# **GP108 :: Mini Project**

# **CALIBRATION OF A THERMISTOR**

* 1. **Temperature Readings**

Table 1: Variation of resistance with temperature

|  |  |
| --- | --- |
| Temperature (C) | Resistance (Ω) |
| 90 | 180 |
| 89 | 162 |
| 87 | 211 |
| 85 | 230 |
| 83 | 199 |
| 81 | 184 |
| 80 | 196 |
| 79 | 200 |
| 78 | 200 |
| 68 | 285 |
| 67 | 280 |
| 61 | 330 |
| 53 | 408 |
| 50 | 450 |
| 47 | 500 |
| 43 | 600 |
| 40 | 620 |
| 38 | 660 |
| 37 | 670 |

The resistance (R) vs. temperature (T) characteristic of a thermistor can be approximated by the equation , where and 𝑅0 is the resistance at temperature 𝑇0=300 𝐾. 𝛽 is the material constant of the thermistor. Estimate 𝑅0 and 𝛽 using Least Mean Square (LMS) error.

