

Question number	Answer	Notes	Marks
2 (a)	B - light;		1
(b) (i)	(signal has) two values;	accept <ul style="list-style-type: none"> <li>• on or off</li> <li>• 0 and 9</li> <li>• 0 and 1</li> <li>• 1 and 9</li> <li>• two signal strengths/states</li> <li>• binary</li> <li>• it is a square wave(form)</li> </ul> ignore <ul style="list-style-type: none"> <li>• all at 9</li> <li>• up and down</li> <li>• true and false</li> </ul>	1
(ii)	any two of:  MP1. (idea of) increasing the bit rate / sending more bits in the same time;  MP2. (idea of) an <b>additional</b> level / strength;  MP3. (idea of) increased bandwidth / range of transmission frequencies;  MP4. (idea of) multiplexing;  MP5. (idea of) quantisation (algorithm);	ignore references to analogue signals  allow more bits / pulses per second  condone increase frequency  allow a named <b>extra</b> level e.g. 'use 4.5 as well'  allow wider bandwidth  ignore 'broadband'  allow use more than one channel  condone add extra signals  allow compression of data	2

Total 4 marks