation.

   (f) Research Paper & Proposal Writing – Structuring research papers, writing proposals, maintaining academic integrity, and selecting high-impact journals.

   (g) Assessment & Evaluation Methods – Implementing effective assessment techniques, feedback mechanisms, and ensuring student engagement through innovative teaching practices.

5. **Governance, Policies, and Legal Framework of Gandaki University (5%)**
   Overview of Gandaki University's establishment, vision, academic structure, governance bodies, strategic plans, key acts, laws, and bylaws, and Nepal's higher education policies.