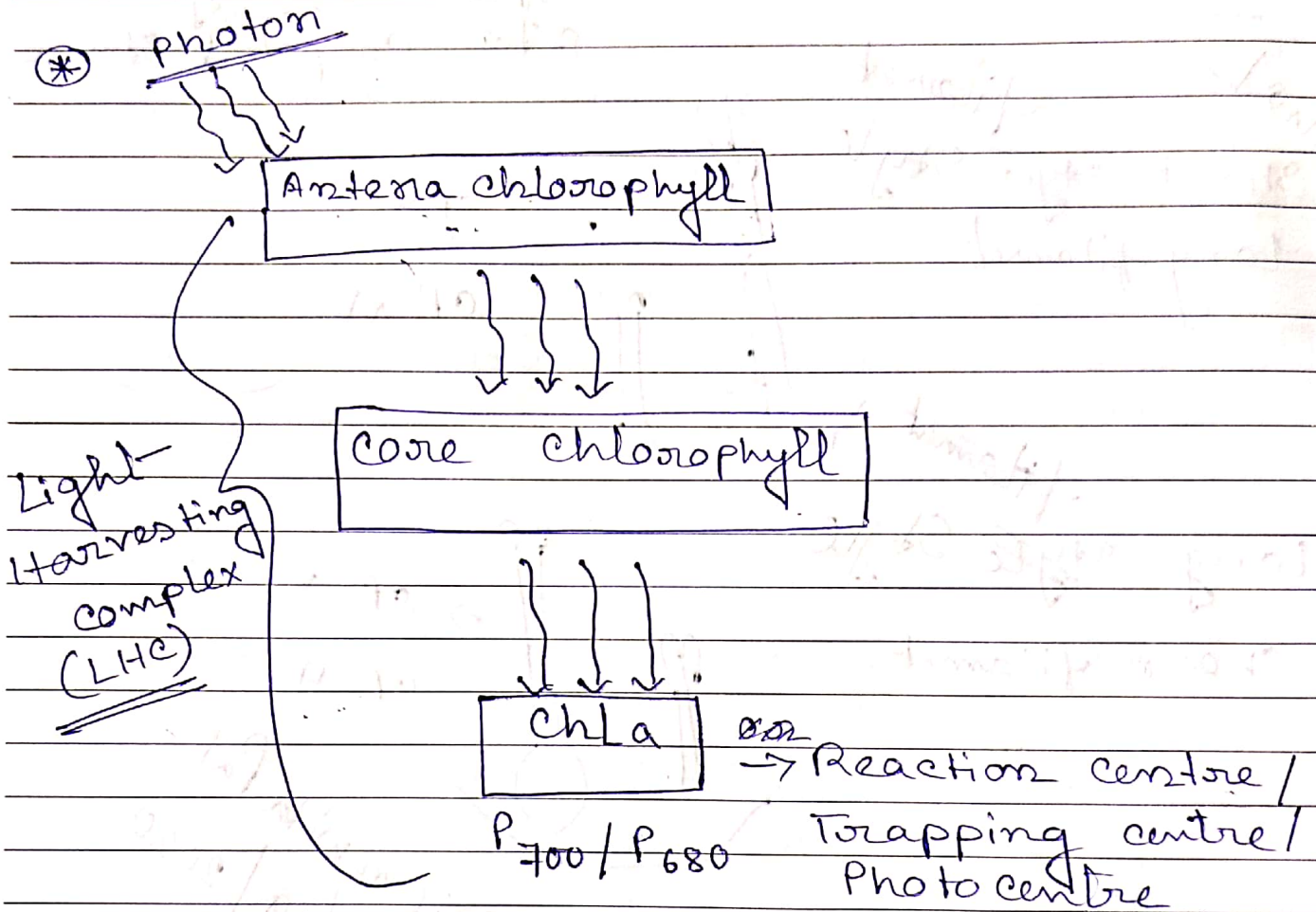


Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
49	30	31					1	01							
50	2	3	4	5	6	7	8	02	6	7	8	9	10	11	12
51	9	10	11	12	13	14	15	03	13	14	15	16	17	18	19
52	16	17	18	19	20	21	22	04	20	21	22	23	24	25	26
53	23	24	25	26	27	28	29	05	27	28	29	30	31		

Dipanwita Pal

14/09/2020



\* Hill reaction → Robin Hill (1937)

In photosynthesis oxygen produced from  $H_2O$

An undefined problem has an infinite number of solutions. - Robert A. Humphrey

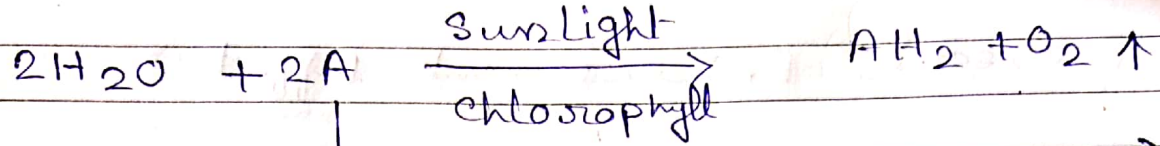
Notes :	Appointment :

January 2019

February 2019

Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
01			1	2	3	4	5	05					1	2	
02	6	7	8	9	10	11	12	06	3	4	5	6	7	8	9
03	13	14	15	16	17	18	19	07	10	11	12	13	14	15	16
04	20	21	22	23	24	25	26	08	17	18	19	20	21	22	23
05	27	28	29	30	31			09	24	25	26	27	28		

Saturday Week 06



Potassium ferrioxalate (H-acceptor)

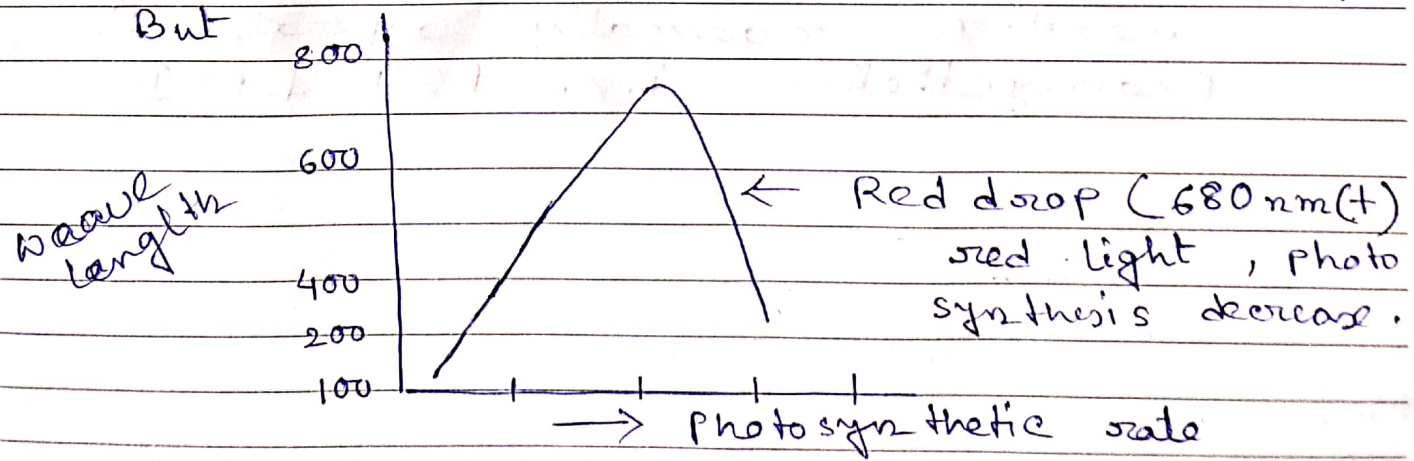
Hill reagent

Hill reaction

\* ~~Emerson & Lewis~~ Red Drop → Emerson & Lewis (1943)

Chlorella sp.

\* In red light → Photosynthesis rate high  
Sunday 20



An ideal would be the society based on liberty, equality and fraternity. - Babasaheb Ambedkar

Notes :	Appointment :

Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
49	30	31					1	01							
50	2	3	4	5	6	7	8	02	6	7	8	9	10	11	12
51	9	10	11	12	13	14	15	03	13	14	15	16	17	18	19
52	16	17	18	19	20	21	22	04	20	21	22	23	24	25	26
53	23	24	25	26	27	28	29	05	27	28	29	30	31		

Emerson's Enhancement Effect →

Emerson and Chalmers (1957)

680 nm (+) → Red Drop ← Photosynthetic rate decrease

But (700 nm + 653 nm) → Photosynthetic rate high  
 ↑ (Red)                      ↑ (Orange)

700 nm → PR 1)

653 nm → PR 2)

PR 1 + PR 2 = Photosynthetic rate  $\left( \begin{matrix} 700 \text{ nm} \\ + \\ 653 \text{ nm} \end{matrix} \right)$

\* This indicates that separate light reactions normally cooperate in photosynthesis i.e. PS I & PS II

Believe that life is worth living and your belief will create the fact. - William James

Notes :

Appointment :

Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
01			1	2	3	4	5	05						1	2
02	6	7	8	9	10	11	12	06	3	4	5	6	7	8	9
03	13	14	15	16	17	18	19	07	10	11	12	13	14	15	16
04	20	21	22	23	24	25	26	08	17	18	19	20	21	22	23
05	27	28	29	30	31			09	24	25	26	27	28		

\* PS I (Pigment system I) →

- 1) more amount chl a (300 molecules)
- 2) small amount chl b
- 3) Beta carotin

4) absorption spectrum - 700 nm.  
∴ called P<sub>700</sub>

5) outside of grana layer

6) main function → reduce NADP<sup>+</sup> to NADPH + H<sup>+</sup>

PS-I



8 electrons

(strong reducing agent) X (unidentified compound)

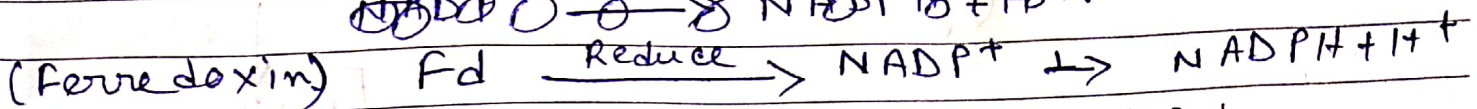


Reduce

~~Fd~~ FRS (Ferredoxin reducing substance)



Reduce



Character may be manifested in the great moments, but it is made in the small. - Phillips Brooks

Notes :

Appointment :

Wk	S	M	T	W	T	F	S
49	30	31					1
50	2	3	4	5	6	7	8
51	9	10	11	12	13	14	15
52	16	17	18	19	20	21	22
53	23	24	25	26	27	28	29

Wk	S	M	T	W	T	F	S
01			1	2	3	4	5
02	6	7	8	9	10	11	12
03	13	14	15	16	17	18	19
04	20	21	22	23	24	25	26
05	27	28	29	30	31		

\* Pigment system II (Ps II) →

1) chl a - (100 molecules)

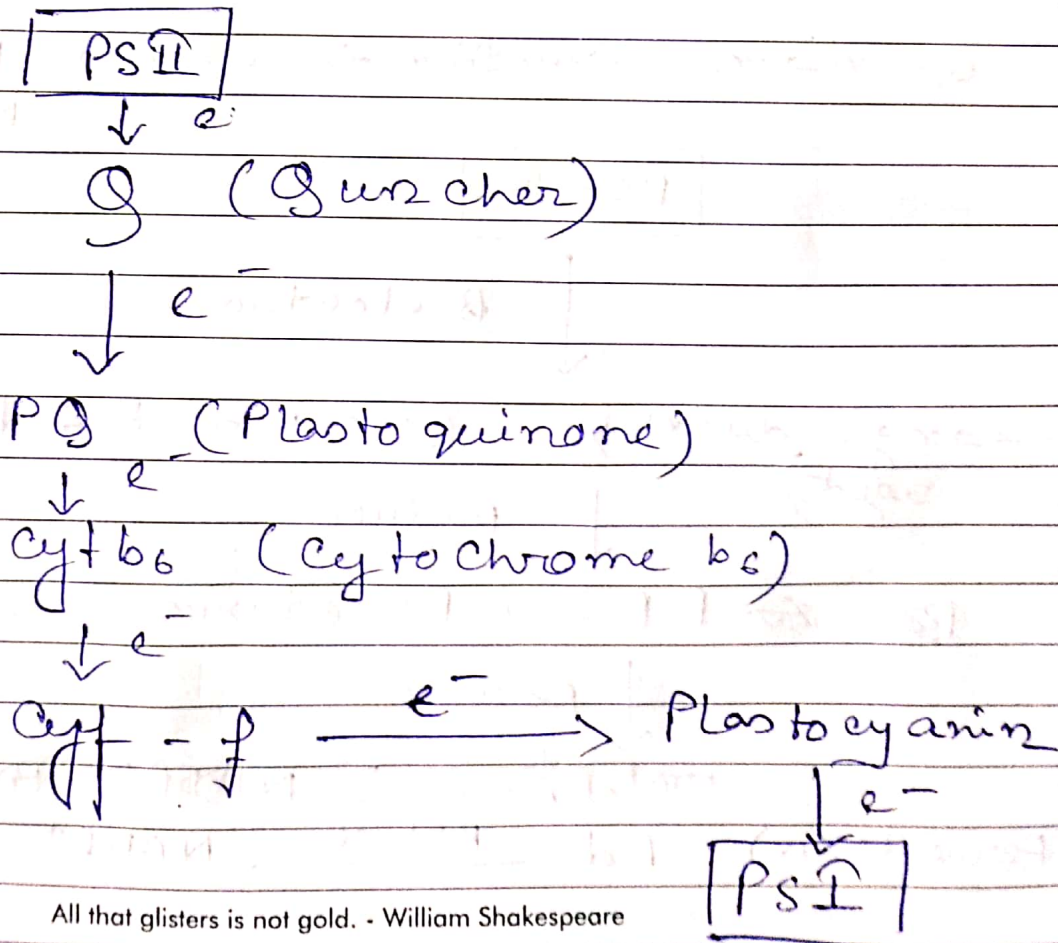
2) little chl b

3) β-carotene

4) Absorption spectrum 680

∴ Reaction centre P<sub>680</sub>

↳ Inner layer of grana

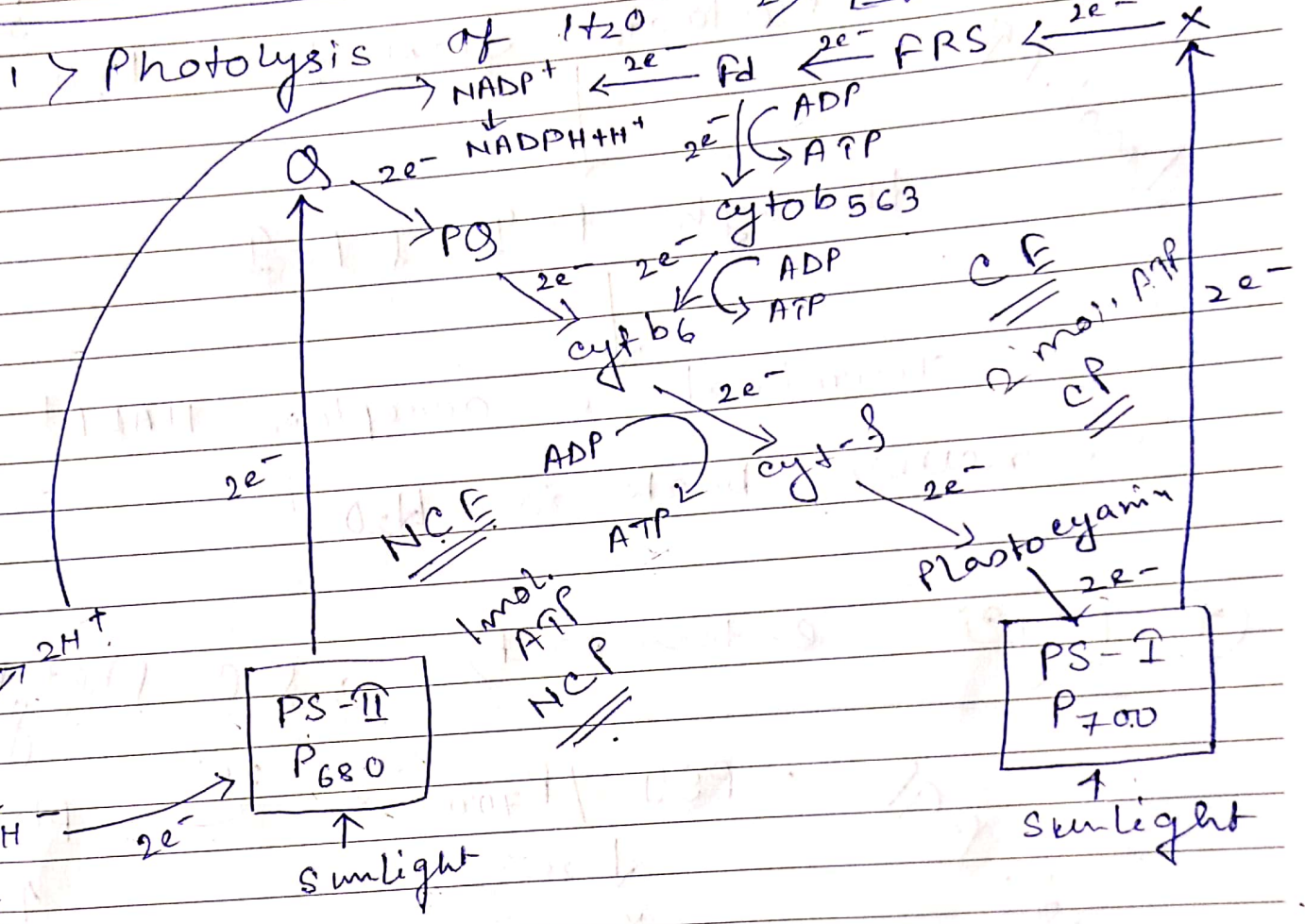


All that glitters is not gold. - William Shakespeare

Notes :

Appointment :

g) main function →



Z-scheme / Hill and Bendal Z-scheme

Electron transport through PS-I & PS-II

A wise man will make more opportunities than he finds. - Francis Bacon

Notes :	Appointment :
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Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
49	30	31					1	01							5
50	2	3	4	5	6	7	8	02	6	7	8	9	10	11	12
51	9	10	11	12	13	14	15	03	13	14	15	16	17	18	19
52	16	17	18	19	20	21	22	04	20	21	22	23	24	25	26
53	23	24	25	26	27	28	29	05	27	28	29	30	31		

\* Non cyclic e-transport → & NC Photophosphorylation

Electron flow from H<sub>2</sub>O

1 mol. ATP

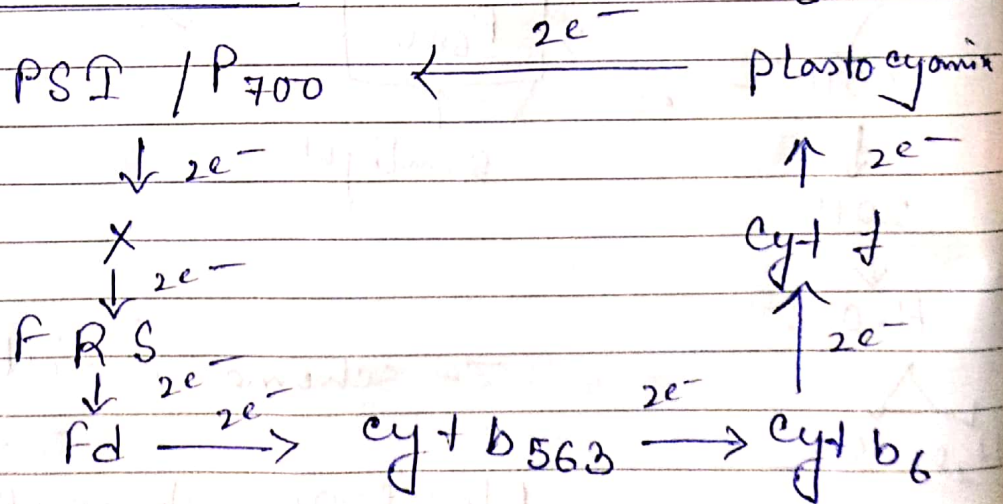
through PS II & PS I

Terminal e acceptor NADP<sup>+</sup>

∴ never back to H<sub>2</sub>O

\* (cyclic - e-transport) → & C- Photophosphorylation

2 mol. ATP



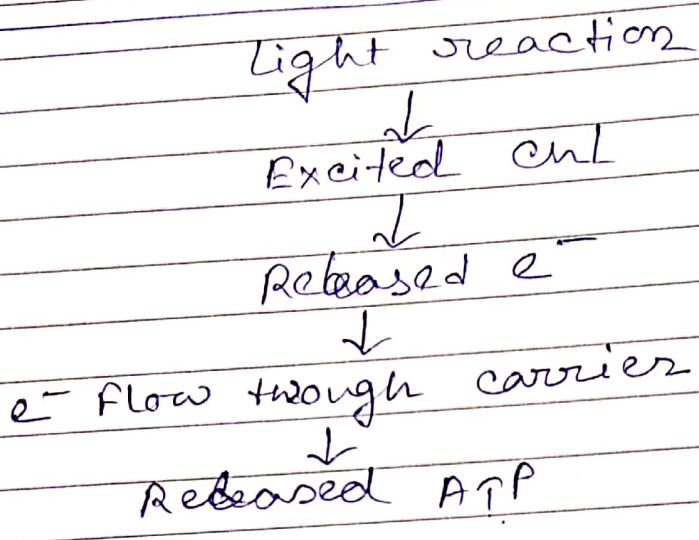
Anyone who thinks he knows all the answers isn't up to date on the questions. - Frank Lawrence

Notes :

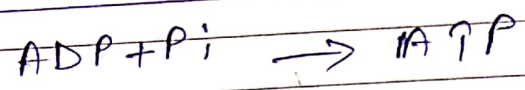
Appointment :

Wk	S	M	T	W	T	F	S	Wk	S	M	T	W	T	F	S
01			1	2	3	4	5	05						1	2
02	6	7	8	9	10	11	12	06	3	4	5	6	7	8	9
03	13	14	15	16	17	18	19	07	10	11	12	13	14	15	16
04	20	21	22	23	24	25	26	08	17	18	19	20	21	22	23
05	27	28	29	30	31			09	24	25	26	27	28		

\* Photo phosphorylation →



+ Phosphorylation →



Sunday 27

\* Total ATP production in light reaction = 3 molecules.

Art attracts us only by what it reveals of our most secret self. - Jean-Luc Godard

<p>Notes :</p> <hr/> <hr/> <hr/>	<p>Appointment :</p> <hr/> <hr/> <hr/>
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