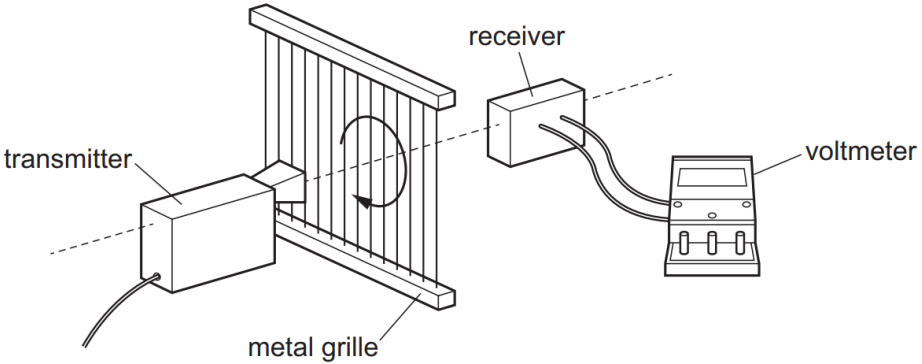
17 A student investigates the polarisation of microwaves. The microwaves from the transmitter are vertically polarised. A metal grille acts as a polarising filter when placed between the microwave transmitter and the receiver. The reading on the voltmeter is proportional to the intensity of microwaves transmitted through the grille.

When the transmission axis of the grille is vertical, the voltmeter reads 3.50 V.



The grille is then rotated through an angle θ. The voltmeter now reads 2.20 V.

What is θ?

A 37.5° **B** 39.0° **C** 51.0° **D** 52.5°

18 A parallel beam of light of wavelength 600 nm is incident normally on a diffraction grating. The