

Attendance \Rightarrow 101.

Quizes \Rightarrow 3 out of 4 \Rightarrow 301.

Midterm \Rightarrow 251.

Final \Rightarrow 351.

* Central Dogma:

- transmission of genetic information from DNA to Protein via RNA.

* Virus is pseudo living. But they can thrive/reproduce in a living host.

* Homo-sapience \Rightarrow knowledgeable man.

* There are 20 different Amino Acids. (Naturally occurred)

* Francis Crick proposed Central Dogma.

* Genes is a segment of DNA that can be expressed as RNA or Protein.

* There are more than 100k Protein in our body but the number of genes are only 22k.

L-02 / 21.01.2025 /

⊗ Japanese ZWT

↳ interval walk training

- 3 minutes slow
 - 3 minutes fast
- } total 5 times
= 30 minutes a day
⇒ total 5 days in a week
= 150 minutes

⊗ What is life?

⇒ things that distinguish living organism from non-living matter.

⊗ Human DNA = 46 chromosomes

⊗ Total amount of DNA is called genome.

⊗ Size of human genome: 6.4×10^9

⊗ Cellular basis:

- cell is the basic unit of life

⊗ Single cell

- bacteria - ~~prokaryotic~~ - no nucleus
- prokaryotic

⊗ Human -

- eukaryotic - has nucleus

L-03 / 26.01.2025 /

⇒ 1 gm fat = 9 kcal

L-04/28.01.2025/

⊗ different type of rRNA***

Quiz-1

- 04.02.2025
- 25 statements (half true half false)
- if false, write the correct ans.
- 15 minutes, 10 marks
- 12 + correct = bonus 0.5

L-05/02.02.2025/

⊗ atom \Rightarrow molecule \Rightarrow compound

L-06/04.02.2025/

Quiz-2

⊗ pH is a measure of acidity and alkaline
- scale : 0 - 14

L-07/09.02.2025/

⊗ Differentiate between acids and bases with example.

L-08/11.02.2025/

⊗ What are the different level of protein?

⊗ double bond = unsaturated
no d-bond = saturated

⊗ Phospholipids gives fluidity to the cell membrane.

⊗ Cholesterol have four rings in its structure.

⇒ essential fatty acids

- unsaturated

- omega 3

L-09/16.02.2025/

⊗ Write about cell theory.

⊗ Differentiate between prokaryotic and eukaryotic cell.

⊗ Endosymbiotic theory of the evolution of organelles
mitochondria & chloroplast.

⊗ Fluid mosaic model.

L-10/18.02.2025/

Quiz-2

No content

L-11/23.02.2025/

⊗ CDL :

- Central Dogma of Life

- Transmission of genetic information from DNA to protein via RNA.

* Dogma:

- can't change
- we need to believe
- universal
- unidirectional

* Gene is a specific sequence of DNA.

- fragments of DNA, that carry a protein trait.

* ~~RNA~~ Messenger RNA.

* Code of dictionary is 64.

* One of the segment of DNA is transcribed as RNA.

Midterm Exam

- 02.03.2025

Upto Slide-10

L-12 / 25.02.2025 /

* Energy:

- ability to do work.

* Entropy:

- the measure of degree of disorderliness.

* ~~xxx~~ Difference between breathing and respiration.

* ~~xxx~~ ATP-ADP Cycle.

Slide-12 ~~xxx~~

⊗ On Side-8, direction of the energy flow will be reverse.

⊗ the beginning of the breakdown of glucose occurs in the cytoplasm.

L-13 / 02.03.2025 /

⊗ DNA + Proteins = Chromosome

⊗ The extended length of human DNA is 2m.

⊗ Diameter of human Nucleus is $10\text{ }\mu\text{m}$

⊗ DNA has to be condensed to 10 thousands times, to accommodate it inside the Nucleus.