**1.** A

[1]

**2.**

(b) chlorophyll in photosystem II absorbs light;  
absorbing light/photoactivation produces an excited/high energy/  
free electron;  
electron passed along a series of carriers;  
absorption of light in photosystem II provides electrons for photosystem I;  
photolysis of water produces H+ / O2;

generates ATP by H+ pumped across thylakoid membrane / by  
chemiosmosis / through ATP synthase;

reduction of NADP+ / generates NADPH + H+; 6 max

**3.** (a) *light-independent reactions:* stroma;  
*light-dependent reactions:* thylakoid / grana; 2

(b) absorb photons of light / photoactivation;  
raised to a higher energetic level;  
pass from molecule to molecule;

Plastoquinine/Plastocyanin

3 max

[5]

**4.** B

[1]

**5.** C

[1]

**6.** D

[1]

**7.**

(b) RuBP and carbon dioxide react together;  
(this is) carbon fixation;  
catalysed by Rubisco;  
GP produced;  
GP reduced/converted to triose phosphate/TP;  
using NADPH/(NADPH+H+) and ATP;  
from the light-dependent reactions;  
some triose phosphate used to regenerate RuBP;  
some triose phosphate used to synthesize glucose/starch; 5 max

**8.** B

[1]