



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION

For PR No. 1000019319 (RFxo.6100000609)

Upgradation of existing High Performance Computing Nodes (Type I & Type II)

Technical specifications for spectrometer:

Aperture: F/3.G or better for higher throughput

Focal length: 190 or higher

Number of input: One entrance slit

Number of output: One exit CCD port

Focus: Option for automatic focusing (soft.wan:controlled) must be present

Astigmatism-corrected optical design: Torroid optics enable multi-track fiber detection and excellent sample image relay from a microscope at the grating '0' order.

Gratings: Interchangeable dual on-axis RFID-tagged turret for easy swapping preferred

Communication/Interface: USB 2.0

Wavelength accuracy center: 0.15 nm or better

Wavelength repeatability: 80 pm or better

Grating size: 50 x 50 mm or bigger

Gratings:

1200 lines/mm Grating blazed at 300nm suitable for Raman (Resolution 0.27nm)

600 lines/mm Grating Blazed at 500nm suitable for PL (Resolution 0.59nm)

Specification for Deep cooled CCD:

Active pixels: 1024x255

Type: Open Electrode CCD

Pixel size (W x H): 26 x 26 μ m

Image area: 26.6 x 6.6 mm with 100% fill factor

Register well depth (typical) 1,000,000 e⁻

Peak Q.E: >55%

Cooling: -80 C (With Air) or better

Deepest cooling with TE upto - 100 C

Read noise As low as: 4e⁻

Read out rates: 33kHz, 50kHz and 100kHz

Dark current: 0.0004 e⁻/pixel/scc or better

Linearity: Better than 99 %

Digitization: 16bit

Interface: USB 2.0

Vertical clock speed: 8, 16, 32, 64 JLS (software selectable)

CCD mounting flange for spectrometer must be included

Should Include Latest data acquisition and control software (64 bit & 32 bit Windows OS compatible)

Fixed Fiber adapter:

2 meter fiber 200 micron core