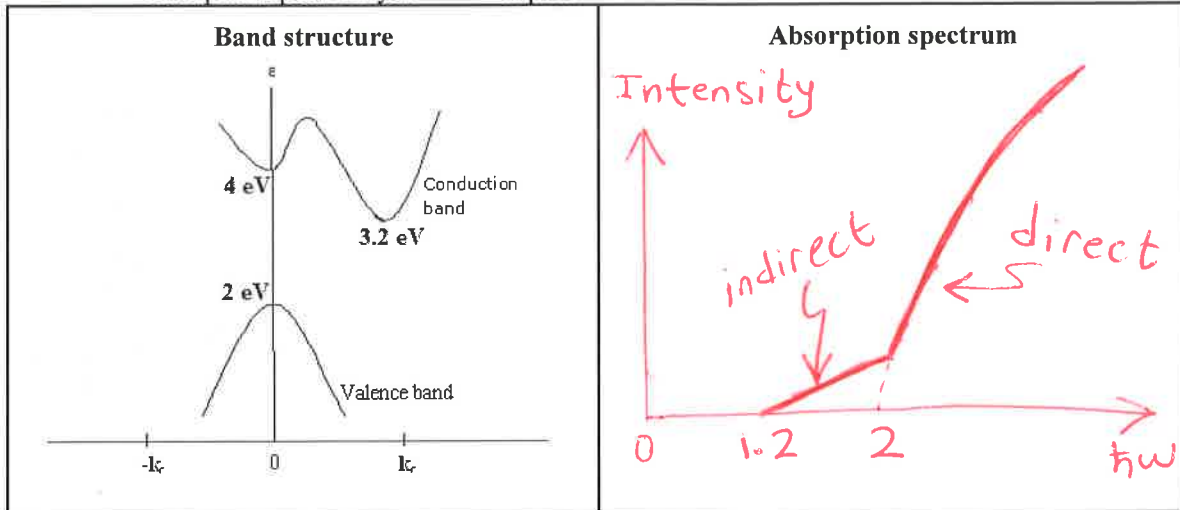


Week 8 - Semiconductors Comprehension Check

Total points = 25 (scaled by a factor of 1/10 in the system)

Question 1 (8 points)

Sketch the absorption spectrum you would expect for the material with the band structure shown below.



Question 2 (5 points)

Discuss what distinguishes a semiconductor from an insulator. Be brief.

Size of the bandgap relative to thermal energy
 $k_B T \gtrsim E_g \Rightarrow \text{semiconductor}$

Question 3 (12 points)

