7 The photoelectric effect may be summarised in terms of the word equation

photon energy = work function energy + maximum kinetic energy of emitted electrons.

(a) Explain

(i) what is meant by a *photon*,

....

....

.... [2]

(ii) why most electrons are emitted with kinetic energy less than the maximum.

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.... [2]

(b) Light of constant intensity is incident on a metal surface, causing electrons to be emitted.

State and explain why the rate of emission of electrons changes as the frequency of the incident light is increased.

....

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.... [2]