Dubai Medical College for Girls
Chemistry & Biology Syllabus for Entrance Exam
Academic Year 2008-2009

CHEMISTRY

- Solution
  Mixtures, Solutions, Elections, Factors affecting solubility, Heat of the solution, Concentration of solution.

- Ions in Solution
  Dissociation of compounds in solution, Ionization, Strong and weak electrolytes, Colligative properties of Solution, Osmosis and osmotic pressure.

- Acid and Bases
  Properties of acid & bases, Acid uses in industries, Arrhenius acids, Bronsted lowry acid, Lewis acids, Reaction of acids & bases, Amphoteric Substances, Neutralization reaction.

- Titration
  PH of Solution, Calculation of pH, Indicators and their uses.

- Chemical Reactions
  Specific heat, Enthalpy change (heat of the reaction), Thermo chemical equation, Molar heat of Formation, Heat of combustion, Calculation of heat change of chemical reactions.

- Velocity of chemical Reactions
  Mechanism of reactions, Collision theory, Activation energy, Factors affecting reaction rate, Catalyst.

- Equilibrium of Chemical Reactions
  Reversible reactions, Equilibrium constant, Factor affecting equilibrium, Common ion effect, Equilibrium in acidic, basic and salt solution, Buffer solutions, Solubility product constant

- Oxidation & Reduction Reactions
  Oxidation, Reduction, Balance of oxidation & reduction reaction, Reducing and oxidizing agents.

- Electro Chemistry
  Electro chemical cells, Voltaic cells, Non-rechargeable cells, Rust, Electric potential, Electrolytic cell, Electrolysis.

- Carbon and Hydrocarbons
  Forms of carbons, Organic Compounds, Structural formula of organic compounds, structural isomers, Geometric isomers, Alkanes, Alkenes, Alkynes, Aromatic hydrocarbon.

- Other organic compounds
  Alcohols, Alkyl halides, Ethers, Aldhydes, Kelones, Carboxylic Acids, Es ters, Amines, Organic Reactions, Polymers

- Nuclear Chemistry
  Nuclear reaction, Radioactive decay, half-life, Decay series, Artificial transmutation, Nuclear fusion, Nuclear fission.
Tissue
  Muscle tissue, Nervous tissue, Epithelial tissue, Connective tissue

Skeleton
  Axial skeleton, Appendicular skeleton, Ossification, Joints

Muscular system
  Types: voluntary involuntary, Muscular tissue: (skeletal, smooth, cardiac), Muscle contraction, Muscle fatigue

Circulatory system
  Cardiovascular system, Lymphatic system.

Cardiovascular system
  Heart
    Atrium, Ventricle, Valves, Pericardium
  Cardiac cycle
    Sinoatrial node, Atrioventricular node

Vascular system
  Arteries, Blood pressure, Blood capillaries, Vein

Pulmonary circulation

Systemic circulation

Lymphatic system
  Lymph, lymph nodes

Blood
  Blood constitute: Plasma, RBC, WBC, Platelet

Blood Grouping
  A-B-O groups, Rh factor

Respiratory system
  External respiration, Internal respiration, Lungs, Gas exchange, Respiratory Mechanism, Respiratory regulatory centers

Immune system
  Pathogen, Body reaction to pathogen, Mucous Membrane, Inflammatory response, Complement system, Antigen, Immune response, Cell-mediated immune response, Humeral immune response, Primary immune response, Secondary immune response.

Immunity and vaccine
Anomalies of Immune system
  Allergy, Asthma, Autoimmune system

AIDS
  stages of the disease, transmission, Vaccine and treatment.

Nervous system
  Neuron, Active potential, Synapse

Central Nervous system
  Brain, brain stem, Sp. Cord

Peripheral Nervous system
  Nerves, Sensory receptors, motor neurons, Inter neurons

Somatic nervous system

Autonomic Nervous system

Sense organs
  Hearing, Vision, Taste, Smell, Touch

Drugs effect on Nervous system
  Addiction on psychoactive drug, Alcohol, Nicotine.

Endocrine system
  Hormones, Endocrine system, Exocrine system, Endocrine glands, Pituitary gland, Thyroid gland, Adrenal gland, Gonads, Pancreas.

Reproductive system
  Male reproductive system, female reproductive system, pregnancy

Genetics
  DNA synthesis, DNA replication, RNA, Genome

Chromosomes and Heredity
  Sex chromosomes, Autosomes, Mutation, Genetic disorders, DNA technology.