PONNURI ANIRUDDHA
RA2112703010015

CT-2

PART-A

Q1

DNA

DNA stands for Deoxy ribonucleic acid. It stores stores hereditary information. DNA contains four bases which are Adenine (A), Guanine (G), Thymine (T) and Cytosine (C). In a DNA stand Adenine pairs with Thymine and Guanine pairs with Cytosine. It is a double stranded helix molecule.

RNA

RNA stands for Ribonucleic acid. RNA contains four bases Adenine (A), Guanine (G), Uracil (U) and cytosine (C). In a RNA, Adenine pairs with Uracil and Guanine (G). pairs with Cytosine (C).

Q2

Proteins are polymers made of amino acids. All proteins are made of 20 amino acids with arranged in different combinations

1) Primary Protien structure
It is a specific sequence of amino acids in a linear chain

2) Secondary Protien structure
It occurs when protien chains coil or fold

3) Tertiary Protien structure
It occurs when when two protien chains join together due to R-group interaction

4) Quaternary Protien structure
It occurs in watery environment. and proteins become globular.

Q3

PONNURI ANIRODDHA
RA2112704010015

A hormone is a chemical messenger which targets a specific organs or cells in order to stop or start an activity. There two types of hormone secretion system in human body i.e. Endocrine and Exocrine System. Various hormones which are present in human body are. Growth hormone, thyroxine hormone, adrenaline, Insulin, Testosterone, Estrogen and Progesterone

Q4

1) NCBI

NCBI stands for National centre for biotechnological information was created in 1998 as a part national library of medicine at NIH. This a public databases for Proteins, Nulecic acid i.e DNA and RNA. It provide tools for sequence analysis for Proteins, DNA and RNA

2) ~~BLAST~~ PDB

It is a database for storing structural data of large biological molecules. PDB stands Proteins data bank which was established 1972 at BNL. PDB is useful in solving problems related to molecular biology.

Q5

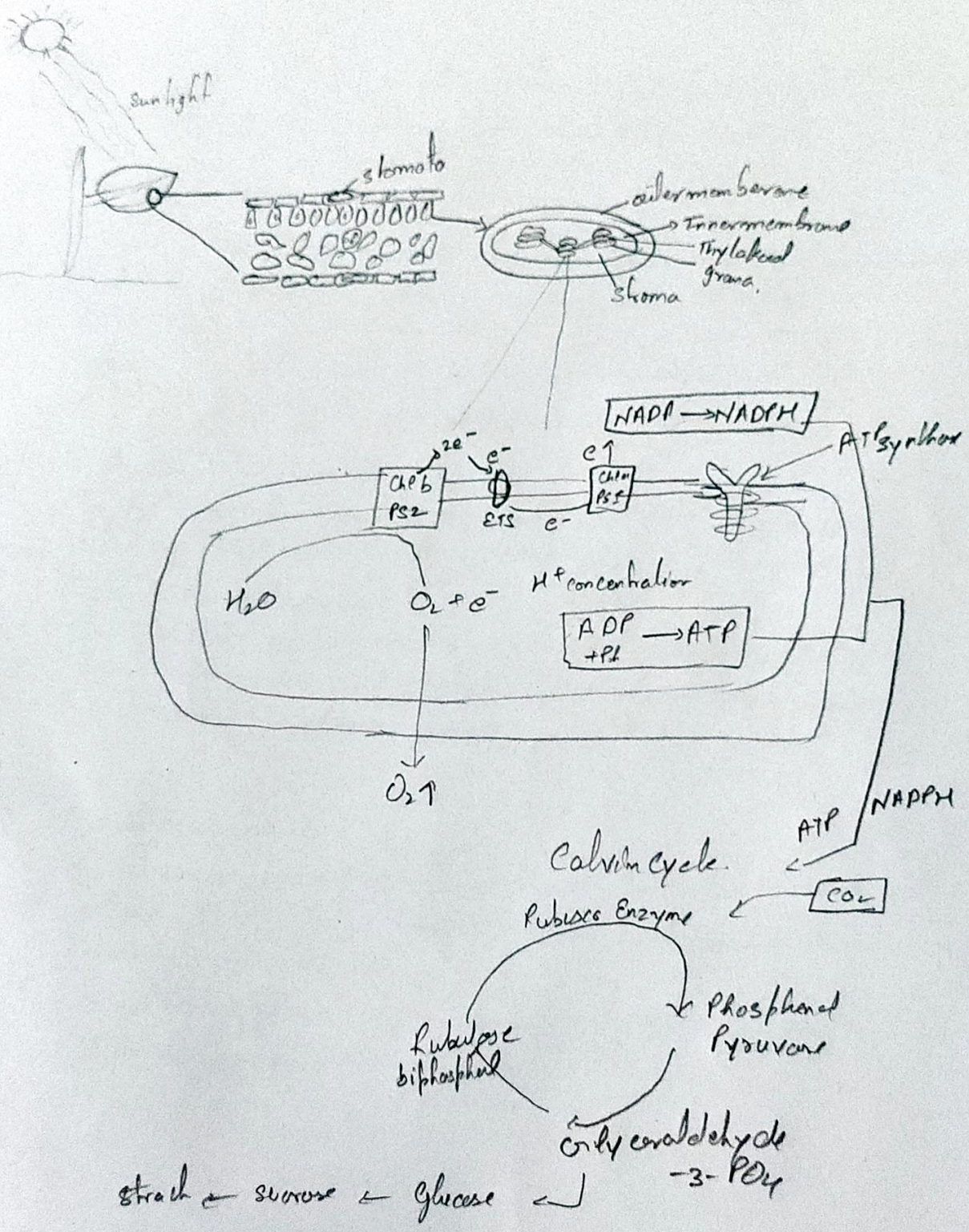
Parts of human brains are

1) Cerebrum
2) Frontal lobe → responsible for reasoning & planning
3) Parietal lobe → responsible for sense of touch, pain, etc.
4) Occipital lobe → responsible for vision
5) cerebulum → responsible for reflexes
6) Temporal lobe → responsible for hearing and memory

PART-B

PONNURI ANIRUDDHA
RA2111270401015

Q6



PONNURI ANIRUDDHA
RA2112704010015

Photosynthesis is process by which light energy is converted into chemical energy which is later used. The chemical energy is stored in the form of sugar, ~~which are~~
At cellular level, the process takes place in cell organelles called chloroplasts which contain chlorophyll which captures sunlight

Photosynthesis occurs in two steps :-

- During Photosynthesis, water is absorbed through roots and carbon dioxide enters through stomata and is carried to leaves. chlorophyll absorbs sunlight and splits water into hydrogen and oxygen. CO_2 and Hydrogen is absord and glucose is produced and oxygen is liberated

$$6CO_2 + 6H_2O \longrightarrow C_6H_{12}O_6 + 6O_2$$

- Light dependent reaction
  In this stage light energy is converted into ATP and NADPH which are then used in the second phase of photosynthesis.
- Light independent reaction
- In this step sugar molecules are formed, the ATP and NADPH formed during the light reaction, drive the reaction forward and convert CO_2 into glucose.

Q7

Neural Network.

The information processing technique inspired by our biological nervous systems. This a large number of highly interconnected processing elements working together.

Neural Networks are configured for a specific application such as pattern recognition or data classification

PONNURI ANIRUDDH
RA2112704010013

ANN is an information processing system that has certain performance characteristics in biological nets.

- Several key features of ANN are:

1) The processing element receives many signals
2) Signals may be modified by a weight at the receiving synapse
3) The processing element sums weighted inputs
4) Under ideal conditions, the neurons transmits a single output
5) The output from a particular neuron may go to many other neurons

It is used in various fields such as stock market, weather prediction, robotics, and data analysis.