

- 6 (a)** In the space below draw a diagram of the setup used to demonstrate the photoelectric effect, and use it to explain how the photoelectric effect provides evidence for the particulate nature of electromagnetic radiation.

- [4]

**(b)** State, with a reason, what modifications to the apparatus in the setup in **(a)** would be required, separately, to increase

- (i) the energy of a photoelectron,

.....  
.....  
.....

[1]

- (ii) the rate of production of photoelectrons.

.....  
.....  
.....

[2]

**(c)** Describe and explain an experiment that gave rise to a model for the wave nature of light.

..... [3]

[Total: 10]



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