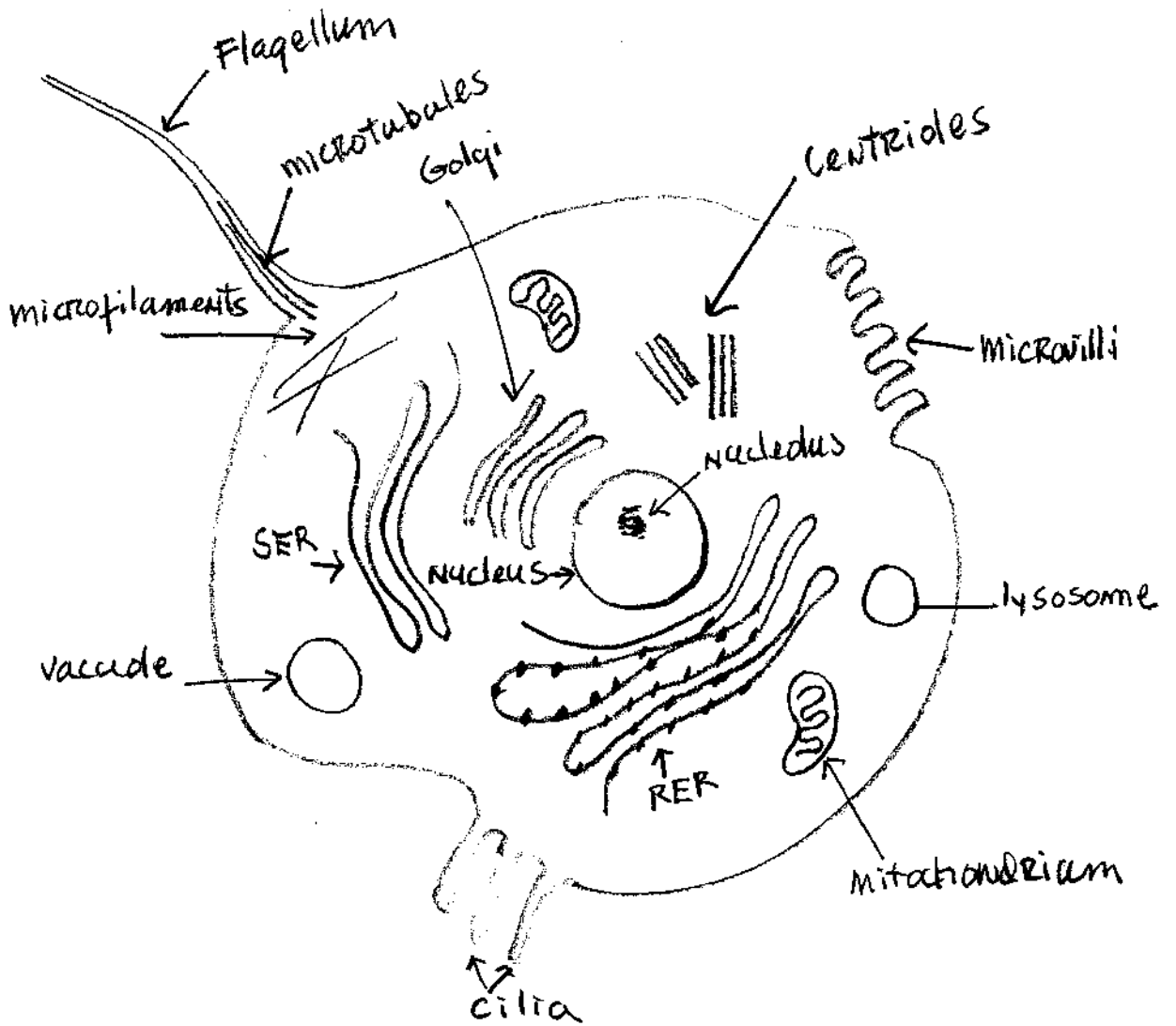


TNCC ELECTRONIC RESERVES

CLASS:	BIO-141/145
INSTRUCTOR:	R. HYLE
TITLE:	Anatomy & Physiology Study Guide
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ANATOMY & PHYSIOLOGY STUDY GUIDE

RAA

Unit I Study Guide

Levels of Organization of Matter

- Arrange the following in order from simple - complex
organ system / atom / cell / organelle / molecule / tissue

complex

↑

simple

_____ which is the basic unit of life?

_____ which level requires the greatest energy?

List the characteristics of life

- Give an example of homeostasis using negative feedback.

Chemistry Concepts Worksheet

Complete the electron configurations for the following using dots as electrons

(H)

(O)

(C)

Hydrogen

Oxygen

Carbon

(Na)

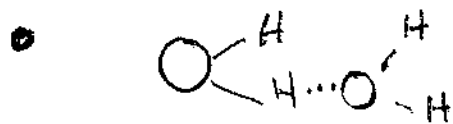
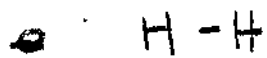
(Cl)

Sodium

Chlorine

Define isotope & Give examples of Carbon and hydrogen isotopes

■ Bonding - describe the bonds illustrated below



■ For each of the following pHs give the H^+ and OH^- concentrations (mols/L)

pH	H^+	OH^-	ACID OR BASE
2			
4			
7			
9			
11			

~~RAM~~

ORGANIC (CARBON) CHEMISTRY

- Draw the structure of glucose & fructose

glucose

fructose

- why are these isomers? _____

- Complete the equations



which is a synthesis reaction? _____

which is a decomposition reaction? _____

which is dehydration? _____

which is hydrolysis? _____

- Draw a glycerol and a fatty acid.

glycerol

fatty acid

RAH

- How many fatty acids bond with a glycerol? _____
- What is a saturated fat? _____
- What is an unsaturated fat? _____
- Draw the AMINO ACID glycine and alanine

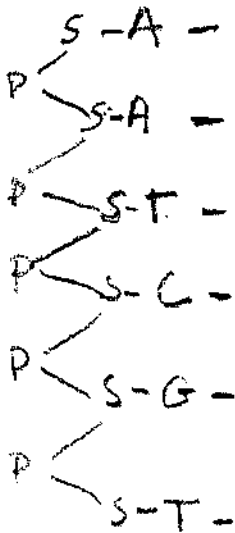
glycine

alanine

- How do they differ? _____
- What is a peptide bond? _____
- Why is a protein called a polypeptide? _____

RHA

- Arrange The bases a) adenine b) thymine c) guanine d) cytosine with The sequence below of bases



Which letters to The left represent a single nucleotide?

What is S? _____

What is P? _____

What bases are in DNA?

What bases are in RNA?

Why is DNA called a "Double Helix"?

How does RNA differ from DNA?

How is energy released from ATP?

Describe the molecular structure of the cell membrane.

Differentiate between hydrophilic and hydrophobic.

How does this apply to the cell membrane?

What membrane molecules function as transporters?

Why is the cell membrane called a Fluid Mosaic?

Differentiate between simple diffusion and facilitative diffusion.

Describe The role of ATP in active Transport.

Differentiate between pinocytosis and phagocytosis.

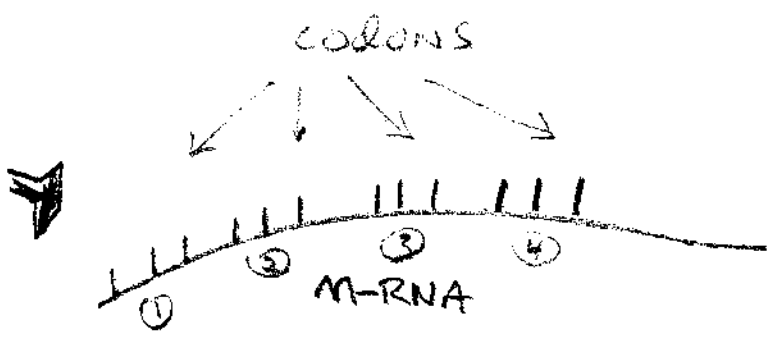
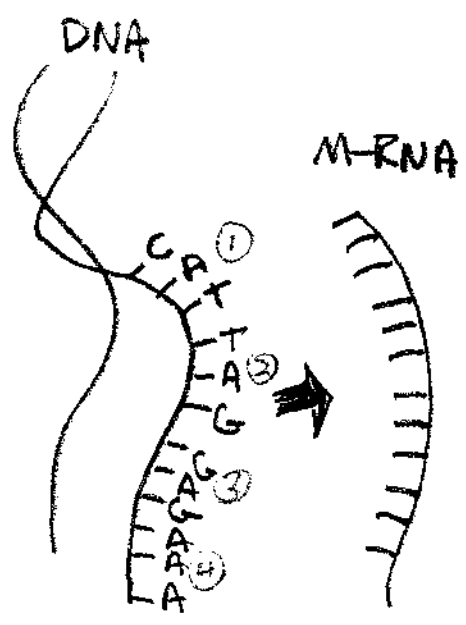
Give examples of osmosis using hypotonic and hypertonic.

• Match The following

- 1. lysosome
- 2. nucleolus
- 3. RER
- 4. SER
- 5. golgi apparatus
- 6. mitochondria
- 7. centriole
- 8. cytoskeleton
- 9. vacuole
- 10. flagellum

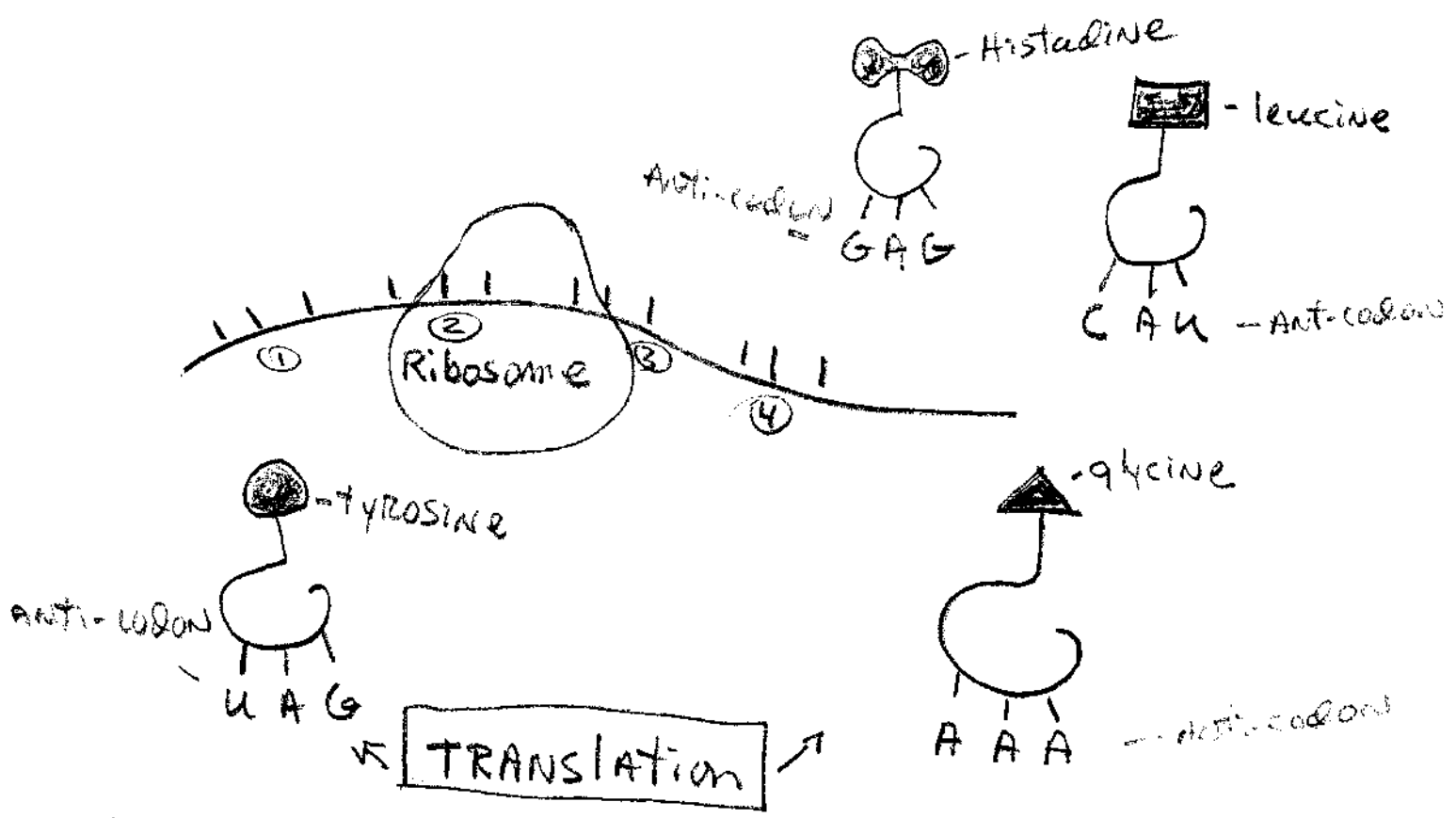
- a. nuclear RNA
- b. contains ribosomes
- c. storage organelle
- d. ATP synthesis
- e. contains microfilaments
- ab. nuclear RNA
- ac. mitosis
- ad. packages molecules
- ae. locomotor organelle
- abc. lacks ribosomes

Protein Synthesis

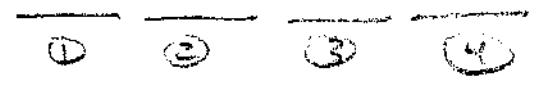


↑ **Transcription** ↑

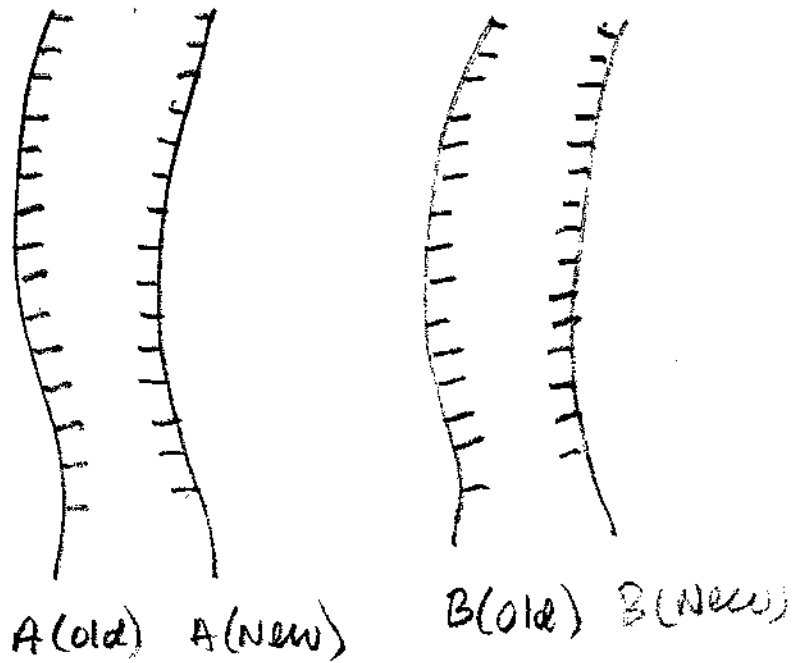
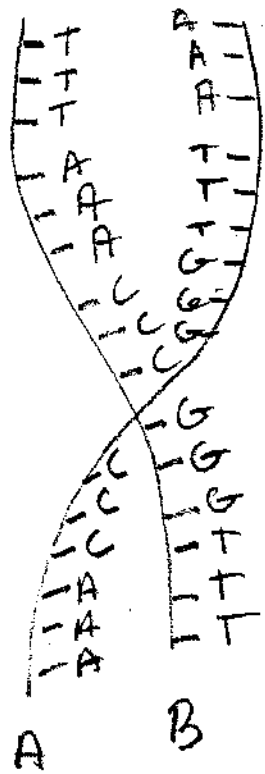
Complete the "codons" for the M-RNA



ARRANGE THE ANTI-CODONS ON THE M-RNA & LIST AMINO ACIDS IN SEQUENCE



DNA Duplication



Complete New Strands for Old A + B
of DNA Above

What enzyme facilitates this process?

During what cell cycle phase does DNA duplication occur? _____

During what cell cycle phase does the "doubled DNA" separate? _____

What is diploid? _____

~~Part~~

tissues

Differentiate between simple & stratified epithelial tissues.

Give an example of the above tissues.

simple _____

stratified _____

Define the term Matrix and how it applies to connective tissues.

What connective tissues exhibit lacunae?

What is the function of a lacuna?

What connective tissue exhibits a storage vacuole? _____

RAH

Which muscle tissues are striated?

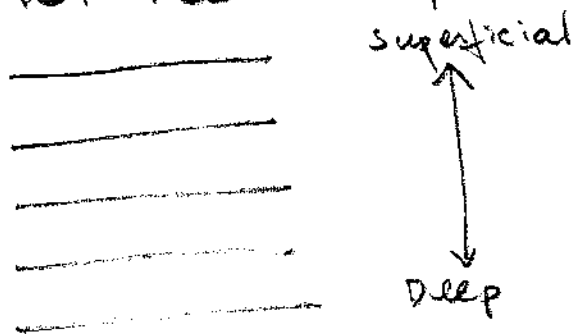
Which muscle tissue has multinucleate cells? _____

Which muscle tissue has intercalated discs? _____

What processes are associated with the neuron in nerve tissue? _____

Integument

List the 5 layers of the epidermis



What layer of the skin has papillae?

~~DATA~~

■ Match The following

- | | |
|--------------------------|---------------------------------|
| — 1. Langerhans | a. pigment |
| — 2. Merkel cells | b. pressure receptor |
| — 3. melanocyte | c. oil |
| — 4. melanin | d. sebum |
| — 5. Pacinian corpuscles | e. sweat |
| — 6. Albino | ab. keratinized cells |
| — 7. Sebaceous gland | ac. immunity function |
| — 8. sudoriferous gland | ad. contribute to skin color |
| — 9. ceruminous gland | ae. lack melanin |
| — 10. Nails + Hair | abc. sensory function for touch |

~~XXXX~~