Complete Eddy flux / Covariance System Package	
System Component	**Specification**
DATALOGGER	Measurement and Control Datalogger to log and store the data locally with SD memory card (16 GB or higher)
GSM / GPRS for remote monitoring and data acquisition	The GSM /GPRS system should be compatible with the mobile network systems in India. Including network service plan for 5 years
OPEN PATH CO2/H2O GAS ANALYZER & 3D SONIC ANEMOMETER	Operating Temperature Range: -30° to +50°C Calibrated Pressure Range: 70 to 106 kPa Measurement Rate: 60 Hz Output Bandwidth: 5, 10, 12.5, or 20 Hz; user programmable Output Options: SDM, RS-485, USB, analog (CO2 and H2O only) Auxiliary Inputs: air temperature and pressure Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more For Gas Analyzer Precision RMS (CO2) 0.2 mg/m3 (0.15 µmol/mol) Precision RMS (H2O) 0.004 g/m3 (0.006 mmol/mol) Accuracy within 2% Calibrated Range (CO2) 0 to 1,000 µmol/mol Calibrated Range (H2O) 0 to 72 mmol/mol
AIR TEMPERATURE & RELATIVE HUMIDITY SENSOR	Standard Operating Temperature Range: -40° to +70°C Relative Humidity: Measurement Range 0 to 100% RH Accuracy ±2% (at 25°C, over the range 80 to 100% RH) Air Temperature: Measurement Range -40°C to +70°C Accuracy ±0.2°C (over the range -40 to +70°C) Solar Radiation Shield (Necessary conductors, mounting brackets and Cables of Length: minimum 10m or more)

WIND SPEED & DIRECTION SENSOR	Wind Speed Range 0 to 60 m/s Accuracy ±2% (@ 12 m/s) Resolution 0.01 m/s Wind Direction Range 0° to 359° (no dead band) Accuracy ±3° Resolution 1° (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
BAROMETRIC PRESSURE SENSOR - SETRA	Pressure Range 600 to 1100 hPa Resolution ±0.01 hPa Accuracy ±2.0 hPa (@ -40° to +60°C) (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
RAINFALL SENSOR	Resolution 1 tip Accuracy 1.0% up to 50 mm/h (2 in./h) (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
Multi Profile SOIL MOISTURE & TEMPERATURE SENSOR	Measurements Made: Volumetric water content (VWC), electrical conductivity (EC), and temperature Operating Temperature Range: -40° to +60°C Measurement Depths: 5, 10, 20, 30, 40, 50, 60, 75, and 100 cm Electrical Conductivity Range 0 to 10 dS/m Accuracy ±2% (0 to 2.5 dS/m) ±5% (full range) Volumetric Water Content Range 0 to 100% Water Content Accuracy ±1.5% Soil Temperature Accuracy ± 0.15°C (between -30° and +40°C) (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
SOIL HEAT FLUX SENSOR (Self Calibrating)	Temperature Range -30° to +70°C Measurement Range ±2000 W m-2 Accuracy: -15% to +5% (Necessary conductors and Cables of Length: Minimum 10m or more)

PAR Sensor	Field of View (FOV) 180° Spectral Range 390 to 690 nm Spectral Selectivity < 10% Operating Temperature Range -40° to +70°C Measurement Range 0 to 4000 µmol m-2 s-1 Sensitivity 0.01 mV per µmol m-2 s-1 (Necessary conductors, mounting brackets and Cables of Length: Minimum 10m or more)
Four Component NET RADIOMETER	Sensor Two thermopile pyranometers, two pyrgeometers Measurement Description Measures incoming and outgoing short-wave and long-wave radiation Pyranometer Spectral Range 385 to 2105 nm (upward-looking) 295 to 2685 nm (downward-looking) Sensitivity 0.057 mV per W/m2 (upward-looking) 0.15 mV per W/m2 (downward-looking) Pyrgeometer Spectral Range 5,000 to 30,000 nm Sensitivity 0.12 mV per W/m2 (Necessary conductors, mounting brackets, ventilation units and Cables of Length: Minimum 10m or more)
Infrared Canopy Temperature (2Nos.)	Wavelength Range 8 to 14 µm (corresponds to atmospheric window) Field of View (FOV) At least 20° (half angle) Absolute Accuracy ±0.2°C (-10° to +65°C)
Software, Data Acquisition system and Online monitoring and control	All necessary software(s) to acquire, process and analyse the data including online monitoring and control should be provided
MOUNTING HARDWARE	Heavy Duty Adjustable Tripod (2-10 Meters)
Necessary Enclosures for the data loggers, power supply, battery / batteries, solar panels	As needed should be provided
Comprehensive Warranty (5 years)	Full Comprehensive AMC (incluidng replacement of spare parts) for 5 years from the date of installation with field visits twice every year for 5 years
Installation	The vendor should do the complete installation on-site

Eligibility criteria for vendor	1. A list of at least 3 Institutions/R&D units where similar eddy flux / covariance system have been supplied in India, including contact details (name of the person-in-charge, email, and phone number), is to be provided. 2. Three performance certificates of the similar eddy flux / covariance system in reputed institutions in India should be enclosed duly signed and stamped by the concerned scientist.