PURCHASE ORDER

Reference No: TEQIP-III/2018/geca/Shopping/10
GECA/TEQIP-III/2018/369.

Date of Issue: 18-Jul-2018

Subject: GECA/TEQIP-III /2017-18/ECE-Microwave Lab

Purchaser: **Government Engineering College, Ajmer**
N.H.8 , BARLIYA CIRCLE, NEAR NARELI TEMPLE, AJMER

Supplier Name: **M/s Technilab Instrument**
No. 10/8, 3rd Cross, Maruthi Seva nagar Banaswadi Main Road, Banaswadi Main Road,, Bengaluru-560033, Karnataka, India, Bengaluru, Karnataka, 560033

With reference to our correspondence, **Government Engineering College, Ajmer** is pleased to award this detailed Purchase Order to **M/s Technilab Instrument** for supply of items as per the details given below at a total cost of **506220.00** (Rs. Five Lakh Six Thousand Two Hundred and Twenty only):

Sr. No	Item Name	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)	Delivery Period
1	Microwave Engineering Lab.	4	107250	429000	45

Total price (without taxes)	:	Rs. **429000.00**
Total applicable taxes	:	**18** %
Total price (with taxes)	:	Rs. **506220.00**
Total Octroi	:	Rs. **0**

Delivery	:	**Government Engineering College, Ajmer**
Testing/Installation Clause (if any)	:	**On Site installation and training required. Price must be included in quotation**
Training Clause (if any)	:	**Training Required**
Technical Specifications	:	As per Annexure - 1
Delivery Period	:	As specified for each item from date of issue of confirmed purchase order or as early as possible.
Warranty	:	**12**
Payment Terms	:	**Delivery and Installation - 90% of total cost** **Satisfactory Acceptance - 10% of total cost**

For
Government Engineering College, Ajmer

(Authorized Signatory)

प्राचार्य
राजकीय अभियांत्रिकी महाविद्यालय
अजमेर

Name & Designation

Accepted by

Signature

Date

Address

Annexure I

Sr. No	Item Name	Specifications
1	Microwave Engineering Lab.	**(A) The complete microstrip trainer:** (1) Microstrip ring resonator with centre frequency around 2.45GHz (2) Power meter (3) Microstrip 3dB branchline coupler (4) Backward wave stripline coupler (5) Microstrip 3dB power divider (6) Rat race hybrid ring (7) Low-pass microstrip filter having cutoff frequency around 2 GHz and band-pass microstrip filter having cutoff frequency around 2.45 GHz (8) Microwave amplifier. The system should also comprise of synthesized generator with modulator with frequency around 2.0 - 3.3 GHz (continuously variable), short, 50 ohm termination, digital VSWR meter, detector, attenuator, 50 ohm microstrip line, SMA cable, connectors and operating maual etc. **(B) Experimental requirement:** (I) Measurement of resonance characteristics of a microstrip ring resonator using power meter and determination of the substrate dielectric constant. (II) (1) To study the coupling characteristics of (i) a microstrip 3dB branchline coupler, and (ii) a stripline backward wave coupler as a function of frequency. Compare the bandwidth in the two cases. (2) Measure the microwave input, direct, coupled and isolated powers of a backward wave stripline coupler at the centre frequency using a power meter. From the measurements calculate the coupling, isolation and directivity of the coupler. (III) Measure the power division and isolation characteristics of a microstrip 3dB power divider. (IV) Study of rat race hybrid ring (equivalent of waveguide Magic-Tee) in microstrip (V) (1) Study of low pass and band pass micro strip filters. (2) Measurement of gain versus frequency of a microwave amplifier using power meter.