Criteria	Ratings				Pts
1.1.1	**5 pts** **Full Marks** Submitted datasheet. Highlighted specification AND showed calculation.	**3 pts** **Partial** Submitted datasheet. Highlighted specification OR showed calculation.	**1 pts** **Partial** Submitted datasheet. Did not highlight specification. Did not show calculation.	**0 pts** **No Marks**	5 pts
1.1.2	**5 pts** **Full Marks** Submitted resistance value. Showed correct current calculation.	**3 pts** **Partial** Submitted resistance value. Incorrect current calculation.	**1 pts** **Partial** Submitted resistance value. No current calculation showed.	**0 pts** **No Marks**	5 pts
1.1.3	**5 pts** **Full Marks** Indicated chosen LEDs. Stated expectation for brighter LED. Specified brighter LED. Correct explanation for datasheet value explaining voltage at point A.	**3 pts** **Partial** Indicated chosen LEDs. Stated expectation for brighter LED. Specified brighter LED. Incorrect or lacking explanation for datasheet value explaining voltage at point A.	**1 pts** **Partial** Indicated chosen LEDs. Lacking expectation for brighter LED. Specified brighter LED. Incorrect or lacking explanation for datasheet value explaining voltage at point A.	**0 pts** **No Marks**	5 pts
1.1.4	**5 pts** **Full Marks** Included values read and specified correct expectation for the values.	**3 pts** **Partial** Included values read and incorrectly specified expectation for the values.	**1 pts** **Partial** Included values read. Did not specify expectations for the values.	**0 pts** **No Marks**	5 pts
1.1.5	**5 pts** **Full Marks** Submitted write-up describing reason chosen and explained how it is optimal. TA could not find a more optimal solution in less than 4 minutes.	**3 pts** **Partial** Submitted write-up describing reason chosen and explained how it is optimal. TA could find a more optimal solution in less than 4 minutes.	**1 pts** **Partial** Submitted an incomplete or partial write-up.	**0 pts** **No Marks**	5 pts
1.2.1	**10 pts** **Full Marks** Correct answer with a reasonable explanation, specifying registers changed and explaining why	**5 pts** **No Description** Correct answer with improper explanation or without explanation	**0 pts** **No Marks** Wrong answer or no submission		10 pts

Criteria	Ratings				Pts
1.2.2	**10 pts** **Full Marks** Correct drawing with a suitable justification of additional hardware choice	**6 pts** **No Description** Correct drawing with partially or incorrect explanations	**3 pts** **No Description** Correct or partially correct drawing. Lacking or incorrectly justified additional hardware choice.	**0 pts** **No submission**	10 pts
1.2.3	**15 pts** **Full Marks** Correct, well commented code	**9 pts** **No Description** Correct code	**5 pts** **No Description** Incorrect code	**0 pts** **No submission**	15 pts
1.2.4	**15 pts** **Full Marks** Correct, well commented code	**9 pts** **No Description** Correct code	**5 pts** **No Description** Incorrect code	**0 pts** **No submission**	15 pts
1.2.5	**10 pts** **Full Marks** Picture of setup. Correct description of the issues limiting the number of LEDs	**6 pts** **No Description** Picture of setup. Incorrect description of the issues limiting the number of LEDs.	**3 pts** **No Description** Picture of setup. No description of the issues limiting the number of LEDs.	**0 pts** **No submission**	10 pts
1.3.1	**10 pts** **Full Marks** Photo of oscilloscope screen showing the 200Hz signal. Correct, well commented code.	**6 pts** **No Description** Photo of oscilloscope screen showing the 200Hz signal. Correct code.	**3 pts** **No Description** Photo of oscilloscope screen showing the 20Hz signal. Incorrect code.	**0 pts** **No submission**	10 pts
1.3.2	**10 pts** **Full Marks** Correct answer with a reasonable explanation, specifying registers changed and explaining why	**5 pts** **No Description** Correct answer with improper explanation or without explanation	**0 pts** **No Marks** Wrong answer or no submission		10 pts

Criteria	Ratings					Pts
1.3.3	**20 pts** **Full Marks** Correct explaination for which timer options used for generating the PWM. Video showing 0% and 100% duty cycle. Correct, well commented code.	**14 pts** **No Description** Correct explaination for which timer options used for generating the PWM. Video showing 0% and 100% duty cycle. Correct code.	**10 pts** **No Description** Incorrect explaination for which timer options used for generating the PWM. Video showing 0% and 100% duty cycle. Correct code.	**6 pts** **No Description** Incorrect video showing 0% and 100% duty cycle OR Incorrect code.	**0 pts** **No Marks**	20 pts
1.4.1	**10 pts** **Full Marks** Correct, well commented code. Correct circuit diagram. Correct video.	**6 pts** **No Description** Correct code. Correct circuit diagram. Correct video.	**3 pts** **No Description** Incorrect code. Correct circuit diagram.	**0 pts** **No submission**		10 pts
1.4.2	**10 pts** **Full Marks** Correct, well commented code. Correct circuit diagram. Correct video.	**6 pts** **No Description** Correct code. Correct circuit diagram. Correct video.	**3 pts** **No Description** Incorrect code. Correct circuit diagram.	**0 pts** **No submission**		10 pts
1.4.3	**10 pts** **Full Marks** Checked off by TA. Correct, well commented code. Correct video.	**6 pts** **No Description** Checked off by TA. Correct code. Correct video.	**3 pts** **No Description** Not checked off by TA OR incorrect code.	**0 pts** **No submission**		10 pts
					Total Points: 155	