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**Specifications of D33 Meter for Applied Physics Deptt., GZSCCET, Bathinda**

Sr. No.	Description of Item	Qty.	Unit
1	<p><b>D33 Meter : Specifications :</b></p> <ol style="list-style-type: none"> <li>1. The instrument should cover the Piezoelectric coefficient range: 0 – 9999.9 pC/N with accuracy +/- 2% or better.</li> <li>2. Static force of approx. 10 N and Dynamic Pressure range: 1 – 100 MPa.</li> <li>3. Rate of change of pressure/wave shape: 0 – 5.0 Hz (Step/ramp/static)</li> <li>4. Charge Analyzer with voltage range: <math>10^{-6}</math> – 10 V and charge range: <math>10^{-9}</math> – <math>10^{-3}</math> C.</li> <li>5. Display: 5-1/2 digit.</li> <li>6. Frequency range: 10 – 1000 Hz variable.</li> <li>7. Heater for piezo sample up to 200 Deg. C along with the digital display.</li> <li>8. The system must be compatible for the attachment of poling unit.</li> <li>9. Sample polarity should be indicated for all measurement ranges.</li> <li>10. Sample holders/adapters/probes to be provided for measurement of d33 &amp; d31 parameters for various sample geometries and forms.</li> <li>11. Instrument should measure piezoelectric parameters of sample in pellet form, thick and thin films.</li> <li>12. All data/results should be stored along with test frequency, temperature and poling field on the computer through appropriate software provided with the instrument. Software should allow plotting any desired inferential parameter.</li> <li>13. The instrument should be fully controlled by a computer equipped with required/latest operating system and Windows via compatible software. All the functions should also be controlled by the software. Software should also be allowed for real-time calculation of the parameters.</li> <li>14. The system must be supplied with fully tested conditions.</li> <li>15. The instrument d33 meter with accessories will be accepted after checking the piezoelectric parameters values generated using standard samples that are provided by the vendor.</li> <li>16. The complete system must be guaranteed for a replacement for a minimum period of one year from the date of acceptance and free repair for three years. Software up gradation, if any, must be incorporated free of cost during the warranty period.</li> </ol>	1	No.

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