



NETAJI NAGAR DAY COLLEGE

(Under Graduate & Post Graduate Institution)

Affiliated to University of Calcutta

Accredited by NAAC (B⁺⁺)

170/436, N.S.C. BOSE ROAD

REGENT ESTATE – KOLKATA - 700092

Ref. No.....

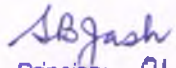
Date: 01.08.2019

Netaji Nagar Day College invites sealed quotations along with necessary information such as GST No., TAN etc. from reputed, experienced companies/ firms/ agencies for supply of **Laboratory Equipments of Physics, Electronics and Geography Department.**

Sl. No.	Items/ Equipments	Specifications	Qty	Rate (Rs.)	Amount (Rs.)
1.	Complete setup to determine the coefficient of thermal expansion of a metallic rod using an optical lever		01		
2.	Complete setup to calibrate a thermocouple by direct measurement of the thermo emf using operational amplifier and the constants		01		
3.	Complete setup to calibrate a thermocouple by direct measurement of the thermo emf using potentiometer and the constants		01		
4.	Complete setup to calibrate a thermocouple and determine boiling point of water		01		
5.	Setup to determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT)		01		

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6.	Fortin's Barometer	Full Brass Body with mercury	03		
7.	Thermometer	Maximum & Minimum thermometer; Make JRM/mlabs/ HTC Instrument	03		
8.	Hygrometer	Dry and wet bulb; Make JRM/ HTC Instrument/Bosch	03		
9.	Soil Testing Kit	AO Full Size	04		
10.	Transit Theodolite	Manual VC-20 Sec with stand; Make Optica/Bosch/Steel Axis	01		
11.	Dumpy Level	Full Brass Body with Stand; Make Optica/Bosch/ Sokkia	01		
12.	Stereoscope	With mirror, make Optica/ Sokkia/ Eisco	02		
13.	Trainer Kit to study Amplitude Modulation (AM)	<p>AF & RF signal generator with Frequency & Amplitude control, Transistorized modulator, Band Pass Filter, Diode detector, Low Pass Filter. Complete operating manual.</p> <ul style="list-style-type: none"> • Sine Wave: <ul style="list-style-type: none"> ▪ Frequency : 250Hz, 500Hz, 1KHz, and 2KHz. ▪ Amplitude : 0 to 5Vp-p. ▪ D.C. : 0 to 5V. • Sampling: <ul style="list-style-type: none"> ▪ Clock : 8KHz, 16KHz, 32KHz, 64KHz, and 128KHz. ▪ Duty cycle : 50%. 	01		
14.	Trainer Kit to study Frequency Modulation (FM)	<p>with AF & RF signal generator with Frequency & Amplitude control, IC based modulator, PLL demodulator circuit. Complete operating manual.</p> <ul style="list-style-type: none"> • Sine Wave: <ul style="list-style-type: none"> ▪ Frequency : 250Hz, 500Hz, 1KHz, and 2KHz. ▪ Amplitude : 0 to 5Vp-p. ▪ D.C. : 0 to 5V. • Sampling: <ul style="list-style-type: none"> ▪ Clock : 8KHz, 16KHz, 32KHz, 64KHz, and 128KHz. ▪ Duty cycle : 50%. 	01		
15.	Trainer Kit to study Pulse Amplitude Modulation (PAM).	<p>On-board signals</p> <p>Sine wave</p> <ul style="list-style-type: none"> • Variable frequency : 1Hz ~ 30Hz • Amplitude : 0 ~ 2 V p-p • Fixed frequency : 500Hz and 1 KHz • Amplitude : 0 ~ 4 V p-p <p>Sampling</p> <ul style="list-style-type: none"> • Internal sampling clock : 8 KHz and 16 KHz • Duty cycle : 50 % <p>Modulation techniques</p> <ul style="list-style-type: none"> • Pulse amplitude modulation (with variable clock 8KHz,16KHz) • Pulse width modulation (with variable clock 4KHz, 8KHz ,16KHz, 32 KHz) • Pulse position modulation (with variable clock 4KHz, 8KHz, 16KHz, 32KHz) <p>Voice communication</p> <ul style="list-style-type: none"> • Voice link for above modulation techniques using external audio input / output kit (optional) <p>Power supply</p> <ul style="list-style-type: none"> • GND, +5V, +12V, -12V 	01		
16.	Trainer Kit to study Pulse Width Modulation (PWM).		01		
17.	Trainer Kit to study Pulse Position		01		


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	Modulation (PPM)				
18.	Trainer Kit To study ASK, PSK and FSK modulators	Data Simulator : Onboard 8-bit variable NRZ-L pattern Crystal Oscillator 32.768 MHz Data Clock 256 KHz Data Format NRZ (L) Onboard Carrier Sine Waves 1MHz (0°), 1MHz (180°), 500 KHz (0°) Carrier Modulation ASK,/FSK, /PSK Carrier Demodulation ASK,/FSK /, PSK Intermediate Signal During demodulation Inter Connection 2 mm banana socket Power Supply +12V, -12V, +5V, GND	01		

Last date of Quotation submission : 16.08.2019

Quotation should be submitted at the office : 11.00 A.M. to 3.00 P.M. of each working day except Saturday.

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 (SONALI BANERJEE JASH)

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