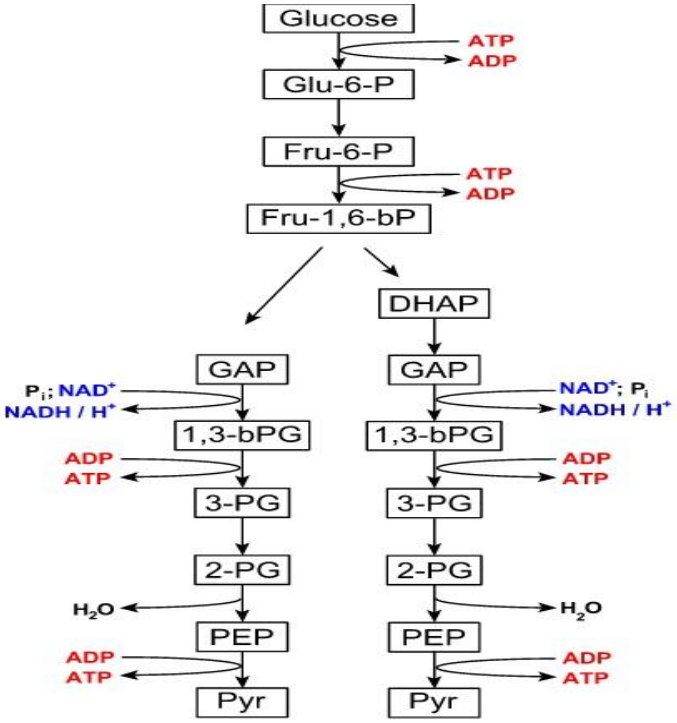
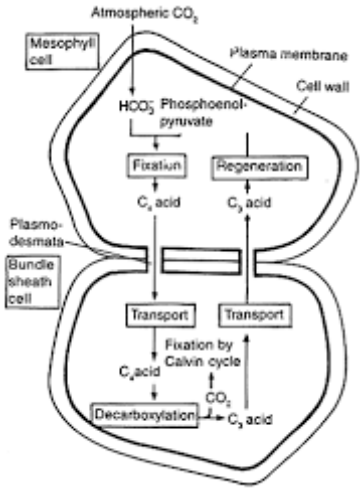
CLASS:XI	**INDIAN SCHOOL MUSCAT** **SECOND PERIODIC TEST**	SUBJECT: BIOLOGY
	SET - C	
QP.NO.	VALUE POINTS	SPLIT UP MARKS
1.	2 $NADH_2$ and 4 ATPs	1
2.	In the mitochondrial matrix	1
3.	In PS I it is P700 and PS II it is P680	1
4.	It shows Kranz anatomy , there are layers of bundle sheath cells around the vascular bundles that undergo the C_3 cycle.	1
5.	The electrons from NADH and $FADH_2$ are oxidized by complexes and pass through carriers in the inner mitochondrial membrane. The final electrons are accepted by **oxygen,** to form water that helps to remove the hydrogen from the system. This process is phosphorylation in presence of oxygen, so called oxidative phosphorylation.	2
6.	Acetyl Co A + OxaloAcetic acid Citric Acid α ketoglutaric acid Succinic Acid Malic Acid Oxalo Acetic acid	Citric Acid (½) α ketoglutaric acid(½) Succinic Acid (1/2) Malic Acid (½)
7.	C3 plants - Phosphoglyceric Acid the first stable compound C4 plants- Oxaloacetic acid C3 Plants require 18 ATP and C4 plants – 18+12= 30 ATP	1+1
8.	Chemiosmotic Hypothesis requires a membrane,a proton pump, a proton gradient and ATP ase. The proton gradient is broken down as protons move from stroma through the F_0 and F_1 channel providing enough energy to cause change in F1 and synthesise ATP molecules with ATP synthase.	1+1
9.	The scheme of transfer of electrons starting from PSII uphill to the electron acceptor , down the electron transport chain to PSI then excitation of electrons, transfer to another acceptor and finally downhill to NADP causing it to reduce to NADPH2 is the Z scheme as it forms a Z shape.	 ½ ½ ½ ½

10.		3
11.	The primary CO2 acceptor is Phosphoenol Pyruvate that is present in mesophyll cells of C4 plants. Phosphoenol Pyruvate carboxylase is helps to convert it into a 4C molecule Oxalo acetic acid. It then forms malic or aspartic acid in mesophyll cells and it is then transported to bundle sheath cells. In these bundle sheath cells these acids are broken to a 3C molecule and CO2 is released. The CO2 released enters the C3 cycle as bundle sheath cells have RuBisCO. This 3 C molecule is transported back to mesophyll cells and converted to PEP again. 	3