

Bill of Materials (BOM) – LoRa-based Tunnel Safety System

S. No	Component Name	Quantity	Description / Purpose	Unit Cost (₹)	Total Cost (₹)
1	LoRa SX1278 Module	2	Long-range wireless communication (Tx & Rx)	300	600
2	Arduino UNO / Nano	2	Microcontroller boards for control & processing	350	700
3	DHT11 Sensor	1	Temperature & humidity monitoring	100	100
4	Gas Sensor (MQ2/MQ135)	1	Air quality detection inside tunnel	150	150
5	Buzzer	1	Sound alert for miners	20	20
6	LED (Red/Green)	2	Visual alert indication	5	10
7	Jumper Wires	1 set	For all internal connections	20	20
8	Breadboard	1	Prototyping without soldering	60	60
9	Power Supply (Battery)	2	For powering both units	100	200
Total					₹1860