

Session 1

09/03/2025

1. Define Biochemistry.
2. What is the fluid mosaic model?
3. What is a membrane made of?
4. What type of organisms have a cell wall and what are composed made of?
5. Describe and state the functions of the following cell structures. Identify which structure is present in Prokaryotic cells, Eukaryotic cells, or both. Describe any differences in functions if present in both.
 - a) Cell Wall
 - b) Cell Membrane
 - c) Nucleoid/Nuclear Region
 - d) Flagellum/Flagella
 - e) Pili & Sex Pili

f) Cytoplasm & Cytosol

g) Ribosomes

h) Nucleus

i) Nucleolus

j) Endoplasmic reticulum

k) Mitochondria

l) Cytoskeleton

m) Vacuoles

n) Lysosomes

o) Chloroplasts

p) Golgi apparatus

6. What are microbodies?

7. What is the hierarchy of biomolecules?

8. Name a handful of essential ions.

9. Name the 6 essential elements.

10. Draw the following functional groups.

- Alkyl:

- Acyl:

- Aromatic:

- Carbonyl:

- Ketone:

- Aldehyde:

- Carboxylic Acid:

- Ester:

- Ether:

- Amide:

- Amine:

- Alcohol:

- Disulfide:

11. List and draw the phosphate molecules you should know. Include their shorthand version.