

- 8 (a) State what is meant by a *photon*.

.....

.....

.....[2]

- (b) It has been observed that, where photoelectric emission of electrons takes place, there is negligible time delay between illumination of the surface and emission of an electron.

State three other pieces of evidence provided by the photoelectric effect for the particulate nature of electromagnetic radiation.

1. ....

.....

2. ....

.....

3. ....

.....

[3]

- (c) The work function of a metal surface is 3.5 eV. Light of wavelength 450 nm is incident on the surface.  
Determine whether electrons will be emitted, by the photoelectric effect, from the surface.

[3]

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**Please turn over for Section B.**