

second semester syllabus

First semester Syllabus

المفردات	الوحدات	اسم المادة	ت	مفردات المادة	عدد الوحدات	اسم المادة	ت
<p>١- The stander electroad potentioal , standerd cell potintioal & non standerd-١ the relation Between the ΔG & ΔE ,oxidation potentioal ion pairs reduction , (simple&complexes) effect of PH on E& electro motive force&Example ٢- The symmetry ,its importance ,symmetry operation symmetry-٢ elemens&point of symmetry .Examples ٣- The principls of solid state chemisitry crystal systems of cubic ,braves-٣ lattice X-ray diffraction unit cell , volum&crystal structure ٤- The oxide& peroxide ,oxygenic acids ,the chemisitry of sulphour-٤ preparation and chemical properties of Nobel elements</p>	3	Inorganic لاعضوية		<p>1- Sampling-treatment of the sample . 2- General introduction to gravimetric analysis-main principles . 3- Classification of gravimetric methods of analysis-precipitation properties of precipitation for gravimetric methods . 4- Calculation in gravimetric analysis-gravimetric factor-examples ٥- Inorganic precipitation agents and organic precipitating agents ٦- Solubility of precipitates-solubility product-application of solubility product in precipitation . 7- Factors affecting the solubility of precipitates : effect of inert electrolytes , temperature , rate of precipitation formation . 8- Control of particle size , crystalline formation of precipitates , Von-Weimern equation . colloidal precipitates . 9- Contamination of precipitates , types of contaminants treatment of different contamination processes .</p>	3.5	Gravimetric Analysis التحليل الوزني	1
<p>1- General introduction to separation methods and its importance in analytical chemistry . 2- Classification of analytical separation methods. 3- Separation by distillation , main principles . 4- Separation by precipitation , applications . 5- Separation by extraction , main principles , mathematic , Extraction methods . examples . 6- Separation by ion-exchange , Ion-exchangers ,anionic exchangers , applications . 7- Separation by chromatography , column chromatography , electrophoreses , applications .</p>	3.5	Analytical separation Methods طرق فصل		<p>Introduction to environmental pollution and natural balances Basic constituents of the nature Environmental Phenomenon's Environmental Disasters caused by air pollution Air pollutants- thier sources ,effects, and controlling :methods Detergents - pesticides - inorganic substances and heavy metal compounds - radioactive substances - suspended and sediment Inorganic substances -</p>	2	Environmental pollution تلوث بيئي	2
<p>Stereochemistry -١ Aldehydes and ketones- ٢ Alkyl halides - ٣ Alcohols - ٤ Phenols - ٥</p>	4	organic chemistry العضوية					

6. Third law of thermodynamics. 7. Phase equilibria. 8. Solutions . 9. Free energy and chemical equilibri. 10. Statistical thermodynamics.	4	Physical chemistry الفيزيائية

The periodicity metallic&nonmetallic ,oxidation number ,oxides (acid ,base- ¹) Amphoteric) oxides (ionic ,covalent) , the colour of elements ,colour of complexes The magnetic chemistry: the ferro&antiferro substances ,spin magnetic moments - ¹ orbital contribution+ orbital contribution of magnetics moments ESR Examples Acids &bases ,theories ,the moleculer and ionic acids ,bases &carbonic ,the- ³ solvents ,typs strength of acids analler solcents ,the solid&soft acids&bases (lewis acid & bases) The representative elements N , P , O & halogens- ⁴	3	inorganic لاعضوية
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1. Gases in general. The Zerth law of thermodynamics. 2. The first law of thermodynamics. 3. Thermal chemistry. 4. The second law of thermodynamics . 5. Freeenergy.	4	Physical chemistry الفيزيائية
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Benzene and aromatic characters - ¹ Arenes - ² Carboxylic acids and derivatives - ³ Amines - ⁴ Aryl halides - ⁵ Ethers and peroxides - ⁶	4	organic chemistry العضوية
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