

Chapter-wise Important Questions for NEET Biology

Below is the list of Biology chapter-wise important questions

Chapter 1: The Living World

1. What is the correct sequence of levels of organisation in living organisms?
Atomic → Molecular → Subcellular → Cellular → Tissue → Organ System → Individual. This hierarchy shows increasing complexity from basic units to a complete organism.
2. What is the first step in taxonomy?
The first step is identification of an organism, where its features are studied and matched with known organisms for classification.

Chapter 2: Biological Classification

1. What is the order of taxonomic categories?
Division → Class → Order → Family → Tribe → Genus → Species. This sequence helps organise organisms from broader to more specific groups.
2. What is meant by Biological Classification?
It is the systematic grouping of organisms based on similarities and differences to understand their relationships and characteristics.

Chapter 3: Plant Kingdom

1. Why does Funaria require water?
Funaria requires water because its male gametes need water to swim and reach the female gamete for fertilisation.
2. What is Phenetics?
Phenetics is a classification method based on observable traits and similarities without considering evolutionary relationships.

Chapter 4: Animal Kingdom

1. Name two animals with non-glandular skin.
Chameleon and Turtle. Their skin lacks glands, making it dry and protective.
2. What common feature is shared by birds and mammals?
Both are warm-blooded (endothermic), meaning they maintain a constant body temperature internally.

Chapter 5: Morphology of Flowering Plants

MOTION EDUCATION

1. What are adventitious roots?
These are roots that arise from parts of the plant other than the radicle, such as stems or leaves, helping in support and absorption.
2. Where does the placenta attach in a seed?
The placenta connects to the seed near the hilum, providing nutrients for seed development.

Chapter 6: Anatomy of Flowering Plants

1. What is the role of the pericycle in roots?
The pericycle is responsible for the formation of lateral roots, which help in better anchorage and absorption.
2. Why is grafting not possible in monocots?
Monocots lack cambium, which is essential for secondary growth and successful grafting.

Chapter 7: Structural Organisation of Animals

1. Who produces the basement membrane of epithelial cells?
Both epithelial and connective tissues contribute to the formation of the basement membrane.
2. Which system contains pseudostratified ciliated columnar epithelium?
The respiratory system, where cilia help in removing dust and mucus.

Chapter 8: Cell: The Unit of Life

1. Name a dye not used for chromosome staining.
Safranin is not used because it does not specifically bind to chromosomal material like other stains.
2. Who proposed the fluid mosaic model?
J. Singer and G. L. Nicolson proposed it, explaining the structure of the plasma membrane as a fluid layer with embedded proteins.

Chapter 9: Biomolecules

1. What is glycogen composed of?
Glycogen is made up of glucose molecules and acts as an energy storage polysaccharide in animals.
2. What is the most abundant component of a cell?
Water is the most abundant component, making up a major portion of cell mass and aiding biochemical reactions.

Chapter 10: Cell Cycle and Cell Division

MOTION EDUCATION

1. When does the nuclear membrane disappear?
It disappears during late prophase, allowing chromosomes to interact with spindle fibres.
2. Where does homologous chromosome pairing occur?
It occurs in the zygotene stage of prophase-I during meiosis, forming bivalents.

Chapter 11: Transport in Plants

1. What happens when potassium ions enter guard cells?
When K^+ ions enter, water follows by osmosis, causing guard cells to swell and stomata to open; exit causes closure.
2. What is a potometer used for?
A potometer measures the rate of transpiration indirectly by tracking water uptake in plants.

Chapter 12: Mineral Nutrition

1. Which bacteria convert ammonia into nitrite?
Nitrosomonas converts ammonia into nitrite during nitrification.
2. What is Hydroponics?
It is a method of growing plants in nutrient-rich solutions without soil, allowing controlled nutrient supply.

Chapter 13: Photosynthesis in Higher Plants

1. How many ATP and $NADPH_2$ are needed to form glucose?
18 ATP and 12 $NADPH_2$ are required during the Calvin cycle for glucose synthesis.
2. What is the sequence of the Calvin cycle?
Carboxylation → Reduction → Regeneration, ensuring CO_2 fixation and regeneration of RuBP.

Chapter 14: Respiration in Plants

1. Why is RQ highest with maleic acid?
Because maleic acid produces more CO_2 relative to O_2 consumption, increasing the respiratory quotient.
2. Why is phosphorus important in energy metabolism?
Phosphorus is essential for ATP formation, which stores and transfers energy in cells.

Chapter 15: Plant Growth and Development

1. What is differentiation?
Differentiation is the process by which cells change their structure and function to perform specific roles, leading to specialised tissues.

2. Why is abscisic acid known as a stress hormone?
Abscisic acid helps plants tolerate stress conditions like drought by closing stomata and reducing water loss.

Chapter 16: Digestion and Absorption

1. Why do you lose hunger in a fever?
During fever, body temperature increases, which affects metabolic activities and suppresses the appetite center, leading to loss of hunger.
2. How many monophyodont teeth are there in human beings?
Humans have monophyodont dentition with premolars and molars forming the permanent set used for grinding food.

Chapter 17: Breathing and Exchange of Gases

1. What is the correct sequence of the air passage in a man?
External nares → Nasopharynx → Larynx → Trachea → Bronchi → Bronchioles → Alveoli.
This pathway ensures proper air filtration and gas exchange.
2. Why is CO more toxic than CO₂?
Carbon monoxide binds strongly with haemoglobin, reducing oxygen transport and causing suffocation at the cellular level.

Chapter 18: Body Fluids and Circulation

1. What is Pericardium?
Pericardium is a double-layered protective sac surrounding the heart, providing lubrication and protection.
2. Name the doctor who performed the first heart transplant.
William Harvey is associated with studies of blood circulation, while heart transplant advancements were later achieved by other scientists.

Chapter 19: Excretory Products and Their Elimination

1. In which part does Aldosterone act?
Aldosterone acts on the Distal Convolute Tubule (DCT) to regulate sodium and potassium balance.
2. Which part of the nephron is also called Renal Corpuscle?
The Renal Corpuscle consists of Bowman's capsule and glomerulus, where filtration of blood occurs.

Chapter 20: Locomotion and Movement

MOTION EDUCATION

1. What is muscular dystrophy?
It is a genetic disorder causing progressive weakening and degeneration of skeletal muscles.
2. What is Rigour Mortis?
Rigour mortis is the stiffness of muscles after death due to lack of ATP, causing muscles to remain contracted.

Chapter 21: Neural Control and Coordination

1. How does the potential of the resting membrane maintain?
It is maintained by ion pumps, especially the sodium-potassium pump, which regulates ion distribution across the membrane.
2. Who controls the function of visceral organs?
The autonomic nervous system, including sympathetic and parasympathetic divisions, controls visceral organ functions.

Chapter 22: Chemical Coordination and Integration

1. What is the responsibility of thymosin?
Thymosin helps in the development and differentiation of T-lymphocytes, which are essential for immune response.
2. What is the name of the group of hormones produced by Leydig cells?
Leydig cells produce androgens, which are male sex hormones responsible for secondary sexual characteristics.

Chapter 23: Reproduction in Organisms

1. Match the following:

Potato – Stem tuber

Spirogyra – Conjugation

Rose – Stem cuttings

Penicillium – Conidiospores

These examples show different methods of asexual reproduction in organisms.

2. Why are dogs called seasonal breeders?
Dogs reproduce only during specific seasons when environmental conditions are favourable for offspring survival.

Chapter 24: Sexual Reproduction in Flowering Plants

1. What is the meaning of siphonogamy in angiosperm?
Siphonogamy refers to fertilisation through a pollen tube that carries male gametes to the female gamete.

2. What is a haploid plant?
A haploid plant develops from a single pollen grain and contains only one set of chromosomes.

Chapter 25: Human Reproduction

1. The ampulla is the part of which reproductive system?
It is a part of the female reproductive system, where fertilisation usually occurs.
2. Name the sections in which the man's epididymis is divided?
The epididymis is divided into caput (head), corpus (body), and cauda (tail), helping in sperm maturation and storage.

Chapter 26: Reproductive Health

1. What is the most dangerous sexually transmitted disease?
HIV/AIDS is the most serious STD as it weakens the immune system and has no complete cure.
2. In artificial insemination, where is semen introduced?
Semen is directly introduced into the female reproductive tract to increase chances of fertilisation.

Chapter 27: Principle of Inheritance and Variation

1. Why can't males be carriers of colour blindness?
Since males have only one X chromosome, they either express or do not have the trait; they cannot be carriers.
2. What will be the cross result between a homozygous female and a haemophiliac male?
The offspring may include normal males and carrier females depending on inheritance patterns.

Chapter 28: Molecular Basis of Inheritance

1. How many base pairs are present in the human genome?
The human genome contains about 3×10^9 base pairs, storing genetic information.
2. Which enzyme is called the chemical knife of DNA?
Endonuclease enzymes cut DNA at specific sites, hence called the chemical knife.

Chapter 29: Evolution

1. Why is RNA considered the first genetic material?
RNA can store information and catalyse reactions, making it suitable as the earliest genetic material.

MOTION EDUCATION

2. What is the sequence of origin of life?
Inorganic → Organic → Colloidal aggregates → Coacervates → Cell, showing gradual complexity development.

Chapter 30: Human Health and Disease

1. What is ORS composition?
ORS contains sodium chloride, glucose, potassium chloride, and trisodium citrate to restore electrolyte balance.
2. What is health according to WHO?
Health is complete physical, mental, and social well-being, not just absence of disease.

Chapter 31: Strategies for Enhancement in Food Production

1. Which disease affects livestock?
Anthrax is a bacterial disease affecting animals and can also infect humans.
2. What is Pomato?
Pomato is a hybrid of potato and tomato produced through somatic hybridisation.

Chapter 32: Microbes in Human Welfare

1. Which antibiotic was widely used in World War II?
Penicillin was used extensively to treat infections in soldiers.
2. What is batch process?
It is a method where microorganisms grow in a closed system until maximum production is achieved.

Chapter 33: Biotechnology: Principles and Processes

1. Why are DNA ligases called genetic glue?
They join DNA fragments by forming phosphodiester bonds, helping in genetic engineering.
2. What is Recon?
Recon is the smallest unit of DNA capable of recombination.

Chapter 34: Biotechnology and its Applications

1. What is Pathophysiology?
It refers to functional changes in the body caused by disease or injury.
2. Does organic farming involve genetic engineering?
No, organic farming relies on natural methods like manure and biocontrol, not genetic engineering.

Chapter 35: Organisms and Populations

1. What causes global warming?
Increased CO₂ levels due to human activities trap heat, raising global temperatures.
2. How is PAN formed?
PAN forms through photochemical reactions between nitrogen oxides and hydrocarbons.

Chapter 36: Ecosystem

1. What is NPP?
Net Primary Productivity is the energy stored in plants after respiration.
2. Why do animals die if plants die?
Animals depend on plants for food, so their survival depends on plant life.

Chapter 37: Biodiversity and Conservation

1. What is eroded soil?
Soil that has lost its nutrient-rich top layer due to erosion is called eroded soil.
2. What is the biggest threat to wildlife?
Habitat destruction is the most serious threat as it affects survival conditions.

Chapter 38: Environmental Issues

1. When was the Wildlife Protection Act passed?
It was passed in 1972 to protect wildlife in India.
2. What caused the Bhopal Gas Tragedy?
Leakage of methyl isocyanate gas led to this major industrial disaster.