

JINAN UNIVERSITY		جامعة الجنان
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Member of the Arab Universities Association Member of the Islamic Universities Association		عضو اتحاد الجامعات العربية عضو رابطة الجامعات الإسلامية
Tripoli - Lebanon		طرابلس - لبنان
Faculty of Public Health		كلية الصحة العامة

Chemistry Entrance Exam

DESCRIPTION:

This exam is designed for the students willing to enroll in the faculty of public health. If they pass this exam with at least 60% they can directly register the General Chemistry course (PHE165) if they failed to pass they should register the Remedial Chemistry course (CHE010) that develops fundamental concepts from the most elementary ideas of chemistry.

CONTENTS:

1. Matter

Properties
Classification
Measurement, système international d'Unités (SI)

2. Elements

a) *Atoms*

Definition, structure
Atomic number, atomic mass, electrons
Chemical elements, introduction to the Periodic Table
Isotopes definition, examples

b) *Molecule*

Definition, properties
The concept of the mole and the AVOGADRO constant
Using the mole concept in calculations

c) *Ions*

Definition, ionization

3. Chemical compounds

Types of chemical compounds
Composition of chemical compounds
Oxidation states

Naming compounds: organic and inorganic compounds
Chemical bonds: ionic bonds, covalent bonds

4. Chemical reactions

Matter's conservation: Lavoisier's law
Chemical equations and stoichiometry
Chemical reactions in solution

5. Acid-Base reactions in aqueous solution

Strong acid, strong base, pH-metric titration
Weak acid, weak base, conjugate acid/base pair
Acid-base reaction

6. Gases

Properties, pressure
Simple gas laws
Ideal gas equation and applications
Mixtures of gases

7. Organic Chemistry

Functional groups
Alkanes, alkenes, alkynes
Alcohols
Aldehydes and ketones
Carboxylic acids and their derivatives
Amines and α -amino acids

TEXTBOOK:

- "Chemistry" National Textbook for the life sciences section in third year secondary education.