

Appendix-I

Sr. No.	Name of the item with Specification	Qty.
1	<p>High temperature Electric Muffle Furnace</p> <ol style="list-style-type: none"> 1. Furnace Type: Vertical (Top Mounted) type Electric muffle furnace. 2. Maximum Temperature: 1200°C. 3. Chamber size: 8” x 8” rectangular chamber with approximate 20” length, high quality ceramic wool board insulation, stainless steel external body with double walled construction. 4. Temperature measurement: K type thermocouple inserted from the top side inside the melt (one Steel and one ceramic coated). 5. Muffle should be easy to detach. 6. Working temperature: Continuous 6 hours maintain the temperature. 7. Outer body temperature should not exceed 50°C temperature. 8. 15 mm diameter hole at bottom (For inert gas supply) and 25 mm diameter hole at top. 9. Dell computer with min. 4 GB RAM and 500GB hard drive. <p><u>PID controller:</u></p> <ol style="list-style-type: none"> 1. Thyristor control with digital microprocessor based PID controller. 2. Size: 96 mm x 96 mm. 3. Accuracy of atleast 1% and resolution of 0.1°C. 4. Temperature vs time profile controller. 5. RS232/RS485 digital communication protocol with software. 6. 2 programs of 8 steps each. Profile should be programmed independent of each other; each profile should have parameters for linking. 7. Other features to include deviation, hold, auto ramping & power down resume function. 8. Display: 7 segment LED for process variable and SV; PV & SV Display, mode display 4 digital LED. 9. Output: PID + Fuzzy logic feature selectable. One programmable alarm. 10. It should be easy to connect with computer. <p>Accessories</p> <ol style="list-style-type: none"> 1. Thermocouple qty: 10 Nos (Five steel and five ceramic coated). 2. Extra muffle with wound heating element: 1 Nos. 	01 No.