ITEM-1: Specifications for DC Power Supply (850W) to drive high power lasers:

1. Output voltage: 0-150V (DC) Continuously Variable with at least 0.012%resolution
2. Output Current: 0-5.6A (DC) Continuously Variable with at least 0.012%resolution.
3. Line Regulation
    a. CV Mode: better than10mV
    b. CC Mode: better than 2mA
4. Load Regulation
    a. CV Mode: better than 10mV
    b. CC Mode: better than 6mA
5. Output Ripple (rms):10mV (in CV mode) / 16 mA (in CC mode)
6. Output Noise (peak-to-peak): not more than 100mV
7. Output isolation & polarity: Shall be floating with respect to ground (500Vac)
8. Display & Meter Resolution: Dual digital readouts for voltage & current (setting & readback)
9. Meter Measurement accuracy: 0.5% ± 1 count
10. Current foldback: Automatic (with programmable delay & disable)
11. Protection: Over Load, Short Circuit, Output Over Voltage, Output Under Voltage
12. Operating Temperature& Humidity:0-50 degC &30–90% RH
13. Circuit Type: SMPS type
14. Input Mains Source: Single phase, 230V ±10%, 47-55 Hz
15. Efficiency:> 85%
16. Remote control interfaces: Analog (voltage / resistance), RS232, RS485 and USB
17. Dimensions: 1U Rack mountable (standard 19” rack width) or smaller
18. Weight: less than 5kg
19. Cooling: Forced air cooling (with over temperature protection)
20. Settings Memory: The power supply should be able to remember the last programmed settings, before switch-off, and should be able to set the same upon next power-up
21. Regulatory & Safety Compliances:UL61010-1, UL60950-1, EN61326-1, EN55022
22. User Manual, Calibration Manual & Programming manual: should be provided
23. Service Facility: Vendor should provide local service Support in Chennai, in case of breakdown.
24. Warranty: 5 years
25. The vendor shall quote only the models which are commercially available and listed in their catalogue. Quoted product must have been sold in India to at least 3 customers in past 2 years.

ITEM-2: Specifications for compact high power Programmable DC Power supply to drive lasers:

S.No	Requirement
1.	Input: Standard Indian Three phase mains, Star / Delta, 400V_{L-L}±10%, 50Hz
2.	Input side power factor: ≥ 0.9
3.	Output Voltage Range: 0-300V DC
4.	Output Current Ranges: 0-17A DC
5.	Maximum output power: ≥ 5.100kW
6.	Voltage programming & readback resolution: +/-0.0025% (or better)
7.	Current programming & readback resolution: +/-0.0025% (or better)

8.	Output Modes of operation: Constant Voltage, Constant Current, Constant Power
9.	Foldback: Programmable for automatic changeover between CV & CC modes, or cut-off
10.	Load Regulation: CV Mode: ±0.02%of full scale CC Mode: ±0.15%of full scale
11.	Line Regulation: CV Mode: ± 0.01% of full scale CC Mode: ± 0.05%of full scale
12.	Ripple on output (rms): not more than 30mV
13.	Noise on output (peak-to-peak): not more than 210mV
14.	Load Transient response: shall not exceed 1mS, to recover within 1% of rated output voltage for load step change 50% of rated output current
15.	Remote sense: To be provided and capable of compensating cable drop up to 15V
16.	Output Stability: better than ±0.05%, over 8 hours at fixed line, load and temperature
17.	Voltage programming & readback accuracy: ± 0.1% (or better)
18.	Current programming & readback accuracy: ± 0.4% (or better)
19.	Protection: Over-Load, Short Circuit, Output Over Voltage, Over temperature
20.	Operating Temperature & Humidity: 0-50 degC & up to 90% RH (non-condensing)
21.	Circuit Type: SMPS type
22.	Efficiency: 85%
23.	Remote control interfaces: Ethernet (LXI compliant) and RS232
24.	Dimensions: Should be standard 19” Rack mountable, and height shall not exceed 3U
25.	Weight: ≤30 kg
26.	Cooling: Forced air cooling, with variable speed control (temperature based)
27.	Settings Memory: The power supply should be able to remember multiple operation setups, which can be recalled during its manual operation
28.	Regulatory & Safety Compliances: IEC/EN 61010-1, EN 61326:1998, must be CE Compliant
29.	Computer software: Vendor shall provide suitable software, and LabVIEW drivers for controlling the power supply from remote computer.
30.	Catalogues to be provided for the offered model along with quote.
31.	Operating, programming manuals and calibration procedure shall be provided
32.	Factory Calibration Certificate or equivalent to be provided
33.	Warranty: 5 years
34.	Vendor should have local support in IIT Madras
35.	Vendor should have supplied such units specifically for the purpose of laser diode driving. Vendor to indicate this in the quotes.

General Terms & Conditions:

1. Bidders need to quote for both equipment categories.

2. IIT Madras will decide the purchase of item 1 & 2 combined or separately after L1 bidder is chosen as per the norms.