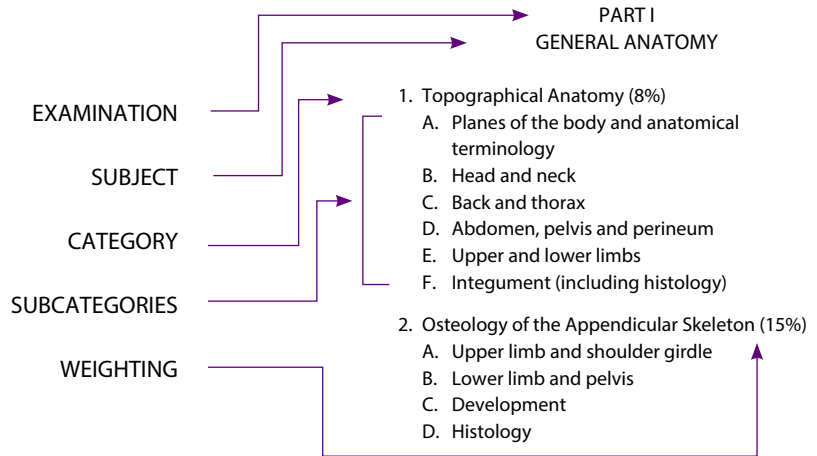


# PART I TEST PLAN AND WEIGHTINGS

The test plan, which appears below, is the blueprint from which each NBCE examination is constructed. The diagram below illustrates that General Anatomy is one of the Part I test subjects and that approximately eight percent of the General Anatomy test questions deal with the category of Topographical Anatomy and its more specific subcategories.

in the following test plans, the weightings (the emphasis devoted to each subject category) appear as a percentage beside the categories that comprise a subject. The test subcategories may reflect minor divisions and include topics that will be tested on the current Part I Examination.

## TEST PLAN EXAMPLE



## GENERAL ANATOMY

### 1. Topographical Anatomy (8%)

- A. Planes of the body and anatomical terminology
- B. Head and neck
- C. Back and thorax
- D. Abdomen, pelvis and perineum
- E. Upper and lower limbs
- F. Integument (including histology)

### 2. Osteology of the Appendicular Skeleton (15%)

- A. Upper limb and shoulder girdle
- B. Lower limb and pelvis
- C. Development
- D. Histology

### 3. Arthrology and Syndesmology of the Appendicular Skeleton (15%)

- A. Classification of joints
- B. Articulations of the appendicular skeleton
- C. Biomechanics

### 4. Myology of the Appendicular Skeleton (18%)

- A. Upper limb and shoulder (including innervation)
- B. Lower limb and pelvic girdle (including innervation)
- C. Development
- D. Structure and histology

### 5. Cardiovascular and Lymphatic Systems (13%)

- A. Heart
- B. Arteries
- C. Veins

- D. Lymphatic vessels and lymphoid tissue (including spleen and thymus)
- E. Development
- F. Histology

### 6. Digestive System (10%)

- A. Oral cavity and pharynx
- B. Digestive viscera
- C. Development
- D. Histology

### 7. Respiratory System (8%)

- A. Nose and sinuses
- B. Larynx, trachea and bronchi
- C. Lungs, pleura and mediastinum
- D. Development
- E. Histology

### 8. Urogenital System (8%)

- A. Urinary organs
- B. Male reproductive organs
- C. Female reproductive organs
- D. Development
- E. Histology

### 9. Endocrine System (5%)

- A. Endocrine glands and tissues
- B. Development
- C. Histology

## SPINAL ANATOMY

- 1. Osteology of the Axial Skeleton (18%)**
  - A. Skull
  - B. Vertebral column
  - C. Ribs and sternum
  - D. Development
- 2. Myology of the Axial Skeleton (15%)**
  - A. Face and head
  - B. Back and neck
  - C. Thorax and abdomen
  - D. Pelvis and perineum
  - E. Development
- 3. Arthrology and Syndesmology of the Axial Skeleton (14%)**
  - A. Classification of joints
  - B. Articulations of the axial skeleton
  - C. Biomechanics
- 4. Anatomy of the Central Nervous System and Related Structures (22%)**
  - A. Cerebrum
  - B. Brainstem and cerebellum
  - C. Spinal cord and meninges
  - D. Vascular supply and relationships
  - E. Ventricles and cerebrospinal fluid
  - F. Development
  - G. Histology
- 5. Anatomy of the Peripheral and Autonomic Nervous Systems (22%)**
  - A. Spinal nerves, plexuses, and branches
  - B. Cranial nerves
  - C. Visceral innervation
  - D. Cutaneous innervation
  - E. Development
  - F. Histology
- 6. Organs of Special Senses (9%)**
  - A. Vision
  - B. Audition and equilibrium
  - C. Olfaction
  - D. Gustation
  - E. Development
  - F. Histology

## PHYSIOLOGY

- 1. Neurophysiology (22%)**
  - A. Membrane potentials, action potentials, and synaptic transmission
  - B. Motor function
  - C. Sensory function
  - D. Autonomic function
  - E. Higher cortical function
  - F. Special senses

- 2. Muscle Physiology (14%)**
  - A. Cardiac muscle
  - B. Skeletal muscle
  - C. Smooth muscle
- 3. Cardiovascular Physiology (15%)**
  - A. Cardiac pump
  - B. Electrophysiology of the heart
  - C. Hemodynamics
  - D. Regulation of circulation
  - E. Circulation in organs
  - F. Lymphatics
  - G. Hematology and immunity
- 4. Respiratory Physiology (9%)**
  - A. Mechanics of breathing
  - B. Ventilation, lung volumes and capacities
  - C. Regulation of respiration
  - D. O<sub>2</sub> and CO<sub>2</sub> transport
  - E. Gas exchange
- 5. Body Fluids and Renal Physiology (10%)**
  - A. Regulation of body fluids/micturition
  - B. Glomerular filtration
  - C. Tubular exchange
  - D. Acid-base balance
- 6. Gastrointestinal Physiology (9%)**
  - A. Ingestion/motility
  - B. Digestion/secretion
  - C. Absorption
  - D. Regulation of GI function
- 7. Reproductive Physiology (5%)**
- 8. Endocrine Physiology (10%)**
  - A. Secretion of hormones
  - B. Action of hormones
  - C. Regulation
- 9. Exercise and Sports Physiology (6%)**

## CHEMISTRY

- 1. Carbohydrates (18%)**
  - A. Metabolism
    - Catabolic pathways
    - Anabolic pathways
  - B. Chemistry
    - Structure
    - Properties
    - Function
  - C. Nutritional concepts
    - Food sources
    - Digestion

*Chemistry test plan continues on next page*

**2. Lipids (18%)**

- A. Metabolism
  - Catabolic pathways
  - Anabolic pathways
- B. Chemistry
  - Structure
  - Properties
  - Function
  - Transport
- C. Nutritional Concepts
  - Food sources
  - Digestion

**3. Proteins, Amino Acids and Peptides (17%)**

- A. Amino acid metabolism
  - Catabolic pathways
  - Anabolic pathways
- B. Chemistry
  - Structure
  - Properties
  - Function
- C. Nutritional concepts
  - Food sources
  - Digestion

**4. Enzymes (7%)**

- A. Classification and function
- B. Kinetics and regulation

**5. Hormones (7%)**

- A. Metabolic effects of specific hormones
  - Carbohydrate metabolism
  - Lipid metabolism
  - Protein metabolism
- B. General properties
  - Chemistry
  - Mechanism of action

**6. Nucleotides and Nucleic Acids (9%)**

- A. Metabolism of purines and pyrimidines
- B. Chemistry
  - Structure
  - Properties
  - Function
- C. DNA, RNA and protein synthesis

**7. Vitamins and Minerals (15%)**

- A. Chemistry
  - Structure
  - Properties
  - Function
  - Coenzyme precursors
- B. Nutritional concepts
  - Food sources
  - Absorption
  - Storage

**8. Biochemical Energetics (9%)**

- A. Basic concepts
  - High-energy phosphate compounds
  - Oxidation-reduction reactions
- B. Krebs cycle
- C. Oxidative phosphorylation and electron transport system

**PATHOLOGY**

**1. Fundamentals of Pathology (21%)**

- A. Disease at the cellular level
- B. Inflammation and repair
- C. Neoplasia
- D. Hemodynamic disorders

**2. Genetic and Congenital Disorders (4%)**

- A. Chromosomal disorders
- B. Inborn errors of metabolism
- C. Congenital disorders

**3. Disorders of the Immune System (7%)**

- A. Hypersensitivity reactions
- B. Autoimmune diseases
- C. Immunologic deficiencies

**4. Environmental and Nutritional Diseases (5%)**

**5. Disorders of the Musculoskeletal System (17%)**

- A. Bone
- B. Joint
- C. Muscle

**6. Disorders of the Nervous System (12%)**

- A. Central nervous system
- B. Peripheral nervous system

**7. Diseases of the Organ Systems (34%)**

- A. Cardiovascular
- B. Gastrointestinal
- C. Respiratory
- D. Genitourinary
- E. Endocrine
- F. Blood and lymphatics

**MICROBIOLOGY**

**1. Immunology (23%)**

- A. Cells of the immune system
- B. Antigens, antibodies and complement
- C. Hypersensitivities and immunopathologies
- D. Immunization/vaccination
- E. Assessment of immune responses/serology

**2. Bacteria (20%)**

- A. Structure and biochemical characteristics
- B. Resistance, genetics, antigenicity, and pathogenicity
- C. Communicable and infectious diseases
- D. Reservoirs of infection and modes of transmission

**3. Viruses and Prions (17%)**

- A. Structure and biochemical characteristics
- B. Resistance, genetics, antigenicity, and pathogenicity
- C. Communicable and infectious diseases
- D. Reservoirs of infection and modes of transmission

**4. Fungi (10%)**

- A. Structure and biochemical characteristics
- B. Resistance, genetics, antigenicity, and pathogenicity
- C. Communicable and infectious diseases
- D. Reservoirs of infection and modes of transmission

**5. Parasites (10%)**

- A. Structure and biochemical characteristics
- B. Resistance, genetics, antigenicity, and pathogenicity
- C. Communicable and infectious diseases
- D. Reservoirs of infection and modes of transmission

**6. Epidemiology and Disease Control (20%)**

- A. Health agencies and reporting/monitoring
- B. Prevention, identification and control methods for communicable diseases
- C. Population health assessments
- D. Emerging diseases

**END PART I TEST PLAN**

Updated effective 2017