

10 (a) Describe the *photoelectric effect*.

.....

.....

.....[2]

(b) Data for the work function energy Φ of two metals are shown in Fig. 10.1.

	Φ/J
sodium	3.8×10^{-19}
zinc	5.8×10^{-19}

Fig. 10.1

Light of wavelength 420 nm is incident on the surface of each of the metals.

(i) State what is meant by a *photon*.

.....

.....

.....[2]

(ii) Calculate the energy of a photon of the incident light.

energy = J [2]

(iii) State whether photoelectric emission will occur from each of the metals.

sodium:

zinc:

[1]

[Total: 7]