Cheatography

A&P Chapter 2 NAHHH Cheat Sheet

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Anatomy 2.1 abc (A&P Atomic Structure)

2.1a MATTER,ELEMENTS,PERIODIC TABLE			
Body has=	matter	Matter is present in	liquid,gas, and solid
Atom composition=	neutron	proton	electrons
Amu=	Neutron+Proton		
Atomic Number=	# of protons		
Atomic Mass=	(Atomic Weight)=	Proton & Neutron	
2.1b ISOTOPES			
Isotopes=	same Proton & Electrons	different Neutrons	
Average Atomic Mass=	average isotopes		
Physical half-life=	50% of radioisotope	to become stable	
Biological Half-Life=	Half of medicine to be destroyed		
2.1c STABILITY & OCTATE RULE			

Anatomy 2.1 abc (A&P Atomic Structure) (cont)

Valence Shell=	Exterior Electron Layer		
Octet Rule=	8 Valence ELectrons=		stability

Anatomy 2.2 ab (Ions)

2.1a IONS			
Ions=	positive or negative charge		
Cations=	Loss of Electron	Anion=	gain of electron
2.2b IONIC BONDS			
Ionic Bonds=	Positive+- Negative bond=	Salt structure	
Ionic Compound Ex:=	NaCl		

Anatomy 2.3 abcd (Covalent Bonds)

2.3 a COVALENT MOLECULES			
Covalent Bond=	charge equilibrium		
Molecular Formule=	# & type of element	Structural Formula =	Arrangement
Isomers=	Same Molecular formula	different structure	
2.3 b COVALENT BONDS			
Can have bonds up to:	single	double	triple

Anatomy 2.3 abcd (Covalent Bonds) (cont)

Polarity depends on	Electronegativity		
Polar=	pull	nonpolar=	no pull
2.3 c POLARITY & AMPIPATHIC			
non polar contains=	non polar bonds	polar contain	polar bonsd
Ampipathic Molecule=	can have both poles		
2.3d ATTRACTION			
Intermolecular attraction=	weak attraction	Ex:=	Hydrogen Bond
van der Waals forces=	non polar attraction	Occurs momentarily=	when charge differs

Anatomy 2.4 abc Water Property

2.4 a STRUCTURE			
H2O	water molecule ability=	form 4 hydrogen bond with	hydrogen bonds
2.4b PROPERTIES			
Phases= Transports	Lubricates	Cushions	Excretes Waste
Water has=	Cohesion	Surface Tension	Adhesion
High=	Specific Heat	Heat of Vaporization	
2.4 c UNIVERSAL SOLVENT			
Water=	Solvent	Stuff that gets dissolved =	Solute

Anatomy

Hydrophylic=
Dissolve in water
Electrolyes
Non Polar=
Partially Dissolve=

2.6 ab W

2.6 a WA
Suspension=
Colloid=
Solution=
Emulsion
2.6 b SO
Mass/Volume =
Mass/Volume Percent=

2.6 ab Water Mixtures (cont)

Molarity=	Moles solute/L solution	
Molality=	Moles solute/kg Solvent	
Osmoles dependent=	dissolves in solution	
Osmolarity=	# particles in 1 litre solution	
Osmlality=	# of paritcles in 1 kilogram	of water
mole=	6.022X10^23	
Molecular Mass=	Add up AMU	

Anatomy 2.5 abc Acid/Base & pH Buffer

2.5 a WATER=NEUTRAL SOLVENT

H2O+	H2O->	H3O^++	OH^-
H3O^+=	Hydronuim	OH^-=	Hydroxide Ion

2.5 b ACIDS & BASES

ACid=	Proton Donor	Base=	Proton ACceptor

2.5 c pH BUFFERS

Neutral=	7
Buffer =	Prevent pH Change

2.7 abcde (Macromolecules)

27a GENERAL CHARACTERISTICS

Organic Molecules=	contain carbon	Inorganic molecules=	every other molecule
Hydrocarbons=	C-H		
Polymers=	Monomers=	Identical chemical Structure	
Dehydration =	forms	Hydration=	breakdown

2.7 LIPIDS

Types: Triglycerides	Phospholipids	Steroids	Eicosanoids
Tryglcerides =	energy storage	14-20 carbon long	
Fatty Acid:	Saturation= lacks double bond	Unsaturated =possesses double bond	polyunsaturated= double bond+
Phospholipid membrane=	Hypdrophyllic side	hypdrophobic side	
Steroid Ring	4 rings consisting of hydrocarbons		
Eicosanoids =	20 carbon fatty acids=	communicate with nervous system=	signaling molecules

2.7 c CARBS!!!

2.7 abcde (Macromolecules) (cont)

Glucose->	Glycogenisis->	Glycogen	(Reverse with Glycogenlysis)
6-Carbon Sugars (Hexose)=	Galactose Fructose		
5-Carbon Sugars (Pentose)=	Ribose	Deoxyribose	
Disaccharides=	Sucrose	Lactose	Maltose

2.7 NUCLEIC ACIDS

Single Ring= Pyrimidines =	Cytosine	Uracil	Thymine
Double Ring= Purines=	Adenine	Guanine	
DNA & RNA	composed of Nucleotides	linked through Covalent Bonds	called phosphoh ester bonds
DNA possesses=	deoxyribose sugar	phosphate	1 of the nitrogens bases

2.7 abcde (Macromolecules) (cont)

200+ Amino Acids=	Protein	Protein+ Carb=	Glycoprotein

2.8 Protein Structure

2.8 a AMINO ACIDS			
Amino Acids groups= Nonpolar	Polar	Charged	special Function
Nonpolar amino acids=	R group=	hydrogen or Hydrocarbons	groups with nonpolar amino acids
polar amino acids	contain R groups	interacts with polar and	water molecules
charged amino acids=	Negative have: Glutamate & Aspartate	Positive Charge Have: Histidine, Lysine, arginine	
Special Functions:=	Proline, Cysteine, and Methionine		
2.8 SEQUENCE & PROTEIN CONFORMATION			
4 Protein shapes= Primary	Secondary	Tertiary	Quaternary

2.8 Protein Structure (cont)

Primary=	Linear Amino ACids	
Secondary=	Alpha Helix	Beta Sheet
Tertiary Structure=	3-dimensional shape	repeating secondary structure
quarternary structure=	2+ proteins	
Denature=	PH change	Temperature Change