

ENTRANCE EXAM TOPICS 考試主題

BIOLOGY

1. Chemical basis of life: Carbon, Oxygen, Nitrogen
2. Chemical groups, Water, pH, Lipids
3. Carbohydrates
4. Amino acids, Proteins, Biochemical reactions, Enzymes
5. Nucleosides, nucleotides, nucleic acids
6. Discovering the genetic material
7. Flow of genetic information: Genetic code
8. DNA replication
9. Structure of cells: Nucleus, nucleolus
10. Synthesis of RNAs: Transcription
11. Structure of cells II: Endoplasmic Reticulum
12. Synthesis of Proteins: Translation
13. Structure of the cells III: Cytoplasm, cytoskeleton, vesicles, cell membrane, cell wall, comparison of eu-, and prokaryotic cells
14. Structure of the cells: Mitochondria
15. Oxidative phosphorylation
16. Cell division I: Mitosis
17. Cell division II: Meiosis
18. Basics of Immunology

Questions related to the structure of the human body, circulation, nervous system and visceral organs etc. may also occur.

CHEMISTRY

1. Matter, atomic theory of matter
2. Periodic table
3. Nomenclature of inorganic compounds
4. Electronic structure of atoms
5. Stoichiometry, and chemical equations
6. Chemical bonds and intermolecular forces
7. Gaseous state (gas laws)
8. Solutions, concentrations
9. Reaction kinetics and chemical equilibria
10. Electrolytic equilibria, acid-base theories

11. Redox reactions
12. Introduction to organic chemistry, alkanes
13. Cycloalkanes, alkenes, dienes and alkynes
14. Aromatic hydrocarbons and alkyl halides
15. Alcohols, phenols and ethers
16. Aldehydes and ketones
17. Carboxylic acids
18. Carboxylic acid derivatives (esters, amides), soaps
19. Amines, heterocyclic compounds (pyrrol and pyridine)
20. Carbohydrates