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ANNEXURE

Specifications for UV-VIS Spectrophotometer

The Double beam UV-VIS spectrophotometer and accessories should be of latest generation and should have the following general **features and technical specifications**:

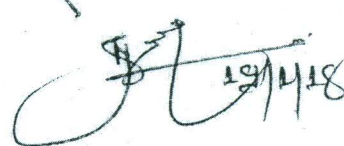
Features:

1. Suitable for Qualitative and Quantitative analysis of metals in acid digested geological samples.
2. Compact, versatile with highest precision and user-friendly.
3. Suitable for continuous duty.
4. Provision for stand-alone and PC controlled operation.
5. High sensitivity, Accuracy and high resolution.
6. Data printing facility.
7. Scan function, Fixed function, Quant. function, Rate/Time drive, programmer with manual, semiautomatic and automatic modes.
8. Quartz quoted sealed optics with Master interferometric grating and diode detector, integrated, VGA quality LCD display.

Technical specifications:

Wavelength range	: 190-1100nm
Photometric System	: Optically Double Beam
Bandwidth	: 2 nm or better
Wavelength display	: 0.1 nm increments or better
Mode	: Scan, Abs, %T, 1 st -4 th derivative, zoom track, peak pick
Quantitative analysis	: Using upto 20 standards.
Wavelength accuracy	: Better than ± 0.3 nm for entire range
Wavelength repeatability	: Better than ± 0.2 nm
Scan speed	: From 5000 nm to 1 nm/min
Monochromator drive speed	: 4000 nm/min or better
Photometric accuracy	: Better than $\pm 0.001A$ at $A = 1$; Better than $\pm 0.002A$ at $A = 2$; Better than $\pm 0.004A$ at $A = 3$

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range: 41 ✓
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Peak Noise	: <0.001 A at A = 1
Stability	: <0.001 A/hr @ 340nm; <0.001 A/hr @ 250nm
Base Line Flatness	: ± 0.001A @ 120nm/min, 1.5 nm bandwidth; ± 0.0003A @ 120nm/min, 4.0nm band width
Stray light	: Less than 0.01% at 200 nm
Light source	: Suitable Deuterium and Tungsten Halogen lamps
Detector	: Wide range photo diode
Readability	: % T, Abs., Concentration etc.
Power Requirement	: 220V/230V, 50/60Hz

Essential spares and all consumable items e.g. cuvettes, Deuterium, Tungsten Halogen lamps etc. should be separately quoted for smooth operation for a period of two years.

Acceptable make: Shimadzu, Perkin Elmer

Note:

1. Instrument should have provision for operation of the instrument without PC control and PC controlled operation. PC controlled operation facility may be quoted as optional.
2. Five pairs of matched quartz cuvettes must be supplied along with the instrument.
3. Essential accessories should be supplied along with instrument.
4. Optional accessories may also be included in the offer and quoted separately.
5. Detailed manufacturer's original catalogue should be enclosed.
6. Dealership/ Authorization certificate from the manufacturer must be attached.
7. List of users in India along with name, address and telephone numbers of the user must be attached.
8. The necessary user and service manuals should be supplied along with the instrument and accessories.
9. All the brochures, pamphlets and manuals supplied should be in English only.
10. Instrument should be installed at our site on free of cost.
11. Training and demonstration to our analysts on free of cost should be confirmed in offer.
12. After warranty period availability of servicing and calibration facility should be confirmed in offer.

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