

Atal Bihari Vajpayee Medical University, Lucknow
Recommended Paper-wise Topic Distribution for UG PHYSIOLOGY
Syllabus

Paper I: General and Systemic Physiology

- General Physiology: Cell structure, membrane transport, homeostasis, body fluid compartments, pH, and resting/action membrane potentials.
- Hematology: Blood composition, plasma proteins, red blood cells (erythropoiesis, hemoglobin, anemias), white blood cells, platelets, immunity, hemostasis, and blood groups
- Nerve-Muscle Physiology: Structure and properties of skeletal/smooth/cardiac muscle, neuromuscular junction, and excitation-contraction coupling
- Cardiovascular System (CVS): Properties of cardiac muscle, cardiac cycle, heart sounds, ECG, cardiac output, blood pressure regulation, and regional circulation.
- Respiratory System: Mechanics of respiration, pulmonary volumes/capacities, gas exchange, transport of gases, regulation of respiration, and respiratory adjustments during hypoxia/exercise.
- Environmental & Exercise Physiology: Body temperature regulation and high-altitude physiology.

Paper II: Systemic and Applied Physiology

- Central Nervous System (CNS) & Special Senses: Organization of the nervous system, sensory and motor pathways, physiology of reflexes, thalamus, hypothalamus, cerebellum, basal ganglia, limbic system, higher functions (learning/memory), sleep, CSF, and special senses (vision, hearing, taste, smell)
- Gastrointestinal System (GIT): Salivary, gastric, pancreatic, biliary, and intestinal secretions; motility, digestion, absorption, and enteric nervous system.
- Endocrine System: Hormone synthesis, mechanism of action, and feedback control of the hypothalamus-pituitary axis, thyroid, parathyroid (calcium homeostasis), adrenal glands, and endocrine pancreas (insulin/glucagon).
- Reproductive System: Male and female reproductive systems, spermatogenesis, menstrual cycle, pregnancy, lactation, contraception, and sex differentiation.
- Skin & Renal System: Structure of skin, regulation of body temperature; renal circulation, glomerular filtration rate (GFR), tubular reabsorption/secretion, concentration/dilution of urine, and micturition.
- Acid-Base Balance: Regulation of body pH via renal and respiratory mechanisms

Core Committee
Board of Studies (Physiology)
Atal Bihari Vajpayee Medical University