

राजस्थान-सरकार

तकनीकी शिक्षा निदेशालय राजस्थान, जोधपुर

W-6, गौरव पथ, रेजिडेन्सी रोड, जोधपुर (राज.)

फोन- 0291-2434271 फैक्स नं- 2430398

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क्रमांक :- एफ.27(333)/ई-5/2017-18/18286

दिनांक :- 16-11-2017

-: अल्पकालीन ई-निविदा सूचना संख्या 01/2017-18 :-

राजस्थान के राज्यपाल महोदय की ओर से अधोहस्ताक्षरकर्ता द्वारा राज्य के विभिन्न राजकीय पोलिटेक्निक महाविद्यालयों में उपकरण, मशीनरी, स्टील फर्नीचर, लकड़ी फर्नीचर इत्यादि की आपूर्ति करने के लिए निर्धारित प्रपत्र में बोनाफाईड विनिर्माता/थोक विक्रेता/सोल वितरक/निर्माता/प्राधिकृत डीलर/डीलर/सोल विक्रय/ विपणन एजेंट से ई-टेंडरिंग प्रक्रिया के अंतर्गत रुपये 900.00 लाख की ऑन लाईन निविदाएं आमंत्रित की जाती है। निविदाएं में दी जाने वाली दरें दिनांक 31.3.2018 तक मान्य होगी :-

आईटम संख्या	निविदा का विवरण	अनुमानित मात्रा	अनुमानित लागत (लाखों में)	धरोहर राशि (₹)	निविदा शुल्क (अप्रतिदेय)	निविदा डाउनलोड प्रारम्भ की दिनांक व समय	निविदा अपलोड करने एवं निर्धारित शुल्क जमा करने की अन्तिम दिनांक व समय	तकनीकी निविदा खोलने की तिथि व समय
1	फिजिक्स, केमेस्ट्री		4.00	8000	200	5.12.2017 10.00 A. M.	21.12.2017 10.00 A. M.	22.12.2017 11.00 A. M.
2	क्रंकीट, मेटेरियल टेस्टिंग, पी.एच.ई., सोईल, सर्वे लेब, एप्लाइड लेब		45.00	90000	400	5.12.2017 10.00 A. M.	21.12.2017 10.00 A. M.	22.12.2017 11.00 A. M.
3	मेट्रो लोजी लेब		50.00	100000	400	5.12.2017 10.00 A. M.	22.12.2017 10.00 A. M.	23.12.2017 11.00 A. M.
4	ओटो मोबईल, आर.ए.सी. लेब		10.00	20000	400	5.12.2017 10.00 A. M.	22.12.2017 10.00 A. M.	23.12.2017 11.00 A. M.
5	आई. सी. , फ्लूड, वैल्विंग लेब		20.00	40000	400	5.12.2017 10.00 A. M.	22.12.2017 10.00 A. M.	23.12.2017 11.00 A. M.
6	कारपेन्ट्री, फिटिंग, वैल्विंग लेब		10.00	20000	400	5.12.2017 10.00 A. M.	22.12.2017 10.00 A. M.	23.12.2017 11.00 A. M.
7	डिजिटल माइक्रोप्रोफेसर लेब		45.00	90000	400	5.12.2017 10.00 A. M.	26.12.2017 10.00 A. M.	27.12.2017 11.00 A. M.
8	इलेक्ट्रॉनिक्स लेब		18.00	36000	400	5.12.2017 10.00 A. M.	26.12.2017 10.00 A. M.	27.12.2017 11.00 A. M.
9	इलेक्ट्रॉनिक्स वर्कशॉप		18.00	36000	400	5.12.2017 10.00 A. M.	26.12.2017 10.00 A. M.	27.12.2017 11.00 A. M.
10	इन्स्ट्रुमेंटेशन लेब		30.00	60000	400	5.12.2017 10.00 A. M.	26.12.2017 10.00 A. M.	27.12.2017 11.00 A. M.
11	पॉवर इलेक्ट्रॉनिक्स		30.00	60000	400	5.12.2017 10.00 A. M.	27.12.2017 10.00 A. M.	28.12.2017 11.00 A. M.
12	मेजरमेंट एण्ड इन्स्ट्रुमेंटेशन, मशीन लेब		9.00	18000	400	5.12.2017 10.00 A. M.	27.12.2017 10.00 A. M.	28.12.2017 11.00 A. M.

निविदा प्रपत्र अनुसार

आईटम संख्या	निविदा का विवरण	अनुमानित मात्रा	अनुमानित लागत (लाखों में)	धरोहर राशि (₹)	निविदा शुल्क (अप्रतिदेय)	निविदा डाउनलोड प्रारम्भ की दिनांक व समय	निविदा अपलोड करने एवं निर्धारित शुल्क जमा करने की अन्तिम दिनांक व समय	तकनीकी निविदा खोलने की तिथि व समय
13	इलेक्ट्रीकल वर्कशॉप		30.00	60000	400	5.12.2017 10.00 A. M.	27.12.2017 10.00 A. M.	28.12.2017 11.00 A. M.
14	इंगलिश लेंगवेज लेब		50.00	100000	400	5.12.2017 10.00 A. M.	28.12.2017 10.00 A. M.	29.12.2017 11.00 A. M.
15	स्टील फर्नीचर		50.00	110000	400	5.12.2017 10.00 A. M.	28.12.2017 10.00 A. M.	29.12.2017 11.00 A. M.
16	बुडन फर्नीचर		12.00	24000	400	5.12.2017 10.00 A. M.	28.12.2017 10.00 A. M.	29.12.2017 11.00 A. M.
17	मैकेनिकल ब्रॉच उपकरण		44.00	88000	400	5.12.2017 10.00 A. M.	28.12.2017 10.00 A. M.	29.12.2017 11.00 A. M.
18	सिविल ब्रॉच उपकरण		19.00	38000	400	5.12.2017 10.00 A. M.	01.01.2018 10.00 A. M.	02.01.2018 11.00 A. M.
19	इलेक्ट्रीकल ब्रॉच उपकरण		19.00	38000	400	5.12.2017 10.00 A. M.	01.01.2018 10.00 A. M.	02.01.2018 11.00 A. M.
20	डिजिटल लेब उपकरण		22.00	44000	400	5.12.2017 10.00 A. M.	01.01.2018 10.00 A. M.	02.01.2018 11.00 A. M.
21	कम्प्युनिकेशन लेब		100.00	200000	400	5.12.2017 10.00 A. M.	04.01.2018 10.00 A. M.	05.01.2018 11.00 A. M.
22	थर्मल, मशीन लेब		100.00	200000	400	5.12.2017 10.00 A. M.	04.01.2018 10.00 A. M.	05.01.2018 11.00 A. M.
23	कम्प्यूटर		100.00	200000	400	5.12.2017 10.00 A. M.	04.01.2018 10.00 A. M.	05.01.2018 11.00 A. M.
24	इलेक्ट्रोनिक्स ब्रॉच उपकरण		65.00	120000	400	5.12.2017 10.00 A. M.	04.01.2018 10.00 A. M.	05.01.2018 11.00 A. M.
			900.00	1800000				

- विभिन्न निविदाओं के संबंध में विस्तृत शर्तें एवं अन्य विवरण उपकरण के पूर्ण स्पेशिफिकेशन कार्यालय समय में वेब साईट [www.dte.rajasthan.gov.in](http://www.dte.rajasthan.gov.in), [www.dipronline.org](http://www.dipronline.org) एवं [www.sppp.rajasthan.gov.in](http://www.sppp.rajasthan.gov.in) (पोस्टल अधिनियम) पर देखा जा सकता है। निविदा प्रपत्र को वेब साईट [www.eproc.rajasthan.gov.in](http://www.eproc.rajasthan.gov.in) से डाउनलोड/अपलोड किया जा सकता है।
- ऑन लाईन निविदा प्रक्रिया में वे ही संवेदक भाग ले सकेंगे जिनके पास **Digital Signature Certificate** होने के साथ ही उक्त वेब साईट पर पंजीकृत होंगे।
- निविदा शुल्क व धरोहर राशि का पृथक पृथक डिमाण्ड ड्रॉफ्ट सहायक निदेशक, प्राविधिक शिक्षा निदेशालय राजस्थान, जोधपुर के नाम से देय होगा एवं ई-टेंडरिंग प्रक्रिया शुल्क के डिमाण्ड ड्रॉफ्ट राशि रुपये 1000/- का **M.D., R.I.S.L.** जयपुर के नाम से देय हो इस कार्यालय में निविदा खोलने के निर्धारित समय तक जमा करना अनिवार्य है। अन्यथा निविदा नहीं खोलने की पूर्ण जिम्मेवारी फर्म की होगी।
- किसी भी प्रकार के स्पष्टीकरण अथवा शुद्धिकरण की नवीनतम जानकारी हेतु निविदा प्रपत्र डाउनलोड करने वाले निविदादाता नियमित रूप से उक्त वेब साईट का अवलोकन करते रहे।
- उपकरण, मशीनरी, स्टील/लकड़ी फर्नीचर की आपूर्ति संबंधित संस्थानों में 50 दिवस में करनी होगी। अन्यथा नियमानुसार एल. डी. चार्जज की कटौति की जायेगी।
- निर्धारित तिथियों को राजकीय अवकाश होने निविदाएँ उसके अगले कार्य दिवस को उक्त निर्धारित समय पर खोली जायेगी।

7. सशर्त निविदा स्वीकार नहीं होगी।
8. समस्त विवादों का न्यायिक क्षेत्र जोधपुर (राजस्थान) रहेगा।
9. राज्य में राजस्थान लोक उपापन पारदर्शिता अधिनियम-2012 व नियम-2013 प्रभावशील हैं। अतः निविदा पर उक्त अधिनियम व नियम के सभी प्रावधान प्रभावशील होंगे।
10. किसी भी निविदा को पूर्ण/आंशिक स्वीकार करने अथवा बिना कारण बताये अस्वीकृत करने के समस्त अधिकार विभाग के पास सुरक्षित रहेंगे। जिसके संबंध में फर्म से किसी प्रकार के प्राप्त पत्रों पर विचार नहीं किया जायेगा।
11. निविदा में दर्शाये आईटमों की मात्रा एवं आपूर्ति अवधि घटाई/बढ़ाई जाने के समस्त अधिकार विभाग के पास सुरक्षित रहेंगे। जिसके संबंध में फर्म से किसी प्रकार के प्राप्त पत्रों पर विचार नहीं किया जायेगा।
12. प्रत्येक उपकरण की दर एक ही अंकित (टेक्स/अन्य चार्जज जोडकर) करने में प्राथमिकता प्रदान करे।
13. निविदा के साथ दिये जाने वाले समस्त दस्तावेज पूर्ण रूप से भरे जायेंगे।
14. वेट/सीएसटी चुकता प्रमाण पत्र (31.3.2017 तक) संलग्न करें।
15. निविदा के साथ दिये जाने वाले दस्तावेजों के अनुसार पूर्ण भरे हुए एवं आवश्यकता अनुसार समस्त दस्तावेज संलग्न करें। अन्यथा निविदा खोलने के संबंध में विभाग द्वारा लिया गया निर्णय अन्तिम होगा।
16. अगर आपको क्रयादेश जारी किया जाता है तो क्रयादेश में वर्णित आपूर्ति अवधि में उपकरण इत्यादि की आपूर्ति करावें। अगर किन्ही परिस्थितियों के दृष्टिगत आप समयावधि में आपूर्ति नहीं कर सकते है तो आपूर्ति अवधि समाप्त होने से पहले विभाग को लिखित में सूचित करेंगे। अन्यथा संस्था प्रधान द्वारा आपूर्ति स्वीकार नहीं की जायेगी। नियमानुसार निदेशालय द्वारा आपूर्ति अवधि बढ़ाने के पश्चात् ही फर्नीचर की आपूर्ति करावें।
17. राजस्थान की लघु औद्योगिक इकाईयों जो निविदित आईटम के लिये पंजीकृत है, द्वारा Form EM-II उद्योग आधार मेमोरेण्डम & Annexure-II की प्रति प्रस्तुत करने पर धरोहर राशि अनुमानित लागत ½ % एवं निविदा शुल्क निर्धारित दर का 50 % देय होगा। इस संबंध में निविदा आईटम EM-II उद्योग आधार मेमोरेण्डम esa सम्मिलित होने के आशय का पृथक शपथ पत्र साथ में संलग्न करना अनिवार्य होगा।
18. डाक द्वारा विलम्ब के लिये विभाग जिम्मेवार नहीं होगा।
19. क्रय किये जाने वाले उपकरण, मशीनरी, स्टील फर्नीचर एवं लकड़ी फर्नीचर की आपूर्ति संबंधित राजकीय पोलिटेक्निक महाविद्यालय में निर्देशानुसार करनी होगी। इसके लिये अलग से भुगतान देय नहीं होगा।
20. उपकरण/मशीनरी निविदा से संबंधित एनेक्चर-एच में किसी भी आईटम में Sample required लिखा गया है उस आईटम से संबंधित सेम्पल निविदा शुल्क, धरोहर राशि एवं प्रोसेसिंग फीस डी. डी. के साथ जमा करवाना होगा। अन्यथा उस आईटम को Tender में CONSIDER नहीं किया जायेगा जिसकी पूर्व जिम्मेवारी फर्म की होगी।



निदेशक, तकनीकी शिक्षा,

GOVERNMENT OF RAJASTHAN  
**DIRECTORATE OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR**

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Visit us: [www.dte.rajasthan.gov.in](http://www.dte.rajasthan.gov.in) e-mail ID: [dte\\_raj @yahoo..com](mailto:dte_raj@yahoo.com)

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**BID DOCUMENT FORM**

1. Name of item :- \_\_\_\_\_
2. Name & full address of the firm submitting the bid along with Tel. No., Fax No. & e-mail/  
Mobile No.  
**M/s :** .....  
**Full Address :** .....  
**Tel. No./FAX/Mobile :** .....  
**e-mail :** .....
3. Addressed to :- **Director (Education), Directorate of Technical Education Rajasthan,  
Jodhpur- 342011** (e-mail :- [dte\\_raj@yahoo.com](mailto:dte_raj@yahoo.com))
4. Reference : e-Tender Notice No...../2017-18 Dated .....
5. The Processing fee of Rs. 1000/-, Bid fee and Bid Security (EMD) as per tender notice has been deposited vide separate demand drafts as per enclosed scanned copies.
6. All documents required as per bid documents are enclosed.
7. Goods will be delivered within the stipulated delivery period from the date of the supply order at Jodhpur or the designated place mentioned in the work order.
8. I/ We agree to abide by all the Terms & conditions mentioned in e-Tender Notice No.- ..... /2017-18 dated ..... issued by the Department and also agree to further Terms & Conditions including special conditions of the said tender notice given in the attached sheets (all the pages of which has been signed with stamp by me/ us in token of my/our acceptance of the terms & condition mentioned therein) If any page of the tender document is inadvertently left without seal and signature, it will be deemed as signed and sealed.

**SIGNATURE OF THE BIDDER  
WITH SEAL AND DESIGNATION**

\* The words bid or tender and bidder or tenderer where ever mentioned in attached documents are synonyms and having same meaning.

GOVERNMENT OF RAJASTHAN  
**DIRECTORATE OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR**  
**Instruction to Bidders for Online Bidding (e-Tendering)**

Information to be disseminated to prospective bidder regarding on line Bidding.

1.	The Bid document can be downloaded from web site <a href="http://eproc.rajasthan.gov.in">http://eproc.rajasthan.gov.in</a> & submitted online in electronic format on same web site.
2.	Office address :- Director (Education), Directorate of Technical Education Rajasthan, Jodhpur-342011 Phone- 0291-2434271 Fax- 2430398 e-mail ID: <a href="mailto:dte_raj@yahoo.com">dte_raj@yahoo.com</a>
3.	To participate in online Bids, Bidders will have to <b>possess</b> Digital Signature Certificate (type II or type III) as per information Technology Act-2000 using which they can sign their electronic bids, Bidder can <b>procure</b> the same from any CC approved certifying agency, i.e. TCS safecrypt, Ncode etc. or they may contact e-procurement Cell Department of It & C, Government of Rajasthan for further assistance: Bidder who already have a valid Digital Certificate need not required to procure a new Digital Certificate. Contact No. : 0141-4022688 (Help desk 10 am to 6 pm on all working days) E mail: <a href="mailto:eproc@rajasthan.gov.in">eproc@rajasthan.gov.in</a> Address: e-Procurement Cell, RISL, Yojna Bhawan, Tilak Marg, C-Scheme, Jaipur.
4.	Before electronically submitting the Bid, it should be ensured that all Bid papers including conditions of contract etc. are digitally signed by the Bidder and filled up as per the Bid Guidelines.
5.	Training for the bidders on the usage of e-tendering System is also being arranged by RISL on regular basis. Bidders interested for training may contact e-Procurement Cell, RISL for booking the training slot.
6.	Bidders are also advised to refer “Bidders mannul” available under “Downloads” section for further details about the e-tendering process.
7.	<b>RISL Processing fees is Rs. 1000.00[in addition to Bid form Fees &amp; Bid Security (EMD)] which are as per e-tender notice (refer circular no. 19/2011 dated 30.09.2011)</b>
8.	<b>Bid security (Earnest Money) and Bid fees (in the form of Bankers Cheque/ demand draft in favour of Assistant Director, Directorate of Technical Education Rajasthan, Jodhpur payable at Jodhpur) and processing fees (by way of Demand draft in favour of MD, RISL, Jaipur payable at Jaipur) to be submitted physically at the office of undersigned up to the stipulated time &amp; date of opening of Technical Bid, failing which the e-tender will not be admitted.</b>
9.	The following documents must be attached with <b>Technical Bid (First Cover in pdf) failing which Bid is liable to be rejected.</b> <ol style="list-style-type: none"> <li>a. Scanned copies of BC/DD’s of Bid fee, Processing fee &amp; Bid security (EMD).</li> <li>b. Scanned copies of Bid document form along with Conditions of tender (SR-16) &amp; Special Terms &amp; Conditions duly signed and sealed.</li> <li>c. G.S.T. registration certificate and G.S.T. declaration (as per Annexure F) .</li> <li>d. Instructions to bidders document duly signed &amp; sealed by the bidder</li> <li>e. Scanned copy of Power of attorney for authorised signatory to sign the tender document.</li> <li>f. All the technical specification and details of the tendered item and technical specification in tabular form must be submitted as indicated at Annexure - H</li> <li>g. Price charging certificate as per (Annexure G).</li> <li>h. Declaration by the tenderer (SR 11). Annexure -E</li> <li>i. Scanned copy of PAN card.</li> <li>j. Annexure A, B, C &amp; D duly signed with seal.</li> </ol> <p style="text-align: center;"><b>Signature of bidder with seal</b></p>

	<p>k. Scanned copy of form Entrepreneurial Memorandum Part-II/ Udyog Aadhar and Annexure –I to avail benefit of EMD at reduced rate for SSI unit( If required). A separate affidavit (Annexure-K) in support for inclusion of all tendered items in the Entrepreneurial Memorandum Part-II/Udyog Aadhar issued by Industries Department must be submitted along with the bid .</p> <p>l. Prescribed check list</p> <p>m. Format of RTGS/NEFT as per Annexure –J</p> <p>n. Any other documents which the bidder wants to submit and/ or any document as per tender.</p> <p>o. Certificate of Annual Turnover from Chartered Accountant.</p> <p>p. Authorization certificate in Annexure-L (if applicable)</p> <p><b><u>Note: The bidder must upload scanned copies of all the originally down loaded documents (Duly filled and seal-signed) of this tender only.</u></b></p> <p><b>Second cover (Financial/Price bid/BOQ-xls)</b> should contain details of price quoted in BOQ.</p> <p>In absence of the above or wrongly placing the required documents in any other cover or not mentioning the desired information at the specified place/ column, the bid may not be considered and will be rejected. The provisions of RTPP Rules 2013 &amp; RTPP Act 2012 will prevail in this regard.</p>
<b>10.</b>	Incomplete & conditional Bid in any respect will be rejected without any information.
<b>11.</b>	The Director ( <b>Education</b> ), Directorate of Technical Education Rajasthan, Jodhpur has reserve the right to reject all/ any part of Bid received from the firms/ Bidders without assigned any reason thereof.

**Director (Education)**

I/we have carefully read and understood above instruction

**Signature of bidder with seal**

**SPECIAL CONDITIONS OF TENDER**

01. The bidders are requested to submit their bids prior to last date of submission to avoid Non-submission of their bids up to prescribed date due to non-availability of / hanging of website at last moments. The date of submission of bids will not be extended if system is hang up in last hours or congestion.
02. In case, the date fixed for opening of the tenders be declared as a public holiday, the bid shall be opened on the next date on which office re-opens after such holiday(s).
03. Physical submission of bids is not allowed.
04. Tenders shall be valid for a minimum period of **90 days** after the date of opening of tender. Tender mentioning a shorter validity period than specified are likely to be rejected.
05. The bidders who are interested in bidding can download tender documents from **[www.eproc.rajasthan.gov.in](http://www.eproc.rajasthan.gov.in)** up to the stipulated date & time.
06. The bids will have to be Digitally signed by the bidder and submitted online in two covers in electronic format only on website **[www.eproc.rajasthan.gov.in](http://www.eproc.rajasthan.gov.in)**
07. Furnishing of tender offer shall be strictly in the manner as prescribed in Instructions to bidder and terms & conditions of tender, failing which the tender is liable for rejection.
08. The following documents are to be uploaded in **Two covers** of the bid

**(A) TECHNICAL BID (First cover-pdf) :**

- a. Scanned copies of BC/DD's of Bid fee, Processing fee & Bid security (EMD).
- b. Scanned copies of Bid document form along with Conditions of tender (SR-16) & Special Terms & Conditions duly signed and sealed.
- c. G.S.T. registration certificate and G.S.T. declaration (as per Annexure F) .
- d. Instructions to bidders document duly signed & sealed by the bidder
- e. Scanned copy of Power of attorney for authorised signatory to sign the tender document.
- f. All the technical specification and details of the tendered item and technical specification in tabular form must be submitted as indicated at Annexure - H
- g. Price charging certificate as per (Annexure G).
- h. Declaration by the tenderer (SR 11). (Annexure E).
- i. Scanned copy of PAN card.
- j. Annexure A, B, C & D duly signed with seal.
- k. Scanned copy of form Entrepreneurial Memorandum Part-II/Udhyog Adhar and Annexure -I to avail benefit of EMD at reduced rate for SSI unit( If required). **A separate affidavit (Annexure-K) in support for inclusion of all tendered items in the Entrepreneurial Memorandum Part-II /Udyog Aadhar issued by Industries Department must be submitted along with the bid. (Format attached at annexure-K)**
- l. Prescribed check list

**Signature of tenderer with seal**

- m. Fomat of RTGS/NEFT as per Annexure -J
- n. Any other documents which the bidder wants to submit and/ or any document as per tender.
- o. Certificate of Annual Turnover from Chartered Accountant.
- p. Authorisation certificate in Annexure-L (if applicable)

**Note: The bidder must upload scanned copies of all the originally down loaded documents (Duly filled and seal-signed) of this tender only.**

In absence of the above or wrongly placing the required documents in any other cover or not mentioning the desired information at the specified place/ column, the bid may not be considered and will be rejected. The provisions of RTPP Rules 2013 & RTPP Act 2012 will prevail in this regard.

**(B) FINANCIAL BID (Second cover-xls) :**

It should contain details of price quoted in BOQ.

**Note:- The Financial bid of only Technically qualified bidders will be opened. The date of opening of financial bid will be displayed on [www.eproc.rajasthan.gov.in](http://www.eproc.rajasthan.gov.in) .**

- 09. The tenderers shall quote F.O.R. destination prices only. indicating the Freight inclusive of unloading and stacking and Insurance charges in Financial/Price Bid/BOQ. They will also indicate the prevailing rates of G.S.T (whether inclusive or exclusive) in the quoted prices. If the Financial/Price Bid/BOQ is not filled completely, the offer is likely to be ignored.
- 10. Material/Equipment on order shall be required to be dispatched on "Freight paid basis".
- 11. Before electronically submitting the tenders, it should be ensured that all tender documents enlisted above including conditions of contract are signed & sealed on each & every page by the authorized representative of the firm after filling requisite information/details desired in the specification & Qualifying Requirement.
- 12. The complete set of documents must be then furnished **duly digitally signed through DSC of bidders company** and submitted on [www.eproc.rajasthan.gov.in](http://www.eproc.rajasthan.gov.in) in time as per **checklist** provided with the tender document . The checklist along with relevant page nos. shall also be submitted with the tender.
- 13. All tenders, in which any of the prescribed conditions are not fulfilled or which have been vitiated by errors in calculations, totaling or other discrepancies or which contain over writing in figures or words or corrections not initialed and dated, may be liable to rejection.
- 14. Payment shall be made to supplier/contractor through RTGS/NEFT for quick and safe transfer of funds across the country. The charges for transfer through RTGS/NEFT shall be on the part of supplier/ contractor. The supplier/ contractor shall furnish particulars to the payment making authorities of DTE in prescribed format to be provided by the purchaser. **(Annexure- J)**
- 15. No conditional tenders shall be accepted and will be rejected summarily forthwith.
- 16. The DTE reserves the right to cancel the tender at any time without assigning any reasons. The DTE does not bind himself to accept the lowest or any tender or any part of the tender and shall not assign any reason(s) for the rejection of any tender or a part thereof.

**Signature of tenderer with seal**

- 17. No refund of tender fee is claimable for tenders not accepted or forms not submitted.



18. Payment of Bill will be made by **Director (Education), Technical Education, Jodhpur** after the receipt of material and found to entire satisfaction and as per specification and good conditions mentioned there in supply order.
19. The supply will be accepted only on working day in the office working hours.
20. The Tenderer would provide Guarantee for an appropriate period from the date of delivery of the said goods in good conditions. During Course of Guarantee period, the items will have to got repaired/replaced FREE OF COST at Concerning Institute.
21. Quantity of items can be increased/decreased/cancelled. Department is competent to accept/refuse the Tender/Tenders without quoting any reason thereof.
22. **The Samples where ever mentioned in technical specification (Annexure-H) must be submitted in this Directorate alongwith physical submission of D.D. of EMD.**
23. **The Scanned copies of Catalogue/Literature and/or Authorisation Certificate (Duly seal-signed by the bidder) where ever demanded in technical specification (Annexure-H) must be uploaded alongwith the bid otherwise concerned items will not be considered for technical evaluation.**
24. **The Average Annual Turnover of the bidder for last three financial years (2014-15 to 2016-17) or any year of the last three year will be minimum Two times of the tender cost as per NIT but minimum Turnover of the bidder must be more than Rs. 20.00 Lacs. A certificate issued by the Chartered Accountant (Showing the Annual Turnover of last three years) with their Signature, Registration No. & Seal must be submitted along with the bid.**
25. **All applicable statutory deductions regarding GST, income tax etc. are to be made from the suppliers bill.**
26. All other Terms and conditions shall be as specified in the Rajasthan Transparency in Public Procurement Act, 2012, Rajasthan Transparency in Public Procurement Rule, 2013 and will prevail.

Enclosed : As Above

**Join. Director/Assistant Director  
for DIRECTOR (EDUCATION)  
TECHNICAL EDUCATION RAJASTHAN  
JODHPUR**

**Signature of tenderer with seal**

GOVERNMENT OF RAJASTHAN  
**DIRECTORATE OF TECHNICAL EDUCATION RAJASTHAN, JODHPUR**  
W-6, GAURAV PATH, JODHPUR. Phone- 0291-2434271 Fax- 2430398  
Visit us: [www.dte.rajasthan.gov.in](http://www.dte.rajasthan.gov.in) e-mail ID: [dte\\_raj@yahoo.com](mailto:dte_raj@yahoo.com)

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**"CONDITIONS OF TENDER AND CONTRACT FOR OPEN TENDER"**

**Note :** Tenderers should read these conditions carefully and comply strictly while sending their tenders.

1. Tenders are hereby invited in e-tender system for purchase of .....  
Tenders are to be submitted online in electronic format on website <http://eproc.rajasthan.gov.in>. The tender document/specification can be downloaded from above mentioned website
- 1.1 **“Tenders by Bonafide Dealers”** :- Tenders shall be given only by Bonafide Dealers in the goods. They shall therefore, furnish a declaration in the S.R. form 11. (Copy enclosed).
- 2.1 Any change in the constitution of the firm, etc. shall be notified forthwith by the contractor in writing to the purchase officer and such change shall not relieve any former member of the firm, etc. from any liability under the contract.
- 2.2 No new partner/partners shall be accepted in the firm by the contractor in respect of the contract unless he/they agree to abide by all its terms, conditions and deposit with the purchase officer a written agreement to this effect. The contractors receipt for acknowledgement or that of any partners subsequently accepted as above shall bind all of them and will be sufficient discharge for any of the purpose of the contract.
3. **G.S.T. REGISTRATION:** No Dealer who is not registered under the **G.S.T.** Act prevalent in the state where his business is located shall tender. The **G.S.T.** registration number should be quoted & self attested copy of **G.S.T.** Registration should be enclosed with tender.
4. Tenderer will have to submit copy of PAN CARD duly attested by the Tenderer without which tender may not be considered.
5. Tender forms shall be filled in ink or typed. No Tender filled in pencil shall be considered. The Tenderer shall sign the Tender form at each page and at the end including amendment sheet enclosed in token of acceptance of all the terms and conditions of the tender.
6. Rate shall be written both in Words and Figures. There should not be errors and or over writing. Correction if any, should be made clearly and initialed with dates. The Rates should mention element of the G.S.T. separately.
7. All Rates quoted must be F.O.R. Destination and should include all incidental charges except octroi. G.S.T., which should be shown separately. In case of Local supplies the rates should include all taxes etc. and no cartage of Transportation charges will be paid by the Government and the delivery of the goods shall be given at the premises of purchase officer/F.O.R. Destination Stores as mention in tender Document. Goods to be purchased are for the purpose of official use. Hence, octroi is not payable. The rates, therefore, should be exclusive of octroi and local tax. In case goods to be purchased are for the purpose of resale or use as manufacture of any goods for sale. the Rates shall inclusive of octroi and local tax. In the former case a certificate in the prescribed form will be furnished along with the supply order.

**Signature of tenderer with seal**

8. **COMPARISON OF RATES** : Due to applicability of G.S.T. in place of V.A.T. the comparison of rates between firms of Rajasthan & out of Rajasthan will be made as per applicable rules (if any) made by the State Government up to the date of opening of financial Bid.
9. **PRICE PREFERENCE** : Price preference will be given to the goods produced or manufactured by industries of Rajasthan over goods produced or manufactured by industries outside Rajasthan as per purchase of stores (as per Finance Department Notification no. F1 (8)/FD/GF&AR/2011 dated 19.11.2015 or as per any amendment made by the State Government there after) Rules.
  - 9.1 Preference to Local Industries Registered with the Director of Industries. Rajasthan, Jaipur over the Tendering Units, outside the State of Rajasthan as per the policy approved by the government will be operative.
  - 9.2 Under the different situations between local tendering unit of S.S.I. Rajasthan and outside the State of Rajasthan the policy as laid down by the Government will be operative & rule amended up to date shall be applicable. (Amended vide Finance Department Order No. F-15 (1) FD/CSPO/9608/2000 Date 21/03/2000).
10. **VALIDITY** : Tenders shall be valid for a period of **90 days** from the date of opening of Tender.
11. The approved supplier shall be deemed to have carefully examined the conditions, specifications, size, Make and drawings, etc. of the goods to be supplied. If he has any doubts as to the meaning of any portion of these conditions or of the specifications, drawing, etc. he shall before signing the contract, refer the same to the purchase officer and get clarification
12. The contractor shall not assign or sublet his contract or any substantial part thereof to any other agency.
- 13.1 **SPECIFICATIONS** : All article supplied shall which strictly confirm to specifications. Trade mark laid down in the Tender form and wherever articles have been required according to ISI specifications. Those articles should confirm strictly to those specification and should bear such marks.
- 13.2 The supply of articles marked with a struck/at serial number shall in addition, confirm strictly to the approved samples. The supply shall be of the very best quality and description. The decision of the confirm to the specification and are in accordance with the samples. If any, shall be final and binding on the tenderers.
- 14.1 **WARRANTY/GUARANTEE CLAUSE** : The Tenderer would give guarantee that the goods/stores/ articles would continuous to confirm to the description and quality as specified for a minimum period of **12 Months** from the date of delivery of the said goods/ stores/articles to be purchased and that not with standing the fact that the purchaser may have inspected and/or approved the said good/stores if during the aforesaid period of 12 months. The said goods/stores/articles to discovered to confirm to the description and quality aforesaid or have determined (and the decision of the purchase officer in that behalf will be final and conclusive). The purchaser will be entitled to reject the said goods/stores/articles or such portion thereof as may be discovered not to confirm to the said description and quality, on such rejection the goods/articles/stores will be at the seller's risk and all the provision relating to rejection of goods. etc. shall apply. The tenderer shall if so called upon to do replace the goods, etc.

**Signature of tenderer with seal**

or such portion there of as is rejection by the purchase officer, otherwise the tenderer shall pay such damage as may arise by reason of the breach of the condition here in contained. Nothing here in contained shall prejudice any other right of the purchase officer in that behalf under this or otherwise.

- 14.2 In case of machinery and equipment also guarantee will be given as mentioned in clause (i) above and the tenderer shall during the guarantee period replace the parts if any remove any manufacturing defect if found during the above period so as to make machinery and equipment operative. The Tenderer shall also replace machinery and equipments in case it is found defective which cannot be put to operations due to manufacturing defect etc.
- 14.3 In case of machinery and equipment specified by the purchase, officer the tenderer shall be responsible for carrying out annual maintenance and repairs on the terms and conditions as may be agreed. The Tenderer shall also be responsible to ensure adequate regular supply of spare parts needed for as specific type of machinery and equipments whether under their annual maintenance and repairs rate contract or otherwise. In case of change of model he will give sufficient notice to the purchase officer who may like to purchase spare parts from them to maintain, the machinery and equipment in perfect condition.
- 15.1 INSPECTION:** The purchase officer or his duly authorized representative shall at all reasonable time have access to the suppliers premises and shall have the power at all reasonable time to inspect and examine the material and workmanship of the goods/equipments/machineries during manufacturing process or afterwards as may be decided.
- 15.2 The tenderer shall furnish complete address of the premises of his office, godown and workshop where inspection can be made together with name and address of the person who is to be contacted for the purpose. In case of those dealers who have newly entered in business a letter of introduction from their bankers will be necessary.
- 16. SAMPLES:** Tender for articles marked within the schedule shall be accompanied by two set of samples of the articles tendered properly packed. Such samples if submitted personally will be received in the office. A receipt will be given for each samples by the officer receiving the samples. Samples if sent by train, etc. should be dispatch freight paid and the R.R. or G.R. should be sent under a separate registered cover. Samples for catering food items should be given in a plastic box or in polythene bags at the cost of the tenderer.
17. Each samples shall be marked suitable either by written on the sample or on a slip or durable paper securely, fastened to the sample the name of the tenderer and serial number of the item, of which it is a sample in the schedule.
18. Approved samples would be retained free of cost up to the period of six month after the expiry of the contract. The government shall not be responsible for any damage, wear and tear or loss during testing, examination etc. during the period these samples are retained. The samples shall be collected by the tenderer on the expiry of the stipulated period. The Government shall in no way make arrangements to return the samples. The samples uncollected within 9 months after expiry of contract shall be forfeited by the government and no claim for their cost etc. shall be entertained.
19. Samples not approved shall be collected by the unsuccessful tenderers. The government will not be responsible for any damage, wear and tear or loss during testing examination etc. During the period these samples are retained. The uncollected samples shall be forfeited and no claim for their cost etc. shall be entertained.

**Signature of tenderer with seal**

20. Supplies when received shall be subject to inspection to ensure whether they confirm to the specifications or with the approved samples. Where necessary or prescribed or practical, tests shall be carried out in government laboratories, reputed testing house. Like Shri Ram Testing house, New Delhi and the like another supplies will be accepted only where the articles confirm to the standard of prescribed specifications as a result of such tests.
21. **DRAWLS OF SAMPLES :** In case of tests, samples shall be drawn in four sets in the presence of tenderer or his authorized representative and properly sealed in their presence. Once such set shall be given to them, one or two will be sent to the laboratories and/or testing house and the third or fourth will be retained in the office for reference and record.
22. **TESTING CHARGES :** Testing charges shall be borne by the Government. In case urgent testing is desired to be arranged by the tenderer or in case of test results showing that suppliers are not up to the prescribed standards or specifications, the testing charges shall be payable by the tenderer.
- 23.1 **REJECTION :** Article not approved during inspection or testing shall be rejected and will have to be replaced by the tenderer at his own cost within the time fixed by the purchase officer.
- 23.2 If however due to exigencies of government work, such replacement either in whole or in part, is not considered feasible, the purchase officer after giving an opportunity to the tenderer of being heard shall for reasons to be recorded, deduct a suitable amount from the approved rates. The deduction so made shall be final.
24. The rejected articles shall be removed by the tenderer within **15 days** of intimation of rejection after which purchase officer shall not be responsible for any loss, shortage or damage and shall have the right to dispose of such articles as he thinks fit, at the tenderer's risk and on his account.
25. The tenderer shall be responsible for the proper packing so as to avoid damage under normal conditions of transport by sea, rail and road or air and delivery of the material in good condition to the consignee at destination. In the event of any loss and breakage or leakage or any shortage the tenderer shall be liable to make good such loss and shortage found at the check/inspection of the materials by the consignee. No extra cost on such account shall be admissible.
26. The contract for the supply, can be repudiated at any time by the purchase officer, if the supplies are not made to his satisfaction after giving an opportunity to the tenderer of being heard and recording of the reasons for repudiation.
27. Direct or Indirect canvassing on the part of the tenderer or his representative will be disqualification.
- 28.1. **DELIVERY PERIOD**  
The Tenderer whose tender is accepted shall arrange supplies within a period as mentioned below from the date of supply order-

S.No.	Items	Quantity	Delivery Period
			<b>50 Days</b>

- 28.2. At the time of award of contract, the quantity of goods, works or services originally specified in the bidding documents may be increased, but such increase shall not exceed 50% of the quantity specified in the bidding documents. It shall be without any change in the unit prices or other terms and conditions of the bid and the bidding documents.

**Signature of tenderer with seal**

- 28.3 If the procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the bidding documents.
- 28.4 Repeat orders for extra items or additional quantities may be placed on the rates and conditions given in the contract. Delivery or completion period may also be proportionately increased. The limits of repeat order is 50% of the value of goods or services of the original contract.
- 29.1 EARNEST MONEY:** Tender shall be accompanied by an earnest money as mentioned in tender notice, without which tenders will not be considered. The amount should be deposited in either of the following forms in favour of **Assistant Director, Technical Education Rajasthan, Jodhpur.**
1. Cash through Treasury Challan deposited under head  
**8443-Civil deposit**  
**103-Security deposits**
  2. Bank Drafts/Bankers Cheques of the schedule Bank.
- 29.2 **REFUND OF EARNEST MONEY :** The Earnest Money of unsuccessful tenderes shall be refunded soon after a final acceptance of tender.
- 29.3 **PARTIAL EXEMPTION FROM EARNEST MONEY :-** Firms which are registered with Director of Industries. Rajasthan shall furnish the amount of earnest money in respect of items for which they are registered as such subject to their furnishing registration certificate in original or Self Attested Photostat copy issued from the Director of Industries, Rajasthan at the rate of 0.5 % of the estimated value of the tender shown in N.I.T.
- CLAUSE :-**
- i. Micro and Small Enterprises which have obtained an acknowledgement of EM-II/Udhyog Aadhar from the concerned District Industries Centre, shall make payment of earnest money @ 0.5% (Half Percent) of the value of the quantity offered for supply by them in respect of item(s) for which acknowledgement of EM-II/Udhyog Aadhar has been issued to them.
  - ii. Such Enterprises shall be required to pay security deposit @1% of the value of stores ordered to be supplied on furnishing of an attested copy of acknowledgement of EM-II/Udhyog Aadhar with an affidavit of Rs. 50/- non judicial stamp by enterprise in prescribed format. {vide FD Circular No. 24/2010 dated 19.10.2010}
- 29.4 The Central Government and Government of Rajasthan under taking need not furnish any amount of earnest money.
- 29.5 The earnest money/security deposit lying with the department/office in respect of other tenders awaiting approval or rejected or on account of contracts being completed will not be adjusted towards Earnest Money/Security Money for the fresh tenderer. The earnest money may however, be taken into consideration in case tenders are re-invited.

**Signature of tenderer with seal**

30. **FORFEITURE OF EARNEST MONEY** : the Earnest Money will be forfeited in the following cases :
- i. When tenderer withdrawls or modifies the offer after opening of tender but before acceptance of tender.
  - ii. When tenderer does not execute the agreement, any other formality require by Department, if any, prescribed within the specified time.
  - iii. When tenderer does not deposit the security Money after the supply order is given.
  - iv. When he fails to commence the supply of the items as per supply order within the time prescribed.
  - v. If the bidder breaches any provision of code of integrity prescribed for bidders specified in the Act and chapter VI of RTPP rules 2013.

**AGREEMENT AND SECURITY DEPOSIT (Performance Security) :-**

- 31.1 i. Successful tenderer will have to execute an agreement in the **Form 17** (on non-judicial Stamp Paper of the value @ 0.25% of the purchase order amount (Minimum Rs 500/- and maximum Rs 25000/-) within a period of 15 days of issue of order and deposit security equal to 5% of the value of the stores for which tenders are accepted within 15 days from the date of dispatch on which the acceptance of the tender is communicated to him.
- ii. No interest will be paid by the department **on** the security money.
  - iii. The Earnest Money deposited at the time of tender will be adjusted towards security amount. The security money amount shall in no case be less than the earnest money.
  - iv. Performance security shall be furnished in any one of the following forms-
    - (a) deposit through **eGRAS**.
    - (b) Bank Draft or Banker's Cheque of a scheduled bank.
    - (c) National Savings Certificates and any other script/instrument under National Savings Schemes for promotion of small savings issued by a Post Office in Rajasthan, if the same can be pledged under the relevant rules. They shall be accepted at their surrender value at the time of bid and formally transferred in the name of procuring entity with the approval of Head Post Master.
    - (d) Fixed Deposit Receipt (FDR) of a scheduled bank. It shall be in the name of procuring entity on account of bidder and discharged by the bidder in advance. The procuring entity shall ensure before accepting the Fixed Deposit Receipt that the bidder furnishes an undertaking from the bank to make payment/premature payment of the Fixed Deposit Receipt on demand to the procuring entity without requirement of consent of the bidder concerned. In the event of forfeiture of the performance security, the Fixed Deposit shall be forfeited along with interest earned on such Fixed Deposit.

**Signature of tenderer with seal**

- (e) Any other instrument as mentioned in Rajasthan Transparency in Public Procurement Rules 2013.
- v. Performance security furnished in the form specified in clause (b) to (e) of sub-rule {31.1(iv)} shall remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the bidder, including warranty obligations and maintenance and defect liability period.
- 31.2 i. Firms register with the Director of Industries, Rajasthan in respect of stores for which they are registered subject to their furnishing the registration certificate to original form the Director of Industries or a Photo Copy or a copy their of duly attested by any gazette officer will be partially exempted from earnest money and shall pay deposit @ 1% of the estimated value of tender.
- ii. Central govt. & Govt. of Rajasthan under taking will exempted from furnishing security amount.
- 31.3 FORFEITURE OF SECURITY DEPOSIT:** Security amount in full or part may be forfeited in the following cases :
- a. When any Terms and conditions of the contract is breached.
- b. When the Tenderers fails to make complete supply satisfactorily.
- c. Notice of reasonable time will be given in case of forfeiture of security deposit. The decision of the purchase officer in this regard shall be final.
- 31.4 The expenses of completing and stamping the agreement shall be paid by the tenderer and the department shall be : furnished free of charge with one executed stamped counter part of the agreement.
32. i. All goods must be sent freight paid through rail or goods transport. If goods are sent freight to pay, the freight together with Departmental charge 5% of the freight will be recovered form the suppliers bills.
- ii. R.R. should be sent under registered cover through bank only.
- iii. In case supply is desired to be sent by the purchase officer by passenger train. the entire railway freight will be borne by the department.
- iv. Remittance charges on payment made shall be borne by the tenderer.

**33. INSURANCE**

- i. The goods will be delivered at the destination godown in prefect condition. The supplier, if he so desired may be insure the valuable goods against lost by theft destruction or damage by fire, flood under exposure to whether or otherwise viz. (war rebellion, roit etc.) The insurance charges will be borne by the supplier and state will not be required to pay such charges, if incurred.
- ii. The articles may also be got insured at the cost of the purchaser if so desired by the purchaser. In such cases, the insurance should invariably be with life Insurance Corporation of India or its subsidiaries.

**Signature of tenderer with seal**



**34. PAYMENTS :**

- i. Advance payment will not be made except in rare and special case. In case of advance payment being made it will be against proof of dispatch and to the extent as prescribed in financial power by rail/reputed goods transports companies etc. and prior inspection, if any. The balance in any will be paid on receipt of the consignment in good condition with the certificate to that effect endorsed on the inspection note given to the tenderer.
  - ii. Unless otherwise agreed between the parties payment for the delivery of the stores will be made on submission of bill in the proper form by the tenderer to the purchase officer in accordance with G.F. & A.R. all remittance charges will be borne by the tenderer.
  - iii. In case of disputed items. 10 to 25% of the amount shall be with held and will be paid on settlement of the dispute.
  - iv. Payment in case of these goods, which need testing, shall be made only when such tests have been carried out, test results received conforming to the prescribed specifications.
- 35.1 The time specified for delivery in the Tender form shall be deemed to be the essence of the contract are the successful tenderer shall arrange supplies with in the period on receipt of the firm order from the purchase office.
- 35.2
- |  |              |
|--|--------------|
| a. Delay up to the one fourth period of the prescribed delivery period.          | <b>2.5 %</b> |
| b. Delay exceeding one fourth but not exceeding half of the prescribed period.   | <b>5.0 %</b> |
| c. Delay exceeding half but not exceeding three fourth of the prescribed period. | <b>7.5 %</b> |
| d. Delay exceeding three fourth of the prescribed period.                        | <b>10 %</b>  |
- 35.3 Fraction of a day reckoning period of delay in supplies shall be eliminated if it is less than half a day.
- 35.4 The maximum amount of liquidated damages shall be 10%.
- 35.5 If the supplier requires an extension of time in completion of contractual supply on account of occurrence of any hindrance, he shall apply in writing to the authority, which has placed the work-order for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.
- 35.6 Delivery period may be extended with or without liquidated damages if the delay in the supply of goods is on account of hindrances beyond the control of the tenderer.
- 36. RECOVERIES :**
- Recoveries of liquidated damages short supply breakage, rejected articles shall ordinary be made from bills. Amount may also be with held to the extent of short supply breakages, rejected articles and in case of failure in satisfactory replacement by the supplier along with amount of liquidated damages shall be recovered from his dues and the security deposit available with the department. In case recovery is not possible recourse will be taken under Rajasthan PDR Act. or any other law in force.
37. Tenderers must make their **own** arrangement to obtain import license if necessary.

**Signature of tenderer with seal**

38. If a tenderer imposes conditions which are in addition to or in conflict with the conditions mentioned in his tender is liable to summary rejection. In any case none of such conditions will be deemed to have been accepted unless specifically mentioned in the letter of acceptance of tender issued by the purchase officer.
39. The purchase officer reserves the right to accept any tender not necessarily the lowest, reject any tender without assigning any reasons and accept tender for all or any one or more of the articles for which tenderer has been given or distribute items of stores to more than one firm/supplier.
40. The tenderer shall furnish the following documents at the time of execution of agreement.
  - i. Attested copy of Partnership Deed in case of partnership firms.
  - ii. Registration No and Year of registration in case partnership firm is registered with register of firms.
  - iii. Address of residence and office telephone number in case of sale proprietorship.
  - iv. Registration issued by Registrar of companies in case of company.
41. If any dispute arise out of the contract with regard to the interpretation, meaning and breach of the term of the contract, the matter shall be referred to by the parties to the Head of the Department who will appoint his senior most deputy as the sole arbitrator of the dispute who will not be related to this contract and whose decision shall be final.
42. All legal proceedings, if necessary arise to the institute may by any of the parties (Government or contractor) shall have to be lodged in courts situated in Jodhpur, Rajasthan and not elsewhere.

**DIRECTOR (EDUCATION)**  
TECHNICAL EDUCATION RAJASTHAN  
JODHPUR

I/We have carefully read and understood above terms and conditions (from 1 to 42) of the tender and abide by them.

I/We have also certify that all the information and catalogue etc. of the tendered item has been enclosed and no information has been held back by us.

**SIGNATURE OF THE TENDERER**  
With seal and designation

**COMPLIANCE WITH THE CODE OF INTEGRITY AND NO CONFLICT OF INTEREST**

Any person participating in a procurement process shall –

- a) not offer any bribe reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process.
- b) not misrepresent or omit that mislead or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation.
- c) not indulge in any collusion, Bid rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process.
- d) not misuse any information shared between the procuring entity and the Bidders with an intent to gain unfair advantage in the Procurement process.
- e) not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the Procurement process.
- f) not obstruct any investigation or audit of a Procurement process.
- g) disclose conflict of interest, if any and
- h) disclose any previous transgressions with any Entity in india or any other country during the last three years or any debarment by any other procuring entity.

**CONFLICT OF INTEREST :**

The Bidder participating in a bidding process must not have a conflict interest.

A conflict of interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliances with applicable laws and regulations.

A Bidder may be considered to be in conflict of interest with one or more parties in a bidding process if, including but limited to :

- a) have controlling partners/shareholders in common; or
- b) receive or have received any direct or indirect subsidy from any of them; or
- c) have the same legal representative for purposes of the Bid; or
- d) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder or influence the decision of the Procuring Entity regarding the Bidding process; or
- e) the Bidder participates in more than one Bid in a bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the bidder is involved. however, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one Bid; or
- f) the Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Goods, Works or Services that are the subject of the Bid; or
- g) Bidder or any of its affiliates has been hired (or to proposed to be hired) by the Procuring Entity as engineer-in charge/consultant for the contract

**Signature of tenderer with seal**

**DECLARATION BY THE BIDDER REGARDING QUALIFICATIONS DECLARATION  
BY THE BIDDER**

In relation to my/our Bid submitted to ..... for procurement of ..... in response to their notice inviting Bid No. .... Dated ..... I/We hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012, that;

01. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
02. I/we have fulfilled my/our obligation to pay such of the taxes payable to the Union and the State Government or any local authority as specified in the Bidding Documents;
03. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
04. I/we do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to entire to a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
05. I/we do not have conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date :

**Signature of Bidder with seal**

Place :

Name :

Designation :

Address :

**GRIEVANCE REDRESSAL DURING PROCUREMENT PROCESS**

The Designation and address of the First Appellate Authority is **Director (Education), Directorate of Technical Education Rajasthan, Jodhpur.**

The Designation and address of the Second Appellate Authority is **Secretary, Technical Education Rajasthan, Jaipur.**

**01. Filing an appeal**

If a Bidder or prospective bidder is aggrieved that any decision, action or omission of the Procuring Entity is in contravention to the provision to the provision of the Act or the Rules or the Guidelines issued there under, he may file an appeal to first Appellate Authority, as specified in the Bidding Document within a period of ten days from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which he feels aggrieved.

Provided that after the declaration of a Bidder as successful the appeal may be filed only by a Bidder who has participated in procurement proceedings.

Provided further that in case a procuring Entity evaluates the Technical Bids before the opening of the Financial Bids, an appeal related to the matter of Financial Bids may be filled only by a Bidder whose Technical Bid is found to be acceptable.

02. The officer to whom an appeal is filled under para (1) shall deal with the appeal as expeditiously as possible and shall Endeavour to dispose it of within thirty days from the date of the appeal.

03. If the officer designation under para (1) fails to dispose the appeal filed within the period specified in para (2), or if the Bidder or prospective bidder or the Procuring Entity is aggrieved by the order passed by the First Appellate Authority, the Bidder or prospective bidder or the Procuring Entity, as the case may be, may file a second appeal to Second Appellate Authority specified in the Bidding Document in this behalf within fifteen days from the expiry of the period specified in para (2) or of the date of receipt of the order passed by the First Appellate Authority, as the case may be.

**04. Appeal not to lie in certain cases**

No appeal shall lie against any decision of the Procuring Entity relating to the following matters, namely :

- a) determination of need of procurement;
- b) provisions limiting participation of Bidders in the Bid process;
- c) the decision of whether or not to enter into negotiation;
- d) cancellation of a procurement process;
- e) applicability of the provisions of confidentiality.

**05. Form of Appeal**

- a) An appeal under para (1) or (3) above shall be in the annexed Form along with as many copies as there are respondents in the appeal.

**Signature of tenderer with seal**

- b) Every appeal shall be accompanied by an order appealed against, if any, affidavit verifying the facts stated in the appeal and proof of payment of fee.
- c) Every appeal may be presented to First Appellate Authority or Second Appellate Authority, as the case may be, in person or through registered post or authorized representative.

**06. Fee of filing appeal**

- a) Fee for first appeal shall be rupees two thousand five hundred and second appeal shall be rupees ten thousand, which shall be non-refundable.
- b) The fee shall be paid in the form of bank demand draft or banker's cheque of a Scheduled Bank in India payable in the name of Appellate Authority concerned.

**07. Procedure for disposal of appeal**

- a) The first Appellate Authority or Second Appellate Authority, as the case may be, upon filing of appeal, Shall issue notice accompanied by copy of appeal, affidavit and documents, if any, to the respondents and fix date of hearing.
- b) On the date fixed for hearing, the First Appellate Authority or Second Appellate Authority, as the case may be shall,-
  - (i) here all the parties to appeal present before him; and
  - (ii) peruse or inspect documents, relevant records or copies thereof relating to the matter.
- c) After hearing the parties, perusal or inspection of documents and relevant records or copies thereof relating to the matter, the Appellate Authority concerned shall pass an order in writing and provide the copy of order to the parties to appeal free of cost.
- d) The order passed under sub-clause (c) above shall also be placed on the State Public Procurement Portal.

**Signature of tenderer with seal**

**MEMORANDUM OF APPEAL UNDER THE RAJASTHAN TRANSPARENCY IN  
PUBLIC PROCUREMENT ACT, 2012**

Appeal No. .... of .....

Before the .....(First/Second Appellate Authority)

01. Particulars of appellant :

(i) Name of Appellant :

(ii) Official address, if any :

(iii) Residential address :

02. Name and address of the respondent(s) :

(i)

(ii)

(iii)

03. Number and date of the order appealed against  
and name and designation of the officer/authority  
who passed the order (enclosed copy), or a  
statement of a decision, action or omission of  
the Procuring Entity in contravention to the provisions  
of the act by which the appellant is aggrieved :

04. If the Appellant proposes to be represented by a  
representatives, the name and postal address of  
the representative :

05. Number of affidavits and documents enclosed with the appeal :

06. Ground of appeal :

.....  
.....  
.....

(supported by an affidavit)

07. Prayer

:.....  
.....  
.....

Place : .....

Date : .....

**Appellant's Signature**

**ADDITIONAL CONDITIONS OF CONTRACT**

**01. Correction of arithmetical errors :**

Provided that a Financial Bid is substantially responsive, the Procuring Entity will correct arithmetical errors during evaluation of Financial Bids on the following basis :

- (i) if there is discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Procuring Entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected.
- (ii) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (iii) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated Bids does not accept the correction of errors, its Bid shall be disqualified and its Bid Security shall be forfeited or its Bid Securing Declaration shall be executed.

**02. Procuring Entity's Right to Vary Quantities :**

- (i) At the time of award of contract, the quantity of goods, works or services originally specified in the Bidding Document may be increased or decreased by a specified percentage, but such increase or decrease shall not exceed twenty percent, of the quantity specified in the Bidding Document. it shall be without any change in the unit prices or other terms and conditions of contract.
- (ii) If the Procuring Entity does not procure any subject matter of procurement or procures less than the quantity specified in the Bidding Document due to change in circumstances, the Bidder shall not be entitled for any claim or compensation except otherwise provided in the Conditions of Contract.
- (iii) In case of procurement of Goods or services, additional quantity may be procured by placing a repeat order on the rates and conditions of the original order. However, the additional quantity shall not be more than 50% of the value of Goods of the original contract and shall be within one month from the date of expiry of last supply, if the suppliers fails to do so, the Procuring Entity shall be free to arrange for the balance supply by limited Bidding or otherwise and the extra cost incurred shall be recovered from the Suppliers.

**03. Dividing quantities among more than one Bidder at the time of award (In case of Procurement of Goods) :**

As a general rule all the quantities of the subject matter of procurement shall be procured from the Bidder, whose Bid is accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the Bidder, whose Bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, in such cases, the quantity may be divided between the Bidder, whose Bid is accepted and the second lowest Bidder or even more Bidders in that order, in a fair, transparent and equitable manner at the rates of the Bidder, whose Bid is accepted.

**Signature of tenderer with seal**



**"DECLARATION BY THE TENDERERS" (S.R. 11)**

I / We declare that I am ..... / We are bonafide  
/Manufacturer/Whole Sellers/ Sole Distributors/ Authorised Dealer/ Dealers/ Sole Selling/  
Marketing Agent in the Good/Stores/Equipments/Furniture's for which I/We have Tendered.  
**(STRIKE OFF WHICHEVER IS NOT APPLICABLE)**

If, this Declaration is found to be incorrect then without prejudice to any other action that  
may be taken, my/our security may be forfeited in full and the Tender if any to the extent accepted  
may be cancelled.

**SIGNATURE OF THE TENDERER**  
With seal and designation

**"G.S.T. DECLARATION"**

I, Certify that the goods on which **G.S.T.** has been charged have not been exempted under the **G.S.T. Act**, or the Rules made there under and the amount charged on account of **G.S.T.** is not more than what is payable under the relevant provisions of the **G.S.T. Act** or the Rules made there under.

Certify that we M/s .....  
..... are registered as Manufacturer/Dealer in the  
..... (State or Union Territory) under **G.S.T.** Registration No.  
.....

**SIGNATURE OF THE TENDERER**  
With seal and designation

**PRICE CHARGING CERTIFICATE**

I/We hereby certify that the rate offered in Financial bid are reasonable and justified and we are not marketing lower rates to other department on condition of the tender and contract.

**SIGNATURE OF THE BIDDER  
WITH SEAL AND DESIGNATION**

**FORMAT OF AFFIDAVIT**

(On non-judicial Stamp Paper of Rs- 50/- vide FD Circular No. 24/2010 dated 19.10.210)

I ..... S/o .....  
Aged ..... Years ..... Residing at .....  
Proprietor/Partner/Director of M/s ..... do  
hereby solemnly affirm and declare that :

- a) My/Our above noted enterprise M/s ..... has  
been issued acknowledgement of Entrepreneurial memorandum Part-II by the District  
Industries Centre ..... The acknowledgement No is ..... Dated .....  
and has been issued for manufacturer of following items :
- (i)
  - (ii)
  - (iii)
  - (iv)
  - (v)
- b) My/Our above noted acknowledgement of Entrepreneurial memorandum Part-II has not  
been cancelled or withdrawn by the Industries Department and that the enterprise is  
regularly manufacturing the above items.
- c) My/Our enterprise is having all the requisite plant and machinery and is fully equipped to  
manufacture the above noted items.

Place :

**Signature of Proprietor/ Director**  
Authorised Signatory with Rubber Stamp & Date

(ATTESTED BY FIRST CLASS MAGISTRATE OR NOTARY PUBLIC)

**REAL TIME GROSS SETTLEMENT (RTGS) / NATIONAL ELECTRONIC FUND  
TRANSFER (NEFT)**

From: M/s. ....  
.....  
.....

To,  
**The Director (Education),**  
Directorate of Technical Education Rajasthan,  
Jodhpur.

**Sub:- RTGS / NEFT Payments.**

We refer to remittance of our payments using RBI's RTGS/NEFT. Our payments may be made through the above system to our under noted account at our cost :-

Name of Firm	:	
Full Address	:	
Mobile Number	:	
mail ID for Payment Information	:	
PAN Number	:	
Bankers Name	:	
Branch Name	:	
9 Digit Code of Bank (Appearing on the MICR Cheque issued by the Bank	:	
Account Type with Code	:	
Account Number (as appearing on Cheque Book)	:	
IFSC Code for RTGS	:	

**Signature of Bidder**  
with Stamp & Address

**FORMAT OF AFFIDAVIT**

(On Non-judicial Stamp Paper of Rs. 50/- )

I.....S/o.....Aged.....  
years, residing at ..... Proprietors/Partner/Director  
of M/s.....do hereby  
solemnly declare that:

- a. all items tendered by me/us in NIT No...../2017-18 issued by Director(Edu.), Directorate of Technical Education, Jodhpur are included in Entrepreneurial Memorandum part-II/Udhyog Aadhar issued to our firm by the Industries Department of Rajasthan.
- b. the rebate in tender fee & earnest money is applicable to our firm as per rules made for SSI units.
- c. if any discrepancy is found later our tender will be liable for rejection including forfeiture of earnest money/security money deposit along with any legal action as per the tender terms & conditions.

Place :

**Signature of Proprietor/ Director**  
Authorized Signatory with Rubber Stamp & Date

**Authorisation certificate to be submitted by Principal manufacturer**

It is certified that M/s..... (Name & address of tenderer) is our authorised Distributer/ Dealer. They are authorised to submit tender for ..... (Name of item) to Director (Training), Directorate of Technical Education, Jodhpur (Rajasthan) against their Tender Notice No..... Dated- .....on behalf of us.

The equipment/ Instrument/Machine is guaranteed for the period as mentioned in tender and during the guarantee period the authorised Distributer/Dealer shall replace the parts or rectify any manufacturing defect found in the machine. They are also responsible for after Sale-service during the life time of equipment/instrument/machine. In case of change of authorised Distributer/ Dealer the new authorised Distributer/Dealer will be responsible for guarantee and after sale-service. In case of failure we will be responsible for providing after sale service.

**Signature of Principal Manufacturer  
with rubber stamp**

**Note:-** This authorisation certificate should be typed & signed by the principal manufacturer on his original letter pad and scanned copy of which must be up loaded with tender otherwise concerned item of the tender will not be considered for technical evaluation.

**CHECK LIST**

**List of required Schedules/documents to be submitted online duly signed/ digitally  
Signed by Authorized Signatory**

S. No.	Particulars as per specification	Description of required document	Details of documents to be uploaded by bidder along with relevant page Nos.
<b>(i) COVER – I : Details of Tender Fee/Bid Security/Tender Processing Fee etc. (.pdf)</b>			
01	Cost of Tender Document	Proof of depositing cost of tender specification documents (DD/ Banker's Cheque).	
02	Details of Bid security (EMD)/ Registration/ exemption certificate (EM-II)	Proof of depositing Bid Security (DD/Banker's Cheque/vendor Registration certificate / copy of EM-II with annexure H & affidavit	
03	Tender processing fee	Proof of depositing DD/ Banker's Cheque towards e- tender processing fee.	
04	Authorization of Digital Signature (if applicable)	Power of Attorney for authorized signatory to sign the tender document digitally	
05	<b>G.S.T.</b> Declaration (Annexure-F)	Yes/No	
06	VAT Registration Certificate	Yes/No	
07	Copy of PAN Card	Yes/No	
08	Bid document form duly signed & sealed	Yes/No	
09	Special conditions of tender	Yes/No	
10	Tender form SR-16	Yes/No	
11	Declaration regarding Bonafide dealer SR-11 (annexure-E)	Yes/No	
12	Annexure A, B, C, D,G,J	Yes/No	
13	Technical specifications in annexure-H	Yes/No	
14	Annual Turnover certificate from Chartered Accountant.	Yes/No	
15	Annexure - I&K for SSI Unit (if applicable)	Yes/No	
16	Authorisation of manufacturer (Annexure-L) (if applicable)	Yes/No	
<b>(iii) COVER – II : Financial/Price Bid/BOQ (.xls)</b>			
01	Price bid/BOQ	Details of Price quoted of the material offered in Price bid/ BOQ	

**Signature of tenderer with seal**



**Envelope "H"**

**e-Tender No. 1 Part 21 (2017-2018) COMMUNICATION LAB**

**TECHNICAL SPECIFICATION**

- 01.** The scanned copy of this annexure (original downloaded) duly completed and seal signed by the bidder must be uploaded otherwise bid should not be considered. Any supplementary information may be uploaded separately.
- 02.** The samples where-ever mentioned in specifications must be submitted in this Directorate along with physical submission of DD's of EMD etc, otherwise concerned item will not be considered for technical evaluation.
- 03.** Scanned Copies of Original Literature/Leaflets/Catalogue etc. must be enclosed in support of your Make and Specifications otherwise concerned items will not be considered for Technical Evaluation.
- 04.** The delivery period will be 50 Days.
- 05.** The Material will be Supplied F.O.R. at Principal Government Polytechnic College, as per order List.
- 06.** Authorization Certificate of manufacturer where-ever mentioned in specifications must be submitted in prescribed format (Annexure-L) otherwise concerned item will not be considered for Technical Evaluation.
- 07.** All the required literature/ leaflets/Catalogues, authorization certificates must be submitted with the tender. **For the all Items.**
- 08.** **All the material supplied should be new and no item can be supplied which is refurbished.**

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
1.	<p><b>Radio receiver demo kit</b>  AM Receiver  Construction : Super heterodyne  AM Frequency Band : 530 KHz – 1650 KHz  Local Oscillator Freq. Range : 980 KHz to 2.060 MHz  Intermediate Frequency (IF) : 455 KHz  Input Circuits : 1. RF amplifier  2. Mixer  3. Local oscillator  4. Beat frequency oscillator  5. IF amplifier 1  6. IF amplifier 2  7. Automatic Gain Control  AM Detectors : 1. Diode detector (for DSB)  2. Product detector (for SSB)  FM Receiver  Construction : Super heterodyne  FM Frequency Band : 88 MHz to 108 MHz  Tuning Range : 96 MHz to 120 MHz  IF Frequency : 10.7 MHz</p>	5	5	5	5	5	5	5	5	5	5	5	55	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Input Circuit : 1. RF amplifier  2. Mixer  3. Local oscillator  4. IF amplifier 1  5. IF amplifier 2  6. FM Detector  7. Automatic Frequency Control</p> <p>Audio Output : Amplifier with speaker  Tuning : Variable capacitor (ganged) dial marking on board  Receiving media : Telescopic antenna / RF cable  Switched Faults : 12 Nos  Test Points : 50 Nos  Power Supply : 110-220 V AC <math>\pm 10\%</math>, 50/60Hz  Power Consumption : 3VA (approximately)  Interconnections : 2mm Banana sockets  0 Operating Conditions : 0-40 C, 80% RH  Product Tutorials : (Theory, procedure, reference results, etc)</p> <p><b>Included Accessories :</b>  Patch Cord : For all available inputs/outputs  Mains Cord : 1 No  Earphone : 1 No  Experiments Performed</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	1. To measure Sensitivity. 2. To measure Selectivity. 3. To measure Fidelity . 4.To measure Automatic Gain Control (AGC).													
2	<b>COLOR TV TRAINER</b>  Standard : CCIR-B-PAL-G,625 Lines Channels : 230 2- 4 VHF I (VL) 5 - 12 VHF III (VH) 12 - 100:BAND IV & V else: S BAND & HYPER BAND Picture Tube Size : 51cms RF input impedance : 75 ohms. Circuit Blocks : S y s t e m C o n t r o l C i r c u i t  Video IF, Sound Section, Tuner Section,  Horizontal Oscillator, Horizontal Output, Vertical Oscillator, Vertical output,	0	0	0	0	0	0	0	0	0	0	2	2	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Video &amp; Chroma Section, Power Supply, AV sections ON Screen Display to set : Volume, Brightness, Contrast Colour, Channel and Band Selection, Tuning. Panel Control : ON-OFF switch, stand by Menu, Vol + / - , Prog + / - Remote Control Function : Volume, Brightness, Stand by, Colour, Contrast, Channel Selection, Audio Mute,AV Mode, Zoom, Swap, Scan, Child Lock PCB Size : 19 x 15 inches or higher No. of Faults : more than 40 I.F. Frequency : Video - 38.9 MHz Audio- 33.4 MHz Speaker Size(mm) : 50 X 125 Accelerating Potential : 24KV max. Power Supply : 230V ± 10%, 50 Hz</b></p> <p><b>Experiments That Can Be Performed :</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<b>Study of circuit of RF - Section</b> <b>Study of RF section through test points</b> <b>Study of fault simulation &amp; rectification in RF Section</b> <b>Study of circuit description of VIF section</b> <b>Study of VIF section through test points</b> <b>Study of fault simulation &amp; rectification of VIF section</b> <b>Study of circuit of Video / Chroma section</b> <b>Study of Video / Chroma section through test points</b> <b>Study of fault simulation &amp; rectification in Video / Chroma section</b> <b>Study of circuit of System Control Section</b> <b>Study of System Control Section through test points</b> <b>Study of fault simulation and Rectification in System Control System</b> <b>Study of circuit of Horizontal &amp; Vertical Oscillator &amp; Output Sections</b> <b>Study of Horizontal &amp; Vertical output sections through test points</b> <b>Study of fault simulation &amp; rectification in Horizontal and Vertical output sections</b> <b>Study of R-G-B Video output Section</b> <b>Study of Audio Sound section.</b>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<b>Accessories: Cable for all available input /Output,Manual(Hard and softcopy),Manual for each experiment</b>													
<b>3</b>	<b>SUPERHETRODYNE RADIO RECEIVER / AM RECEIVER KIT</b> <b>Technical Specification</b> AM Receiver Construction : Super heterodyne AM Frequency Band : 530 KHz – 1650 KHz Local Oscillator Freq. Range : 980 KHz to 2.060 MHz Intermediate Frequency (IF) : 455 KHz Input Circuits : 1. RF amplifier 2. Mixer 3. Local oscillator 4. Beat frequency oscillator 5. IF amplifier 1 6. IF amplifier 2 7. Automatic Gain Control AM Detectors : 1. Diode detector (for DSB) 2. Product detector (for SSB) FM Receiver Construction : Super heterodyne	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	FM Frequency Band : 88 MHz to 108 MHz Tuning Range : 96 MHz to 120 MHz IF Frequency : 10.7 MHz Input Circuit : 1. RF amplifier 2. Mixer 3. Local oscillator 4. IF amplifier 1 5. IF amplifier 2 6. FM Detector 7. Automatic Frequency Control Audio Output : Amplifier with speaker Tuning : Variable capacitor (ganged) dial marking on board Receiving media : Telescopic antenna / RF cable Switched Faults : 12 Nos Test Points : 50 Nos Power Supply : 110-220 V AC $\pm 10\%$ , 50/60Hz Power Consumption : 3VA (approximately) Interconnections : 2mm Banana sockets Operating Conditions : 0-40 C, 80% RH Product Tutorials : (Theory, procedure, reference results, etc) <b>Included Accessories :</b> Patch Cord : For all available inputs/outputs													



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	Mains Cord : 1 No Earphone : 1 No													
4	<b>VCD PLAYER TRAINER</b>  <b>Power supply : 230v Ac, 50Hz.</b> <b>Function switches : Play/pause, Forward, Rewind, Stop, Program, elect/ Repeat, Skip forward, Skip reverse</b>  <b>Open/Close, tracks select.</b> <b>Display : Program, time and track status.</b> <b>Laser : Semiconductor Laser (780nm)</b> <b>Frequency Range : 5-20000 Hz.</b> <b>TV System : PAL and NTSC</b> <b>Audio output : 200 W PMPO ( 100w x 2 Channels) or more</b> <b>Speakers : 8 Ohms/6" in separate wooden Boxes.</b> <b>Modulation : EFM</b> <b>Quantization : 16 bit Linear.</b> <b>CD Format : Audio CD, MP3 CD, VCD 2.0/3.0.</b> <b>Outputs Sockets : Audio Out, Video Out,</b>	0	0	0	0	0	0	0	0	0	0	1	1	

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	<b>RF Out (Channel 2).</b> <b>Remote Controls : Play/pause, Forward, Rewind, Stop, Program Select/ Repeat, Skip forward, Skip reverse Open/Close, tracks select.</b> <b>Sampling Frequency : 44.1 KHz.</b> <b>Accessories: Cable for all available input /Output,Manual(Hard and softcopy),Manual for each experiment</b>													
5	<b>DVD PLAYER TRAINER</b> <b>Specifications :</b> <b>1. Function Switches : Play/Pause, forward, rewind, stop, program elect/repeat, skip forward,s Skip reverse open / close, tracks select.</b> <b>2. Display : Program, time and track status.</b> <b>3. Laser : Semiconductor laser</b> <b>4. Frequency Range : 5-20000 Hz.</b> <b>5. T.V. System : PAL and NTSC</b> <b>6. Audio output : 200 W PMPO (100w x 2 channels)</b> <b>7. Speakers : 8 ohms / 6" inbuilt.</b>	2	2	0	0	0	0	0	0	0	0	2	6	

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	<p>8. Quantization : 16 bit Linear.</p> <p>9. CD format : Audio CD, MP3 CD, VCD 2.0/3.0.,MP4</p> <p>10.Outputs sockets : Audio out, Video out, RF out (Channel 2), HDMI.</p> <p>11.Remote controls : Play / pause, forward, rewind, stop, program select/ repeat, skip forward, skip reverse open / close, tracks select.</p> <p>12.Sampling Frequency : 44.1 KHz.</p> <p>13 . Equipment enclosed in wooden/acrylic case.</p> <p>Accessories: Cable for all available input /Output,Manual(Hard and softcopy),Manual for each experiment</p>													
6	<p><b>DIGITAL MULTI METER</b></p> <ul style="list-style-type: none"> <li>* True RMS Mode.</li> <li>* Dual display for frequency, AC voltage and temperature.</li> <li>* RS-232C Interface.</li> <li>* 10 Location Memory</li> <li>* Time mode with alarm, clock and stop watch.</li> <li>* MIN, MAX, AVG and relative mode.</li> <li>* dB Measurement.</li> </ul>	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<ul style="list-style-type: none"> <li>* Capacitance and Inductance measurement.</li> <li>* inbuilt temperature sensor Temperature Mode (*C/*F)</li> <li>* Pulse signal injection function for logic and audible testing etc.</li> <li>* Continuity and diode test.</li> <li>* Logic test</li> <li>* Auto power off and “keep on” mode.</li> <li>* Fused 20 A input with warning beeper.</li> <li>* Back light</li> <li>* Data hold and run mode.</li> <li>* Low battery indication mode.</li> <li>* Over load protection</li> </ul> <p>Standard Accessories : -</p> <ul style="list-style-type: none"> <li>* Carrying Case</li> <li>* Manual</li> <li>* Test Lead</li> <li>* Battery</li> <li>* RS232C Cable</li> <li>* Diskette</li> </ul>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Technical Specifications :</b></p> <p><b>DC Voltage : Range : 400Mv</b>  <b>4V, 40V, 400V, 1000V</b>  <b>: Resolution : 0.1Mv</b>  <b>1Mv,10Mv,100Mv,1V</b>  <b>: Accuracy : 0.3%+2d</b>  <b>0.5% +2d</b></p> <p><b>AC Voltage : Range : 400Mv</b>  <b>4V, 40V, 400V, 750V</b>  <b>: Resolution : 0.1Mv</b>  <b>1Mv,10Mv,100Mv,1V</b>  <b>: Accuracy : 1%+3d</b>  <b>1.5% +5d</b></p> <p><b>DC Current : Range : 400MicroA,</b>  <b>400Ma, 20A</b>  <b>: Resolution : 0.1MicroA,</b>  <b>0.1Ma, 0.01A</b>  <b>: Accuracy : 1% + 2d</b></p> <p><b>AC Current : Range : 400MicroA,</b>  <b>400Ma, 20A</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>0.1Ma, 0.01A : Resolution : 0.1MicroA,</p> <p>Resistance : Accuracy : 1.5% + 3d</p> <p>4Kn,40Kn,400Kn 4Mn, 40Mn : Range : 400n,</p> <p>100n 1Kn, 10Kn : Resolution : 0.1n, 1n, 10n,</p> <p>1% + 2d : Accuracy : 0.5% + 2d</p> <p>Frequency : Range : 10KHz,</p> <p>100KHz, 1MHz, 10MHz : Resolution : 1HZ, 10HZ,</p> <p>100HZ, 1KHZ : Accuracy : 0.01% + 2d</p> <p>Capacitance : Range : 100MicroF</p> <p>: Resolution : 0.01MicroF</p> <p>: Accuracy : 3% + 5d</p> <p>Inductance : Range : 0-20H 20-</p> <p>50H 50-100H : Resolution : 0.01H</p>													

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	<p><b>0.01H 0.01H</b>  <b>: Accuracy : 3%+5d</b>  <b>5%+5d 10%+5d</b>  <b>dBm : Range : -25dBm to</b>  <b>+59dBm</b>  <b>:</b></p> <p><b>Logic Test : Logic : 0.8V to 2.0V</b>  <b>Diode Test and Continuity Test</b>  <b>Signal Out : 2048Hz, 4096Hz, 8192Hz</b>  <b>(4.5V Square Wave)</b>  <b>Accessories: Cable for all available input</b>  <b>/Output,Manual(Hard and softcopy).</b></p>													
7	<p><b>CRO 60/70MHz Digital Storage Oscilloscope with Colour display</b>  <b>Technical Specification :</b>            Band width : 60/70MHz.            No. of Channels : 4            Sample Rate on each channel : 1.0GS/s            Memory Depth : 12Mpts.</p>	0	0	0	0	0	0	0	0	0	0	5	5	

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	Vertical resolution : 8 bits. Vertical Scale : 1mv/div to 10V/div . Display : 7.0 inches TFT LCD Display Interface : USB , LAN Input coupling : AC, DC, GND Input impedance : (1MΩ ± 2%) // (13pF ± 3pF) Time Base range : 5ns/div to 50 sec/div Time Base accuracy : ≤ ± 25 ppm. Trigger Level Range : ± 5 div from the centre of the screen Trigger Mode : Auto , Single ,Normal Hold off Range : 16ns to 10s Accessories: Cable for all available input /Output,Manual(Hard and softcopy). <b>Note : Sample required.</b>													
8	<b>0.4 – 250 MHz Wobbuloscope</b>  <b>Technical Specifications :</b> <b>SWEEP RANGE : 400KHz – 250MHz (Multiple electronically switched bands covering radio AM IF, FM IF, TV-SIF, Chroma, TV-VIF, TV Channels 2 – 12 of bands 1 &amp; III)</b>	0	0	0	0	0	0	0	0	0	0	2	2	



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	<p><b>SWEEP WIDTH (Adjustable)</b>  <b>0.5 – 15MHz for all TV-RIF and TV-IF modes. 50-500KHz for FM-IF mode</b>  <b>5-50KHz for AM-IF mode</b></p> <p><b>MARKERS</b>  <b>a) 455 KHz marker (Ratio AM-IF)</b>  <b>b) 10.625, 10.700, 10.775 MHz (FM-IF)</b>  <b>c) 5.25, 5.50, 5.65 MHz (TV-SIF)</b>  <b>d) 4.28, 4.43, 4.58 MHz (TV Chroma)</b>  <b>e) 33.4, 36.15, 38.9 MHz (TV-VIF)</b>  <b>f) 33 TV-RF Markers, (3x11 channels). Two absolute frequency markers and one IF derived marker at vision carrier.</b>  <b>Freq. on all TV-RF Ch.</b></p> <p><b>g) Switched crystal derived 1MHz and 10MHz markers)</b></p> <p><b>SWEEP LEVEL : 100dBuV (Max) in 75 ohms.</b></p> <p><b>ATTENUATOR</b></p>													

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	<p><b>0-99Db in 1 Db step. Electronically controlled key switch operated digital attenuator with 7 segment numeric display of attenuation figures.</b></p> <p><b>MODE DISPLAY</b>  <b>Electric alpha numeric display to indicate all 16 operating mode bands. (Alphabetic)</b>  <b>Display for 5 radio and TV-IF bands, and numeric display for each TV channel number)</b></p> <p><b>IMPEDANCE : 75 ohms ( Nominal)</b></p> <p><b>MARKER : Signal derived birdie.</b></p> <p><b>DISPLAY :</b>  <b>Markers for absolute markers of all bands.</b>  <b>Intensity of all bands. Intensity modulated Dot</b>  <b>Markers for IF derived markers in all TV-RF channel modes.</b></p> <p><b>X-Y-Z DISPLAY UNIT :</b></p>													

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	<p><b>VERTICAL BANDWIDTH : 3Hz – 10KHz (-3Db)</b></p> <p><b>DISPLAY MODE :</b> X-Y with Z modulation and automatic spot blanking.</p> <p><b>VERTICAL SENSITIVITY :</b> 5Mv/cm-50V/cm with decadic digital attenuator and fine control between steps.</p> <p><b>CRT</b> 14” diagonal (Electro-magnetic deflection)</p> <p><b>D.C. OUTPUT :</b> 12V / 100 mA regulated supply for powering circuit under test.</p> <p><b>Accessories: Cable for all available input and Output,Manual(Hard and softcopy).</b></p>													
9.	<p><b>SATELLITE COMMUNICATION TRAINER</b></p> <p><b>Technical Specification :-</b></p> <p><b>Uplink Transmitter :</b> Transmitter with selectable frequency conversion 2450-2468 MHz up-linking selectable frequencies</p>	0	0	0	0	0	0	0	0	0	0	2	2	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Wide band RF amplifier. No manual matching required.  16 MHz Bandwidth  Frequency select switch and LED indication.  SIMULTANEOUS COMMUNICATION OF THREE DIFFERENT SIGNALS.  Communication of External broadband digital signal  Remote detection of light intensity  Coverage area 35m indoor &amp; 100m outdoor  Separate section of telemetry operation.  FM Modulation of Audio and Video.  Transmit Audio, Video, Digital data, PC data, Tone, Voice, function generator waveforms etc.  Separate section for telemetry operation.  <b>Inbuilt Tone generator:</b>  Frequency: 100Hz to 1 KHz.  Amplitude: 0V to 1Vpp.  Separate terminals provided for different inputs.  Power Supply: 230 V AC <math>\pm 10\%</math>, 50/60 Hz  USB for PC Communication  <b>Satellite Link :</b>  Transponder with selectable Uplink and downlinks frequency conversion.</p>													

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	<p>Light and Temperature sensors for telemetry operations.            Delay knob provided for simulated Transition delay experiment.            Optional Solar power supply for Transponder Unit.            Detachable Dish Antennas.            Power Supply: 230 V AC <math>\pm 10\%</math>, 50/60 Hz</p> <p><b>Downlink Receiver :</b>            Receiver with selectable frequency conversion.            Receives and demodulate three signals simultaneously.            Built in speaker for audio and video output.            Detachable Dish Antenna.            Power Supply: 230 V AC <math>\pm 10\%</math>, 50/60 Hz</p> <p><b>Included Accessories :</b>            Audio-Video Cable 2 Pin : 2 nos.            Patch Cord 16”(4 mm) : 2 nos.            Microphone : 1 no.            Dish Antenna : 4 nos.            USB Cable : 2 nos.            Pencil Cell (Microphone) : 1 no.            Mains cord : 3 nos.            PC Software : 1 no.</p>													

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	<b>Note : Sample required.</b>													
<b>10.</b>	<b>b/w tv receiver</b> <b>Technical Specifications Standard :</b> (1). Tuner section for B/W T.V. Model BTU100 (2). Video I.F section for B/W T.V. Model BVIF100 (3). Sound I.F section for B/W T.V. Model BSIF100 (4). Horizontal oscillator section for B/W T.V. Model BH100 (5). Vertical oscillator and output section for B/W T.V. Model BV100 (6). Video amplifier section for B/W T.V. Model BVA100 (7). Horizontal driver and EHT section for B/W T.V. Model BEHT100 (8). Linear regulated power supply section for B/W T.V. Model BRPS100 (9). Picture tube, yoke, speaker and cabinet section for B/W T.V. Model BPT100 <b>1. Mechanical Tuner used. 2. Power supply requirement - 12V/100mA. 3. AGC input 1.5 to 2.3 V. 4. VHF Channels 2 to 12. 1. IC used CA 3068 2. Power supply requirement - 12V/100mA 3. AGC Transistor - BC 558B. 4. IF Gain &amp; AGC Control. 1. IC used - CA 1190 2. Power supply requirement - 20V/700mA 3. Maximum Sound output - 2.0 Watts. 4. Volume and Tone Control. 1. IC used- CA 920. 2. Power supply requirement- 12V/100mA 3. Pull-in</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>22</b>		

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	range - + 4.5% 4. Horizontal Hold Control. 1. IC used- UPC 1031 2. Power supply requirement - 20V/2A 3. Vertical Linearity, Height and frequency control. 4. Thermal and over voltage protection. 1. Transistor used - BF 495C, BC 548B and BD 115. 2. Power supply requirement - 12V/100mA & 110V/100mA. 3. Contrast control and Brightness control. 4. Video Bandwidth - 5MHz. 1. Transistors used - BD 115, BU 205. 2. Power supply requirement - 110V/100mA 3. Linearity control. 4. Thermal Fuse Protection. 1. Output Voltage - 100V DC/300mA - Regulated 20V DC/700mA - Unregulated 12V DC/100mA - Regulated 6.3V AC/300mA - Unregulated. 2. AC/DC Fuse Protection. 3. LED Output Indicators. 1. Picture Tube - 20" Black and White 2. Cabinet - Wooden 3. Speaker - 8 Ohm," x 5" 4. Yoke - Built-in 5. CRT Socket with wires.													
11	<p>Audio amplifier circuit</p> <p>It must contain</p> <ul style="list-style-type: none"> <li>• 1x STA540 Audio Amplifier Kit PCB</li> <li>• 1x STA540 Dual/Quad Power Amplifier</li> <li>• 1x 6400BG Heat sink</li> <li>• 1x LM358 Op Amp</li> </ul>	2	2	2	2	2	2	2	2	2	2	2	22	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<ul style="list-style-type: none"> <li>• 3x LED - Basic Red</li> <li>• 1x SPDT Mini Power Switch</li> <li>• Resistors: <ul style="list-style-type: none"> <li>○ 5x 10K Ohm</li> <li>○ 3x 1.0K Ohm</li> <li>○ 2x 47k Ohm</li> <li>○ 2x 100k Ohm</li> <li>○ 2x 10k Giant Trimpot</li> </ul> </li> <li>• Capacitors: <ul style="list-style-type: none"> <li>○ 1x 0.1uF-50V-20%</li> <li>○ 1x 100uF - 25V</li> <li>○ 4x 0.47uF-25V</li> <li>○ 2x 10pF - 200V - 5%</li> <li>○ 3x 1uF - 50V - -20,+80%</li> <li>○ 1x 1000uF/25V</li> </ul> </li> <li>• 5x 2-Pin Screw Terminal - 3.5mm</li> <li>• 4x Nylon Round Female Standoff</li> <li>• 5x Phillips Screw with 4-40 Thread</li> <li>• 1x #4-40 Hex N</li> </ul>													
12.	<b><u>Frequency Modulation &amp; Demodulation Trainer</u></b> <b>Technical Specification</b>	4	4	4	4	4	4	4	4	4	4	5	45	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Frequency Modulation &amp; Demodulation Trainer Amplitude Limiter &amp; Filter  Onboard Audio Oscillator With adjustable Amplitude &amp; Low Pass Filter/ Amplifier : 3.4 KHz cutoff Frequency (with Adjustable Gain)  Frequency Modulators (Reactance and Varactor) ,with carrier frequency adjustable  Detectors (PLL Detuned Resonant Detector ,Quadrature Detector, Foster -Seeley  Detector, Ratio Detector), Amplitude Limiter ,  Min. 5 switched faults,, Minimum 50 test points.  Transmitter Output : 455 KHz  Power Consumption : 3 VA approximately  Product Tutorials : (Theory, procedure, reference results, etc)  <b>Software</b> : Teaching &amp; simulation software demonstrating analog communication  Techniques should be provided with hardware lock. Signals should be displayed in time &amp; frequency domain on software.  Accessories: Patch cords for all available input /Output, Mains Cords</p>													
<b>13</b>	<b>LED television</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>11</b>	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Technical Specification</b>  Display Type : LED, HD  Screen Size : 20 Inch (50cm)  Display Resolution : 1600 X 900 pixels  Contrast Ratio : Mega Contrast Ratio  Display Color : 16.7 Million Display Colors  Viewing Angle : 170 (H) X 170 (V)  Refresh Rate : 50 Hz  Video Interface : Video Input/ VGA input  Audio Interface : RCA L &amp; R  Audio Output Power : 8W X 2  Receiving System : PAL BG/I/DK and NTSC  Channel Coverage : VHF-2-12; UHF21-69; CATV (X~Z+2, S11S41)  Antenna Impedance : 75Ω Unbalanced  Application : Color Television/ PC Monitor  Connectivity  USB : 1 X USB 2.0 (MPEG, JPEG, MP3) HDMI : Yes (1 X HDMI)  Other Connectivity : RF In, AV In. Ypbpr In, VGA In, VGA Audio In, AV out  Composite A/V : Yes</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Component Video : Yes Analog Audio : Yes Test Points : 55 nos Switched Faults : 50 nos Remote Battery : UM-4, "AAA" 1.5V (2 nos) Mains Supply : 110-260V AC $\pm$ 10%, 50/60Hz Power Consumption : 35W <b>Experiments</b> Study the specifications of full HD LED Television Study the block diagram and operating principle of LED TV Study the functions of front panel controls/ keys of LED TV Study the functions of controls on Remote Study of circuit description and functions of different sections Study and observation of waveforms/signals of different sections Study and measurement of voltages of different sections Study of switch faults and troubleshooting in different sections													
14	<b>TDM Pulse Code Modulation Transmitter Trainer</b> <b>1. Crystal controlled Clock</b> <b>2. On-board Sine Generator (synchronized)</b>	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>3. 2 TDM Analog channels  4. PCM Transmitter  5. Fast and slow modes for real time operation and data flow examination.  6. Error check code option (Odd-Even parity, Hamming code)  7. 4 switched faults can be used for error check code &amp; fault simulation  8. PC-PC communication via RS 232</p> <p>Crystal Frequency 12 MHz  (1) On-board Generators: Adjustable Amplitude sine Generator of 1 &amp; 2 KHz frequency (synchronized)  (2) Variable Amplitude DC Level (2 nos.) Crystal Frequency 12 MHz  On-board Generators 1. Adjustable Amplitude sine Generator of 1 &amp; 2 KHz frequency (synchronized)</p> <p>2. Variable Amplitude DC Level (2 nos.)  Input channels Two</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Multi plexing Time Division Multiplexing Modulation Pulse code Modulation Sync Signal Pseudo Random Sync. Code Generator Error Check Code Off-Odd-Even-Hamming Operating Modes Fast 240kHz/channel (approx.) Slow 1Kz/channel (approx.) Interconnections 2mm/4mm sockets PC-PC communications2 channel via RS 232 Port 9 Pin D-type connector 2 nos. Baud rate Selectable from 300 to 2400 Accessories Manual (hard and soft copy), Set of patch cord, Line cord, RS 22 cables-2 nos. The following experiments must be performed in this Trainer :</b></p> <ol style="list-style-type: none"> <li><b>1. Pulse code Modulation</b></li> <li><b>2. A/D Converter, Parallel to serial Data conversion</b></li> <li><b>3. Time Division Multiplexing of PCM Data</b></li> <li><b>4. Synchronization by Pseudo random code</b></li> <li><b>5. Error check codes with switched faults</b></li> </ol>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>6. Connecting modes between transmitters &amp; receiver (1) Sync, clock, data lines connected Clock, data connected (3) Data only</p> <p>7. Study of the effect of induced faults</p> <p>8. PC – PC communication in 3 modes</p> <p>Note : With many test points</p>													
15	<p>Ask ,psk , fsk signal kit</p> <p>Modulation &amp; Demodulation Techniques : ASK , FSK , BPSK , DBPSK</p> <p>Internal Data Generator : Digital data</p> <p>Data Pattern : 8-Bit , 16-Bit , 32-Bit , 64-Bit</p> <p>Frequency : 2KHz, 4KHz, 8KHz, 16KHz</p> <p>Internal Carrier Generator : Direct Digital Synthesized</p> <p>Carrier Signal : Sine</p> <p>SMD LED Indicators : 24 nos. for Digital data selection, data frequency selection and technique selection</p> <p>Number of Test Points : 39 nos.(Gold plated)</p> <p>Crystal Frequency : 8MHz</p> <p>Selection Mode : Push switches</p> <p>Personalized Learning platform</p> <p>On-board Data Generator with various data patterns</p>	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Selectable data frequencies and data patterns DDS technology based Carrier Generator SMD LED indicators													
16	Delta modulation and adaptive delta modulation kit Modulation & Demodulation Techniques : Delta , Adaptive Delta , Sigma Delta First order , Sigma Delta Second order Internal Signal Generator : Direct Digital Synthesizer Types of Signal : Sine, Square, Triangle, Arbitrary signals Frequency : 500Hz, 1KHz, 2KHz, 3KHz External Signal : Types of Signal : Sine, Square, Triangle, Arbitrary signals Maximum Input Voltage : 3Vpp (Max.) +1.5V DC offset Frequency : 500Hz to 3.5KHz SMD LED Indicators : 48 nos for DDS signal selection DDS signal frequency selection Sampling selection Technique selection	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<b>Interconnect path</b> <b>Transmission Effect : Attenuation (7dB &amp; 10dB) , Noise , Filter</b> <b>Crystal Frequency : 8MHz</b> <b>Sampling Frequencies : 16KHz, 32KHz, 64KHz, 128KHz, 256KHz</b> <b>Integrator step : Normal &amp; 3 times</b> <b>Selection Mode : Push switches</b> <b>Number of Test Points : 46 nos (Gold plated).</b> <b>Low Pass Filter : Cut-off frequency-5KHz</b> <b>Digital Filter : Decimation filter (16:1)</b>													
17	<b>PCM GENERATION AND RECONSTRUCTION</b> <b>Technical Specification</b> Modulation & Demodulation Techniques : PCM , DPCM , CVSD Internal Signal Generator : Direct Digital Synthesizer Types of Signal : Sine, Square, Triangle, Arbitrary signals Frequency : 500Hz, 1KHz, 2KHz, 3KHz External Signal Types of Signal : Sine, Square, Triangle, Arbitrary signals Maximum Input Voltage : 3Vpp (Max.) +1.5V DC offset	0	0	0	0	0	0	0	0	0	0	5	5	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Frequency : 500Hz to 3.5KHz SMD LED Indicators : 44 nos for DDS signal selection DDS signal frequency selection Sampling selection Technique selection Interconnect path Transmission Effect : Attenuation (7dB & 10dB) , Noise , Filter Number of Test Points : 38 nos.(Gold plated) Learning Material : CD (Theory, procedure, reference results, etc) Crystal Frequency : 8MHz Sampling Frequencies : 4KHz, 8KHz, 16KHz, 32KHz Line Speed : 32KHz, 64KHz, 128KHz, 256KHz Selection Mode : Push switches Low Pass Filter : Cut-off frequency-5KHz													
18	<b>PAM-PPM-PWM MODULATION AND            DEMODULATION TRAINER</b> <b>Technical Specifications</b> Modulation & Demodulation Techniques : PAM , PWM , PPM , Line Coding Techniques	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Internal Signal Generator : Direct Digital Synthesizer  Types of Signal : Sine, Square, Triangle, Arbitrary signals.  Frequency : 500Hz, 1KHz, 2KHz, 3KHz  External Signal :  Types of Signal : Sine, Square, Triangle, Arbitrary signals  Maximum Input Voltage : 3Vpp (Max.) +1.5V DC offset  Frequency : 500Hz to 3.5KHz  Sampling/Ramp Frequencies : 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz  SMD LED Indicators : 46 nos for DDS signal selection ,  DDS signal frequency selection  Sampling selection , Technique Selection  Interconnected path.  Crystal Frequency : 20MHz  Selection Mode : Push switches  Random Data : 8 Bit/ 16 Bit/ 32 Bit  (For line Coding)  Test Points : 29 nos. (Gold Plated)  Learning Material : Online (Theory, procedure, reference results, etc).  Data Frequency : 500Hz, 1KHz, 2KHz, 3KHz  Low Pass Filter : Cut-off frequency-5KHz</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Power Supply : 110V - 260V AC, 50/60Hz Operating Condition : 0-40 C, 85% RH Included Contents : 2mm Patch cord - 2nos													
19	<b>AM MODULATOR &amp; DEMODULATOR TRAINER KIT</b> <b>Technical Specifications</b> <b>AM Transmitter</b> Audio Oscillator : With adjustable Amplitude & Frequency (300 Hz - 3.4 KHz) Audio Output : Amplifier with speaker Modulators : Balanced Modulator with Band pass Filter (1 MHz) - 2 nos. Balanced Modulator : 1 No. (455 KHz) Ceramic Bandpass Filter : 1 No. (455 KHz) Carrier Frequency : 1 MHz (Oscillator controlled) Transmitter Amplifier Output: (Gain adjustable) DSB (1 MHz), SSB (1.445 MHz) connected to Antenna/cable Switched Faults : 8 nos. Interconnections : 2mm Banana socket Test Points : 27 nos <b>AM Receiver</b>	0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Construction : Superhetrodyne            Frequency Range : 980 KHz to 2060 KHz            Intermediate Frequency : 455 KHz            Input Circuits : 1) RF Amplifier            2) Mixer            3) Local Oscillator            4) Beat Frequency Oscillator            5) IF Amplifier 1            6) IF Amplifier 2            Tuning : With variable capacitor (ganged)            Dial marking on board            Receiving media : Telescopic antenna / Cable            Detectors: 1) Diode detector (for DSB)            2) Product detector (for SSB)            Audio Output : Amplifier with speaker            Automatic Gain Control : Switchable            Switched Faults : 8 nos.            Interconnections : 2 mm Banana sockets            Test points : 30 nos.            Power Supply : 110-220 V AC <math>\pm 10\%</math>, 50/60Hz            Power Consumption : 3 VA approximately            Operating Conditions : 0-40 C, 80% RH</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
20	<p><b>DTH system</b>  <b>Technical Specification</b>  RF Input : 950 - 2150 MHz  Input Impedance : 75 Ω  RF Output 470 MHz to 862MHz  Dish Input : F - Connector Composite  Video Output : RCA type  Audio Output : RCA type (L/R)  TV Output : RCA type  Video Output : PAL IF  Frequency : 70MHz  Video Output level : 1Vpp (75 load)  Uplink Satellite : INSAT 4B  Controls : Channel Up/Down, Volume Up/Down, Power On/Off.  Test Points : 17 nos.  Product Tutorials : Online (Theory, procedure, reference results, etc),  Operating Conditions : 0-40 C, 85% RH  Power Supply : 110V - 260V AC, 50Hz/60Hz  <b>Included Accessories</b>  Mains cord, Power Supply, Remote, RF Cable, Audio/Video</p>	1	1	1	1	1	1	1	1	1	1	1	11	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(* Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Card, Dish Antenna with accessories, LNB Pencil Cell : 2 nos. Dish Connecting wire : 10 meter (approx.) Introduction and basics of DTH system Understanding various components of DTH receiver system Study of various blocks of DTH system Study of working principle of DTH system Various types of fault creation and troubleshooting													
21	<b>CRO with built in Function Generator and Regulated Power Supply(5 in one test bench lab)</b> <b>TEST LAB(5 IN 1) OSCILLOSCOPE:</b> <b>Operating Modes:</b> <b>Channel 1, Channel 2, Channel 1 &amp; 2 alternate or chopped (approx.350KHz), X-Y (Ratio 1:1 Input via CH 2), Add/ Sub CH 1± CH 2, Invert CH 2</b> <b>Vertical deflection (Y) :</b> <b>(Identical channels)</b> <b>Bandwidth: DC-30 MHz (-3dB)</b> <b>DC-40 MHz (-6dB)</b> <b>Rise Time: 12 ns (approx.).</b> <b>Deflection coefficients:</b>	0	0	0	0	0	0	0	0	0	0	2	2	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Micro-controller based 12 calibrated steps 5mV/Div - 20V/Div (1-2-5 sequence). Electronic Control Display on 80 character backlit Alphanumeric LCD.</b>  <b>Accuracy: ± 3%</b>  <b>Input Impedance: 1MΩ    30pF (approx.)</b>  <b>Input coupling: DC-AC-Gnd</b>  <b>Maximum Input voltage: 350V (DC + Peak AC).</b>  <b>Time Base:</b>  <b>Time coefficients: Micro-controller based 18 calibrated steps, 0.5 □s/Div- 0.2 s/Div (1-2-5 sequence) with magnifier X10 to 50 ns/Div, with variable control to 20 ns/Div. Electronic Control Display on 80 character backlit Alphanumeric LCD.</b>  <b>With ALT selection (in X- menu), magnified sweep and normal sweep can be seen simultaneously.</b>  <b>When Auto Time Base key is pressed, the TB range is selected automatically depending upon the input signal frequency</b>  <b>Accuracy: ± 3% (in Cal position).</b>  <b>Hold off : Variable control for Stable Triggering.</b>  <b>Ramp output: 5 V<sub>pp</sub> (approx.).</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<b>Trigger System:</b> <b>Modes: Auto / Level</b> <b>Source: CH 1, CH 2, Alt-CH 1/CH 2, Ext.</b> <b>Slope: Positive or Negative</b> <b>Coupling: AC, Line Trigger</b> <b>Sensitivity: Internal 5mm, External 0.8V (approx.).</b> <b>Trigger Bandwidth: 50 MHz</b> <b>Horizontal Deflection (X):</b> <b>Bandwidth: DC - 2.5 MHz (-3 dB).</b> <b>User Manual with theory (hard &amp; softcopy )</b> <b>With BNC TO BNC(2 PC WITH EACH CRO),BNC TO TEST(2 PC WITH EACH CRO),BNC TO CROCODILE(2 PC WITH EACH CRO)</b>													
22	<b>Digital Multimeter</b> <b>Technical Specification</b> Digits : 3.5 digits Voltage DC : Range-1000V Accuracy= +/- (0.09%+2) Voltage AC : Range-1000V Accuracy= +/- (0.5%+5) Current DC : Range-10A	10	10	10	10	10	10	10	10	10	10	10	110	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Current AC : Accuracy= +/- (0.5%+5) Range-10A</p> <p>Resistance : Accuracy= +/- (0.75%+5) Range-60M Ohm</p> <p>Capacitance : Accuracy= +/- (0.4%+1) Range-1000 micro farad</p> <p>Frequency : Accuracy= +/- (2%+5) 100 KHz</p> <p>RMS measurement : Yes provided</p> <p>Direct reading of various sensor signals : YES</p> <p>Safe measurement of current : Current shutter are provided</p> <p>Frequency filter : Provided for VFD &amp; other tests applications</p> <p>Data Logging : 1600 in logging mode</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Dual display and Bar Graph Provided <b>Note : Sample required.</b>													
23	<b>GSM Cell Phone Trainer</b>  <b>The Trainer should have the following features:</b> 1. Real Time Mobile operation 2. Operates on dual band frequency network(GSM900/DCS1800) 3. Full understanding of dual mobile phone working 4. Frequency measurement and band working 5. Provides study of all sections in mobile phone 6. TX/RX frequency measurement 7. 2G technology & GMSK signals 8. GSM data rate 9. Detail study of User Interface Control Signals 10.Detail study of dual SIM operation 11.Battery identification and charging study 12.Switched faults 13.CD containing mobile phone working presentation.	0	0	0	0	0	0	0	0	0	2	2		



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Charging Circuit, Clock, User interface such as Buzzer, Vibrator , LEDs.  Features can be set : Screen savers, Ring tones, Logos, SMS etc..  CPU : 208MHz  Switch Faults : 35 nos.  Test Point : 58 nos.  Accessories included : Battery, Main cord, Manual (hard and soft copy), hands Kit, CD containing</p> <p>The Trainer should have made the following experiments :</p> <ol style="list-style-type: none"> <li>1. To study and measure frequency band</li> <li>2. To study and measure the GMSK signals such as Tx I/Q,RxI/Q.</li> <li>3. To study and observe the system CLK.</li> <li>4. Observation of Audio signal</li> <li>5. To study and measure the power supply.</li> <li>6. Study of charging phenomena with fault insertion.</li> <li>7. Study and measure PWM signal of UI circuit such as Vibrator, LED, Buzzer.</li> <li>8. Measurement of LCD with fault insertion.</li> </ol>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	9. Keypad study with fault insertion 10.Observe study with fault insertion. 11.Observe and measure the SIM card CLK with fault insertion.													
24	<b>FAX TRAINER</b> <b>Specifications :</b> 1. Power supply requirement : 230V AC, 50Hz. 2. Communication Line : Public switched Telephone Network and PABX 3. Compression scheme : Modified Huffman, Modified READ (MH/MR) 4. Modem Speed : 9600 BPS 5. Scanning Scheme : Flat Bed using Contact image sensor 6. Print Method : Thermal. 7. Paper width : 8.5” 8. Paper Roll size : 30 meters max. 9. External Phone connection : 10.Phone memory : 10 numbers, Automatic dialing system. 11.Controls / Buttons : Ringer / Volume control,	0	0	0	0	0	0	0	0	0	0	1	1	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(* Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Start button, Stop button, redial memory            12.Mode switch : Pulse / Tone switch.            13.Sandard accessories : A Training Manual (hard and soft copy)            Experiments :</p> <ol style="list-style-type: none"> <li>1. To study the block diagram and working principle.</li> <li>2. To study telephone section.</li> <li>3. To study scanner section.</li> <li>4. To study modem section.</li> <li>5. To understand / observe the function of external and internal controls.</li> <li>6. To understand and perform operational procedure.</li> <li>7. To understand the alignment and adjustment procedure.</li> <li>8. To demonstrate and understand different types of faults.</li> <li>9. To study faults diagnosis method.</li> <li>10.To study data sheet of IC's used in telephones.</li> </ol> <p>Note: With many test &amp; fault points</p>													
25	RF SIGNAL GENERATOR	5	5	5	5	5	5	5	5	5	5	5	55	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Technical Specification</b>  <b>Operating Modes :</b> Sine, Square, Triangle, DC. Free running or external frequency modulated, with or without DC offset  Frequency Range : 0.1 Hz - 1 MHz in 7 decade steps, variable control between steps  Frequency Accuracy : <math>\pm 0.5\%</math>  Frequency Range and Mode : Microcontroller based Selection  Frequency Stability : <math>&lt;0.1\%</math> / h or <math>0.3\%</math> / 24 h at constant ambient temp. (medium position of frequency control)  <b>Waveform Characteristics</b>  Sine Wave Distortion : 0.1 Hz to 100 KHz : max.0.5%  100 KHz to 500 KHz : max. 1.5%  500 KHz to 1 MHz : max. 3%  Square Wave Risettime : max. 70 ns. (10 to 90 %)  Overshoot : <math>\leq 5\%</math> (when output is terminated with 50 W )  Triangle Non-Linearity : <math>\leq 1\%</math> (up to 100 KHz) approx.  <b>Outputs</b>  Signal Output : (short-circuit proof) BNC  Impedance : 50 <math>\Omega</math> / 600 <math>\Omega</math> switchable  Output Voltage : Max.15 Vpp into 50 <math>\Omega</math> , 30 Vpp open</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(* Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	circuit Level Accuracy : $\pm(0.2 \text{ V}+2 \text{ digit})$ Attenuation : 2 steps : $-20 \text{ dB} \pm 0.2 \text{ dB}$ each Variable attenuation : 0 to $-20 \text{ dB}$ total of $-60 \text{ dB}$ Amplitude Flatness : (Sine /Triangle) with $50 \Omega$ termination 0.1 Hz to 100 KHz - max. 0.2 dB 100 KHz to 1 MHz - max.0.5 dB DC Offset : $\pm 12.5 \text{ V}$ adjustable Trigger Output : TTL more than 4 V, CMOS level adjustable up to 14 V approx. <b>Note : Sample required.</b>													
26	<b>UPS 2KVA</b> <b>S.No. Parameter:- Details</b> <b>1.Type of UPS :- TRUE ONLINE</b> <b>2. CAPACITY :- 2 KVA</b> <b>3. Technology :- The UPS shall be based on IGBT, and microprocessor controlled for providing better sine wave output</b> <b>4 .AC input voltage range :- 175 V to 275 V AC, Single phase.</b> <b>5. Input Frequency :- 47-53 Hz, (Suitable for working withGenerator supply)</b> <b>6. UPS power factor at rated load :- 0.9 or better</b> <b>7. AC output voltage :- 230V AC <math>\pm 2\%</math> , Single Phase</b>	4	4	4	4	4	4	4	4	4	4	4	44	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>8. Output frequency :- 50 Hz ± 1%</b>  <b>9. Waveform :- Sinusoidal</b>  <b>10. Efficiency :- 90% (at rated output voltage and frequency)</b>  <b>11. Total harmonics distortion at :- 2% maximum</b>  <b>12. Indications :- Standard visual indications for proper function of UPS (i)</b>  <b>13. Protections :- Over &amp; Under Voltage cut-off, Over load, and short</b>  <b>14. Back up time :- 2 kVA=8 Hour at 400 Watt load</b>  <b>15. Type of batteries :- Sealed Maintenance Free (SMF) Lead Acid battery (VRLA )</b>  <b>16. Remote monitoring port :- SNMP based monitoring with software</b></p>													
27	<p><b>TELEVISION LCD</b>  <b>Technical Specification</b>  <b>Display</b>  Display Type : LCD, HD  Screen Size : 22 Inch (55cm)  Display Resolution : 1920 X 1080 pixels  Contrast Ratio : Super Contrast Ratio  Display Color : 16.7 Million Display Colors</p>	1	1	1	1	1	1	1	1	1	1	1	11	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Viewing Angle : 170(H) X 170(V) Refresh Rate : 60 Hz <b>Video Interface</b> : Video Input/ VGA input <b>Audio Interface</b> : RCA L & R <b>Audio Output Power</b> : 10W X 2 <b>Receiving System</b> : PAL BG/I/DK and NTSC <b>Channel Coverage</b> : VHF-2-12; UHF21-69; CATV (X~Z+2, S11S41) <b>Antenna Impedance</b> : 75Ω Unbalanced <b>Application</b> : Color Television/ PC Monitor <b>Connectivity</b> USB : 1 X USB 2.0 (MPEG, JPEG, MP3) HDMI : Yes (1 X HDMI) Other Connectivity : RF In, AV In. Ypbpr In, VGA In, VGA Audio In, AV Out <b>Composite A/V</b> : Yes <b>Component Video</b> : Yes <b>Analog Audio</b> : Yes <b>Test Points</b> : 55 nos <b>Switched Faults</b> : 50 nos <b>Remote Battery</b> : UM-4, "AAA" 1.5V (2 nos)													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<b>Mains Supply : 110-260V AC <math>\pm</math> 10%, 50/60Hz</b> <b>Power Consumption : 65W</b> <b>Included Accessories : Remote, Mains cord , 34 Pin FRC cable, 15 Pin D type cable, 4 Pin High voltage cable each 1 no.</b>													
28	<b>TEST LAB(5 IN 1) OSCILLOSCOPE:</b> <b>Operating Modes:</b> <b>Channel 1, Channel 2, Channel 1 &amp; 2 alternate or chopped (approx.350KHz), X-Y (Ratio 1:1 Input via CH 2), Add/ Sub CH 1<math>\pm</math> CH 2, Invert CH 2</b> <b>Vertical deflection (Y) :</b> <b>(Identical channels)</b> <b>Bandwidth: DC-30 MHz (-3dB)</b> <b>DC-40 MHz (-6dB)</b> <b>Rise Time: 12 ns (approx.).</b> <b>Deflection coefficients:</b> <b>Micro-controller based 12 calibrated steps</b> <b>5mV/Div - 20V/Div (1-2-5 sequence). Electronic Control Display on 80 character backlit Alphanumeric LCD.</b>	0	0	0	0	0	0	0	0	0	2	2		

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Accuracy: <math>\pm 3\%</math>  Input Impedance: <math>1M\Omega \parallel 30pF</math> (approx.)  Input coupling: DC-AC-Gnd  Maximum Input voltage: 350V (DC + Peak AC).  Time Base:  Time coefficients: Micro-controller based 18 calibrated steps, 0.5 <math>\mu</math>s/Div- 0.2 s/Div (1-2-5 sequence) with magnifier X10 to 50 ns/Div, with variable control to 20 ns/Div. Electronic Control Display on 80 character backlit Alphanumeric LCD.  With ALT selection (in X- menu), magnified sweep and normal sweep can be seen simultaneously.  When Auto Time Base key is pressed, the TB range is selected automatically depending upon the input signal frequency  Accuracy: <math>\pm 3\%</math> (in Cal position).  Hold off : Variable control for Stable Triggering.  Ramp output: 5 V<sub>pp</sub> (approx.).  Trigger System:  Modes: Auto / Level  Source: CH 1, CH 2, Alt-CH 1/CH 2, Ext.  Slope: Positive or Negative</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Coupling: AC, Line Trigger</b>  <b>Sensitivity: Internal 5mm, External 0.8V (approx.).</b>  <b>Trigger Bandwidth: 50 MHz</b>  <b>Horizontal Deflection (X):</b>  <b>Bandwidth: DC - 2.5 MHz (-3 dB).</b>  <b>X-Y mode: Phase Shift &lt; 3° at 60 KHz</b>  <b>Deflection Coefficients: Micro-controller based 12 calibrated steps 5mV/Div- 20V/Div (1-2-5 sequence).</b>  <b>Electronic Control Display on 80 character backlit Alphanumeric LCD.</b>  <b>Input Impedance: 1MΩ    30pF (approx.)</b></p> <p><b><u>Single Touch Component Tester:</u></b>  <b>Test Voltage: Max 8.6 V<sub>rms</sub> (Open Circuited)</b>  <b>Test Current: Max 8 mA<sub>rms</sub> (Short Circuited)</b>  <b>Test Frequency: 50Hz, Test circuit grounded to chassis.</b>  <b>Continuity Tester: Beeper sounds &lt; 75Ω (approx).</b></p> <p><b><u>Function Generator</u></b>  <b>Operating Modes: Sine, Square, Triangle, Ramp, Pulse and TTL outputs</b>  <b>Frequency Range: 0.3 Hz - 2 MHz / 1 Hz - 10 MHz (Sine)</b>  <b>Frequency Accuracy: ± 0.5 %</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Frequency Range &amp; Mode Selection: Microcontroller based</b>  <b>Sine Wave Distortion: 1 % (typical)</b>  <b>Square Wave Rise Time &amp; Fall Time: &lt;=50 Ns</b>  <b>Frequency Display: 16 × 2 character LCD Display</b>  <b>Output Impedance: 50 Ohm</b>  <b>Output Voltage: 20 Vpp O.C.</b>  <b>Attenuation: 20 dB, 40 dB &amp; 20 dB (variable)</b>  <b>DC Offset: ±5 V adjustable</b></p> <p><b><u>100 MHz Frequency Counter</u></b>  <b>Frequency Ranges : 20Hz to 100MHz</b>  <b>Ranging : Auto ranging (Microcontroller controlled)</b>  <b>Inputs : External signal through BNC</b>  <b>20mV r.m.s over 10 Hz to 50MHz ,</b>  <b>50 mV r.m.s. over 50MHz to 100MHz</b>  <b>Max. 5V p-p</b>  <b>Input Impedence: Ext input 1MΩ  30pF</b>  <b>Display: 16x2 Alpha numeric LCD</b></p> <p><b><u>DC Power Supply</u></b>  <b>Fixed Output Voltage : 5 V / 500 mA</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>+12 V / 250 mA</b>  <b>-12 V / 250 mA</b>  <b>Ripple : □□8 mV rms</b>  <b>Tolerance : ± 0.2 V</b>  <b>Line Regulation : 2 %</b>  <b>5 V is floating &amp; ±12 V has common ground but floating from scope chassis.</b>  <b>Manual (hard and soft copy), all necessary cables.</b></p> <p><b><u>General Information</u></b>  <b>Cathode Ray Tube : 140 mm Rectangular tube with internal graticule. P31 Phosphor</b>  <b>Accelerating potential : 2 KV approx.</b>  <b>Display : 8×10 cm</b>  <b>Trace rotation : Adjustable on front panel</b>  <b>Calibrator : Square Wave Generator 1 KHz approx.</b>  <b>0.2 V ±1 % for probe compensation</b>  <b>Stabilized Power Supply : All operating voltages including the EHT</b>  <b>Mains Supply : 230 V ±15%, 50 Hz .</b>  <b>Manual (hard and soft copy), all necessary cables.</b></p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
29	<p><b>Mono chrome tv trainer kit</b></p> <p><b>(1). Tuner section for B/W T.V. Model BTU100 (2). Video I.F section for B/W T.V. Model BVIF100 (3). Sound I.F section for B/W T.V. Model BSIF100 (4). Horizontal oscillator section for B/W T.V. Model BH100 (5). Vertical oscillator and output section for B/W T.V. Model BV100 (6). Video amplifier section for B/W T.V. Model BVA100 (7). Horizontal driver and EHT section for B/W T.V. Model BEHT100 (8). Linear regulated power supply section for B/W T.V. Model BRPS100 (9). Picture tube, yoke, speaker and cabinet section for B/W T.V. Model BPT100</b></p> <p><b>1. Mechanical Tuner used. 2. Power supply requirement - 12V/100mA. 3. AGC input 1.5 to 2.3 V. 4. VHF Channels 2 to 12. 1. IC used CA 3068 2. Power supply requirement - 12V/100mA 3. AGC Transistor - BC 558B. 4. IF Gain &amp; AGC Control. 1. IC used - CA 1190 2. Power supply requirement - 20V/700mA 3. Maximum Sound output - 2.0 Watts. 4. Volume and Tone Control. 1. IC used- CA 920. 2. Power supply requirement- 12V/100mA 3. Pull-in range - + 4.5% 4. Horizontal Hold Control. 1. IC used- UPC 1031 2. Power supply requirement - 20V/2A 3. Vertical</b></p>	2	2	2	2	2	2	2	2	2	2	2	22	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Linearity, Height and frequency control. 4. Thermal and over voltage protection. 1. Transistor used - BF 495C, BC 548B and BD 115. 2. Power supply requirement - 12V/100mA &amp; 110V/100mA. 3. Contrast control and Brightness control. 4. Video Bandwidth - 5MHz. 1. Transistors used - BD 115, BU 205. 2. Power supply requirement - 110V/100mA 3. Linearity control. 4. Thermal Fuse Protection. 1. Output Voltage - 100V DC/300mA - Regulated 20V DC/700mA - Unregulated 12V DC/100mA - Regulated 6.3V AC/300mA - Unregulated. 2. AC/DC Fuse Protection. 3. LED Output Indicators. 1. Picture Tube - 20" Black and White 2. Cabinet - Wooden 3. Speaker - 8 Ohm," x 5" 4. Yoke - Built-in 5. CRT Socket with wires.</b></p>													
30	<p><b>tv pattern generator</b>  <b>Technical Specifications } Test signals : } Vertical bar pattern } Horizontal bar pattern } Circle Pattern } 100% White Pattern Decoder } Video carrier } Lower VHF band I : 41-68 MHz Upper VHF band III : 174-230 MHz RF output &gt; 100 mV p-p (75 Ohm impedance) All patterns are available modulated on IF carrier. The 38.9MHz is crystal derived. This is extremely useful for</b></p>	0	0	0	0	0	0	0	0	0	0	2	2	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>color adjustments. Sound : 1 KHz Sine Wave Chroma Section : System PAL 4.433619 MHz crystal derived Color Burst : 10 cycles <math>\pm</math> 2 cycle Power Supply : 220/110V ,50 Hz /60 Hz on request Power consumption : 5.9 VA (approximately) 0 Operating Conditions : 0-40 C, 85% RH Learning Material : CD (Theory, procedure, reference results, etc), Online (optional)</p> <p>It also must have Auto generated composite video signal }Standard &amp; stable colour composite video signal }14 standard patterns : Check pattern,Horizontal bar pattern, Vertical bar pattern, Horizontal-Vertical Bar pattern, Dot pattern, Circle pattern, White pattern, Colour Bar pattern, Red colour pattern, Green colour pattern, Blue colour pattern, Yellow colour pattern, Magenta colour pattern, Cyan colour pattern one at a time }Manual output selection for band I &amp; III</p> <p>Test Patterns</p> <p>1. 8 Color Bars 2. Checker Board 3. Crosshatch 4. Dots</p> <p>5. White 5. Red 7. Blue 8. Green</p> <p>9. Magenta 10. Cyan 11. Yellow 12. Black</p> <p>14. Decoder Output</p>													

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	<p>15. RF : Channel 4 and Channel 5 to 12</p> <p>16. IF : All patterns are available modulated on IF carrier. The 38.9MHz is Xtal derived. This is extremely useful for color adjustments.</p> <p>17. RF Output Voltage : 10mV or higher</p> <p>18. Attenuator : 75dB in 5 steps of 3 x -20dB, -10dB and -5dB for IF and Ch4.</p> <p>19. Video : 1 V p-p approx into 75 ohms</p> <p>20. Sound : 5.5 MHz carrier with 1 KHz modulation ON/OFF</p> <p>21. Trig Outputs : Line and Frame frequencies</p> <p>22. Ext Audio Input : 100Hz to 6KHz approx</p> <p>23. Sync - Line Freq : 15625 Hz Xtal derived, Frame 312</p> <p>24. Chroma Section : System PAL 4.433619 MHz Xtal derived Color Burst - 10 cycles +/- 2cycle</p> <p>25. Chroma : ON/OFF</p> <p>26. Accesories : Operating Manual, Cable</p>													
31	<p><b>Audio cd player trainer kit</b></p> <p><b>Technical Specification</b></p> <p>Signal System : PAL/ NTSC</p> <p>Playable Discs formats : DVD-VIDEO; DVD+/-R/RW</p> <p>Audio CD; CD-R/RW (All 8 cm/12 cm discs)</p>	2	2	2	2	2	2	2	2	2	2	2	22	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>File Compatibility : “.avi/.mpg/.mpeg/.mp3/.wma/.jpg/.jpeg”            Sampling frequency : 8 to 48 KHz (MP3), 32 to 48 KHz (WMA)            Bit Rate : 8 to 320 kbps (MP3), 32 to 190 kbps (WMA)            LASER : Semiconductor LASER            LASER Wave Length : 650/635 nm            Modulation : EFM            On-Screen Display : Title number, Chapter number, Playing time, Channel, Language, Subtitle, Angle            Video Output : 1.0V (p-p), 75 ohm, Sync negative, RCA jack x 1            Audio Output : 2.0Vrms (1 KHz, 0dB), 600 ohm RCA jack (L/R) x 1            Panel Control : Power On/Off, Open/Close, Play/Pause            Remote Control Function : Power, Stop, Open/Close, Play, Pause/Step, Scan, Skip, Title, Navigation keys, Audio, DVD Menu, Display, Enter, Return, Zoom, etc            Remote Control Battery : 1.5V, (R03, AAA size)            USB Reader : 1 X USB 2.0            Power Supply : AC 110-240V 50/60Hz            Power Consumption : 11W            Bus Power Supply (USB) : DC 5V, 500 mA</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Product Tutorials : Online (Theory, procedure, reference, results etc) Included Accessories : Mains Cord, Remote, Pencil Cell, A/V Cable, DVD -1 no													
32.	<b>Antenna training system</b> <b>Technical Specification</b> Antenna training system with following antennas : 1. Simple Dipole $\lambda/2$ 2. Simple Dipole $\lambda/4$ 3. Simple Dipole $3\lambda/2$ . 4. Folded Dipole $\lambda/2$ 5. Yagi-UDA Folded Dipole (3E) 6. Yagi-UDA Folded Dipole (5E) 7. Yagi-UDA Simple Dipole (5E) 8. Yagi-UDA Simple Dipole (7E) 9. Hertz Antenna 10. Zeppelin Antenna 11. $\lambda/2$ Phase Array 12. $\lambda/4$ Phase Array 13. Combined Co-linear Array : . 14. Broad Side Array	0	0	0	0	0	0	0	0	0	2	2		

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	15. Log Periodic Antenna 16. Cut Paraboloid Antenna 17. Loop Antenna 18. Rhombus Antenna 19. Ground Plane 20. Slot Antenna $\lambda/2$ 21. Helix Antenna 22. Detector Antenna Waveforms : Sine RF Generator : 750 MHz approximately(output adjustable) Tone Generator : 1 KHz approximately(output adjustable) Directional Coupler : Forward & Reverse (selectable) Matching Stub : Slider type Antenna Rotation : 0-360 deg. Resolution 1 deg. Receiving Antenna : Folded dipole with reflector Detector Display : Level adjustable meter Interconnections : 2 mm Banana sockets Power Supply : 230 V,10% 50/60 Hz Power Consumption : 3 VA approximately o Operating Conditions : 0-40 C, 80% RH Learning material : Online (Theory, procedure, reference results, etc), Self Contained Simple and Student Friendly platform													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Hands on set-up for measuring and plotting radiation Patterns of 20 different Antennas  On board RF &amp; Tone Generators  Antenna Matching Stub  Characteristics and SWR Measurement  Transmitting and Receiving levels observed On Built- in Meters  Functional Block indicated Onboard Mimics  Fully Documented Operating Manual and Polar Charts  "Antenna kit" for fabricating Special Antenna  Compact Design  Light weight  Scope of Learning  Polar plots &amp; polarization  Wave modulation &amp; demodulation  Antenna gain, Antenna beam width study Element current, Front-back ratio study  Antenna matching  Antenna radiation with distance  <b>Note : Sample required.</b></p>													
<b>33.</b>	<b>Spectrum Analyzer (9KHz to 1.5GHz) Technical Specification</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>11</b>	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Frequency Range : 9KHz – 1.5GHz RBW : 100Hz DANL : Normalised to 1Hz Resolution : 1Hz Resolution bandwidth (-3 dB) : 10 Hz to 1 MHz, in 1-3-10 sequence RBW uncertainty : <5% (nom.) Resolution filter shape factor : (60 dB: 3 dB) <5 (nom.) Video bandwidth (-3 dB) : 1 Hz to 3 MHz, in 1-3-10 sequence Level Display Logarithmic level axis : 1 dB to 200 dB Linear level axis : 0 to reference level Number of display points : 601 Number of traces : 3 + math trace <b>Note : Sample required.</b>													
34.	<b>30MHz Oscilloscope with color LCD Digital Readout &amp; Component Tester</b> <b>. Technical Specification :-</b> <u>Operating Modes</u> Channel I, Channel II, Channel I & II alternate or chopped (approx. 350 KHz), X-Y operation (Ratio 1:1 Input via CH	3	3	3	3	3	3	3	3	3	3	3	33	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>II), Add/ Sub CH,I CH II, Invert CH II</p> <p><u>Vertical Deflection</u> (Identical channels) Bandwidth : DC-30 MHz (-3 dB) DC-40 MHz (-6 dB) Risetime : 12 ns approx. Deflection coefficients : Microcontroller based 12 calibrated steps 5 mV /div. - 20 V / div. (1-2-5 sequence). Electronic control. Display on Color TFT LCD display Accuracy : <math>\pm 3\%</math> Hold-Off : Variable Control for stable triggering Input Impedance : 1 M<math>\Omega</math> II 30 pF approx. Input coupling : DC-AC-GND Maximum Input voltage : 350 V (DC + Peak AC) Timebase Time coefficients : Microcontroller based 18 calibrated steps, 0.5 <math>\mu</math>s/div.-0. 2s/div. (1-2-5 sequence). Electronic control. Display on Color TFT LCD Accuracy : <math>\pm 3\%</math> in Cal position <u>Trigger System</u> Modes : Auto / Level Source : CH I, CH II, Alternate, External</p>													

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p>Slope : Positive or Negative  Sensitivity : Int 5 mm, Ext 0.8 V approx.  Trigger Bandwidth : 50 MHz  <u>Horizontal Deflection (x) :</u>  Bandwidth : DC-2.5 MHz (-3 dB)  X-Y mode : Phase Shift &lt; 3° at 60 KHz  Deflection coefficients : Microcontroller based 12 calibrated steps 5 mV/div.-20 V/div. ( 1 - 2 - 5 sequence) Electronic control. Display on color TFT LCD.  Input Impedance : 1 MΩ II 30 pF approx.  Built-in Single Touch Component Tester ,Reference diagrams for component testing on 262K Color TFT LCD display  <b>PC Interface : USB and PC Software to control time base and attenuators remotely</b>  Cathode Ray Tube : 140 mm Rectangular tube with internal graticule.  Calibrator : Square Wave generator 1 KHz approx., 0.2 V ±1 % for probe compensation  Z Modulation : TTL level  <b>Note : Sample required.</b></p>													
35	<b>Hand Held Multimeter Description: 3.5 Measurement</b>	0	0	0	0	0	0	0	0	0	0	+	4	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<p><b>Range: True RMS: 6,000 &amp; equilent size</b></p> <ul style="list-style-type: none"> <li>➤ Basic True RMS Measurements (Voltage, Current, Resistance, Diode, Capacitance, Frequency)</li> <li>➤ DC Voltage Range from 600mV – 600V, accuracy: 0.5%</li> <li>➤ DC Current Range: from 60μA – 10A, with accuracy of 1%</li> <li>➤ AC Voltage Range: 600mV – 600V with accuracy of 1%</li> <li>➤ AC Current range: 60μA – 10A with accuracy of 1.5%</li> <li>➤ Resistance range: 600Ω - 60MΩ with accuracy of 1.5%</li> <li>➤ Capacitance range: 1000nF – 10mF with accuracy of 1.9%</li> <li>➤ Frequency measurement range: 99.99Hz to 99.99KHz with accuracy of 0.01%</li> <li>➤ Flashing backlight as visual alert during continuity tests in dim areas</li> <li>➤ Data logging capability (stores up to 10 readings)</li> </ul>											<b>4</b>	<b>h</b>	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model					
	<ul style="list-style-type: none"> <li>➤ Built-in LED torchlight to illuminate test area</li> <li>➤ IR connectivity to transfer data to PC for record (Optional)</li> <li>➤ The meter includes quick start guide, calibration certificate and 4mm tips probe test lead set.</li> <li>➤ The meter includes quick start guide, calibration certificate and 4mm tips probe test lead set.</li> <li>➤ Standard warranty 3 – years</li> </ul> <p>Manufacturer should have NABL accredited calibration lab and service center in India</p>																		
36	<p><b>Multimeter Description : 4.5 Digit, Measurement Type : True RMS, Count : 50000, Hand Held Benchtop : Hand Hald &amp; equilent size</b></p>	0	0	0	0	0	0	0	0	0	0	5	5						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: yellow;"> <th style="width: 10%;">Sr. No.</th> <th style="width: 40%;">Parameter</th> <th style="width: 50%;">Specification (Keysigh</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Sr. No.	Parameter	Specification (Keysigh															
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S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(* Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	<ul style="list-style-type: none"> <li>Superior contrast from organic LED (OLED) display</li> <li>50,000-count dual display, Up to 0.025% basic DCV accuracy</li> <li>True-RMS AC and AC+DC measurements</li> <li>K-type and J-type temperature measurements feature, temperature probe optional</li> <li>Manual and automated (interval) data logging; internally to DMM and externally to PC</li> <li>CAT III 1000 V and CAT IV 600 V safety protection</li> <li>Built-in 20-MHz frequency counter</li> <li>Built-in programmable square-wave generator</li> </ul>													
1	Counts	50000												
2	AC Voltage	50mV-1000V, Accuracy-0.5%												
3	DC Voltage	50mV-1000V, Accuracy-0.05%												
4	AC Current	500μA-10A, Accuracy-0.7%												
5	DC Current	500μA-10A, Accuracy-0.3%												
6	Resistance	500MΩ, Accuracy-0.5% to 3%												
7	Frequency	1MHz, Accuracy-0.02%												
8	Capacitance	10nF-10mF, Accuracy-1%												
9	Temperature	-200 - 1372°C												
10	Safety	CAT III 1000 V / CAT IV 600 V IEC 61010-1:2001/EN61010-1:2001												

S.NO.	DESCRIPTION			Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	11	Instrument Safety	Yes Provided													
	12	Feature of Continuity test and Diode test, data logging	200 Points													
	13	Computer Interface with software	Yes with IR to USB Cable,													
	14	True RMS AC voltage Band Width	100KHz													
37	<b>Multimeter Description : 6.5 Digit, Measurement Type : True RMS, Count : 200000, Hand Held Benchtop : Hand Hald &amp; equilent size</b> <ul style="list-style-type: none"> <li>➤ Performance true volt Digital Multimeter with higher level of accuracy, speed and resolution</li> <li>➤ Graphical capability like trend, histogram chart to get more detail of signal with data logging and digitizing mode.</li> <li>➤ Ability to measure very low current 100µA range with pA resolution</li> <li>➤ Maintain calibrated measurements: Auto calibration allows you to compensate for temperature drift so you can maintain measurement accuracy throughout your workday</li> </ul>			0	0	0	0	0	0	0	0	0	0	5	5	

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model																				
	<ul style="list-style-type: none"> <li>➤ Resolutions up to 6½ digits</li> <li>➤ Reading rates up to 1,000 readings/s</li> <li>➤ Memory up to 10,000 readings</li> <li>➤ Voltage ranges from 100 mV to 1,000 V</li> <li>➤ Current ranges from 100µA to 10 A</li> <li>➤ USB and LAN interfaces</li> </ul>																																	
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	Statistical graphics Interface	Histogram, bar chart, trend chart USB, LAN/LXI C													
38	<b>Analog Oscilloscopes Bandwidth : 30 MHz. No. of Channels : Two, Display : Mono, Computer Interface : with &amp; equilent size</b>		0	0	0	0	0	0	0	0	0	0	5	5	
39	<b>Programmable Function Generator Description 25 MHz Single channel &amp; equilent size</b> <ul style="list-style-type: none"> <li>➤ 30MHz arbitrary waveform generator with fullband pulse generator, lowest harmonic distortion of just 0.04%, 8.4 - ns rise &amp; fall time, highest amplitude resolution upto 16 bit, remote operation using web user interface. Software shuld be able to control and datathe instrument</li> <li>➤ Single Channel</li> <li>➤ Frequency Range: 1μHz to 30 MHz with resolution of 1μHz</li> <li>➤ Standard Waveform: Sine, square, ramp, pulse, triangle, gaussian noise, PRBS, DC</li> <li>➤ Trueform arbitrary waveforms with sequencing</li> <li>➤ 16 bits Resolution and 250 MS/s Sampling rate</li> </ul>		0	0	0	0	0	0	0	0	0	0	5	5	



S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model																				
	<ul style="list-style-type: none"> <li>➤ AM, FM, PM, BPSK, FSK, PWM Modulation features</li> <li>➤ Counted and Gated Burst</li> <li>➤ Linear, Logarithmic and frequency list sweep feature</li> <li>➤ Total harmonic distortion and jitter: &lt;0.04% THD and &lt;40PS jitter (RMS)</li> </ul> USB, LAN/LXI Connectivity features																																	
<b>40</b>	<b>Frequency Counter Description : Frequency Counter 3 GHz. Range : 2 mHz to 3 GHz. &amp; equilent size</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: yellow;"> <th>Sr. No.</th> <th>Parameter</th> <th>Technical Specifica</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Frequency Range</td> <td>DC/2 mHz to 6GHz</td> </tr> <tr> <td>2</td> <td>Time base frequency</td> <td>10 MHz</td> </tr> <tr> <td>3</td> <td>Stability (0 to 50<sup>0</sup>C)</td> <td>± 1 ppm standard ± 50 ppb Optional</td> </tr> <tr> <td>4</td> <td>Gate Time</td> <td>1 ms to 1000 s in 10 μs steps</td> </tr> <tr> <td>5</td> <td>Type of Input Signal</td> <td>Continuous Wave</td> </tr> <tr> <td>6</td> <td>Resolution</td> <td>12 Digits or better 20 ps single shot time resoluti</td> </tr> </tbody> </table>	Sr. No.	Parameter	Technical Specifica	1	Frequency Range	DC/2 mHz to 6GHz	2	Time base frequency	10 MHz	3	Stability (0 to 50 <sup>0</sup> C)	± 1 ppm standard ± 50 ppb Optional	4	Gate Time	1 ms to 1000 s in 10 μs steps	5	Type of Input Signal	Continuous Wave	6	Resolution	12 Digits or better 20 ps single shot time resoluti	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	
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		75000 reading/sec frequency & time interval													
	7	Input Impedance	Selectable 1 MΩ ± 1.5% or 50 Ω ± 1.5%    <25 pF												
	8	Trigger Slope	Selectable positive or negative												
	9	Display Type	4.3" Color TFT WQVGA (480 x 272), LED backlight, Graphical Display (Digits, trend, histogram, limit test, markers)												
	10	Measurement	Frequency, period, frequency ratio, Data trend plot, built – in math analysis, cumulative histogram												
	11	Calibration	Electronic												
	12	Temperature Stability	± 1 ppm standard and ± 5 ppb (0 °C to 55 °C relative to 25 °C)												
	13	Interface and software	LXI-C/LAN, USB, GPIB. Software should have feature of control automated test and data logging for faster analysis												
	14	Power Supply	100V - 240V ± 10%, 50-60 Hz ±5%												
<b>41</b>	<b>Programmable D C Power Supply 0 to 15 volt, 7Amp. &amp; 0 to 30 volt, 4 Amp. &amp; equilent size</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5 + 4</b>	<b>9</b>	

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	Sr. No.	Parameter	Offered Specification (Keysight E3632A)													
	1	<b>DC Output Rating</b>														
	a.	Voltage	0 - 30V													
	b.	Current	0 - 4A													
	2	Maximum Power	120W													
	3	<b>Load Regulation</b>														
	a.	Voltage	< 0.01% + 2 mV													
	b.	Current	< 0.01% + 250 $\mu$ A													
	4	Line Regulation														
	a.	Voltage	< 0.01% + 2 mV													
	b.	Current	< 0.01% + 250 $\mu$ A													
	5	<b>Over Voltage Protection</b>														
	a.	Accuracy	0.5% + 0.5 V													
	b.	Response Time	Less than 50 $\mu$ sec for output to recover to within 15 mV following a change in output current from full load to half load or vice versa													
	6	<b>Ripple &amp; Noise (20Hz to 20MHz)</b>														
	a.	Voltage	< 350 $\mu$ Vrms/2 mVpp													

S.NO.	DESCRIPTION			Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	b.	Current	< 2 mArms													
	7	<b>Readback Accuracy</b>														
	a.	Voltage	0.05% + 5 mV													
	b.	Current	0.15% + 5 mA													
	8	PC Interface	GPIB & RS - 232													
	9	<b>Readback Resolution</b>														
	a.	Voltage	0.5 mV													
	b.	Current	0.1 mA													
	10	Operating Temperature	0 degree to 55 degree C													
42	<b>Bench Top Multimeter 6.5 digit 50000 count &amp; equilent size</b> <ul style="list-style-type: none"> <li>➤ Performance true volt Digital Multimeter with higher level of accuracy, speed and resolution</li> <li>➤ Graphical capability like trend, histogram chart to get more detail of signal with data logging and digitizing mode.</li> <li>➤ Ability to measure very low current 100µA range with pA resolution</li> <li>➤ Maintain calibrated measurements: Auto calibration allows you to compensate for temperature drift so you can maintain measurement accuracy throughout</li> </ul>			0	0	0	0	0	0	0	0	0	0	5	5	

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	<p>your workday</p> <ul style="list-style-type: none"> <li>➤ Resolutions up to 6½ digits</li> <li>➤ Reading rates up to 1,000 readings/s</li> <li>➤ Memory up to 10,000 readings</li> <li>➤ Voltage ranges from 100 mV to 1,000 V</li> <li>➤ Current ranges from 100µA to 10 A</li> <li>➤ USB and LAN interfaces</li> </ul> <table border="1"> <tr> <td>Voltage</td> <td>DC Voltage: 100mV to 1000V AC Voltage: 100mV to 750V</td> </tr> <tr> <td>Current</td> <td>DC Current: 100µA to 10 A, Accuracy 0.3% AC Current: 100 µA to 10 A, Accuracy 0.3%</td> </tr> <tr> <td>Resistance</td> <td>2 – Wire &amp; 4 – Wire Resistance: 100Ω to 100MΩ, Accuracy – 0.5%</td> </tr> <tr> <td>Capacitance</td> <td>1 nF to 100µF, Accuracy – 1%</td> </tr> <tr> <td>Frequency &amp; Period</td> <td>3Hz to 300KHz, Accuracy – 0.1%</td> </tr> <tr> <td>Continuity &amp; Diode</td> <td>Yes, 5V</td> </tr> <tr> <td>Max. Reading Rate</td> <td>1000 rdgs/s,</td> </tr> <tr> <td>Memory</td> <td>Standard 10000 reading,</td> </tr> <tr> <td>Temperature</td> <td>RTD,PT100, thermistor and thermocouple</td> </tr> <tr> <td>Display</td> <td>Color Graphical dual line display</td> </tr> </table>	Voltage	DC Voltage: 100mV to 1000V AC Voltage: 100mV to 750V	Current	DC Current: 100µA to 10 A, Accuracy 0.3% AC Current: 100 µA to 10 A, Accuracy 0.3%	Resistance	2 – Wire & 4 – Wire Resistance: 100Ω to 100MΩ, Accuracy – 0.5%	Capacitance	1 nF to 100µF, Accuracy – 1%	Frequency & Period	3Hz to 300KHz, Accuracy – 0.1%	Continuity & Diode	Yes, 5V	Max. Reading Rate	1000 rdgs/s,	Memory	Standard 10000 reading,	Temperature	RTD,PT100, thermistor and thermocouple	Display	Color Graphical dual line display												
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	Statistical graphics Interface	Histogram, bar chart, trend chart USB, LAN/LXI C													
43	<p><b>True RMS Hand Held Clamp Meter, 1000 DC and True RMS AC, AC+DC current measurements, One-hand operation, Large backlit dual display, Temperature and Capacitance measurements &amp; equivalent size</b></p> <p>The key feature and specification of Handheld Clamp Meter:</p> <ul style="list-style-type: none"> <li>• Large clamp opening of 52 mm or 2"</li> <li>• High measurement capability of up to 1000 A for AC, DC or AC+DC</li> <li>• CAT III 1000 V/CAT IV 600 V safety rating</li> <li>• Bluetooth wireless connectivity feature (optional)</li> <li>• Includes full-featured DMM with resistance, capacitance, frequency and temperature functions</li> <li>• High resolution measurements</li> <li>• Measure current as low as 0.01 mA</li> <li>• Peak hold, Dual ranging mode, manual and auto</li> <li>• Large dual display</li> <li>• Min/max recording capability</li> </ul>		0	0	0	0	0	0	0	0	0	0	4	4	
	<b>Sr. No.</b>	<b>Parameter</b>	<b>Specification (Keysight)</b>												

S.NO.	DESCRIPTION		Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	1	AC Current	0 to 999.9A, with accuracy of +/-2%												
	2	AC voltage	0 to 1000 V, with accuracy of +/-1%												
	3	DC current	0 to 999.9A, with accuracy +/-2%												
	4	DC voltage	0 to 1000 V, accuracy +/- 0.5%												
	5	Resistance	0 to 4 Mohms, accuracy of +/-0.6% 0 to 40 Mohms, accuracy of +/-2.0%												
	6	Continuity	Built-in buzzer sounds when resistance is less than 10.0 Ω												
	7	Frequency	Range: 10Hz to 999.9 KHz, accuracy +/-0.3%												
	8	Backlight Display	Yes Available												
	9	Operating temperature	-10 to 50 °C, 0 to 80 % R.H												
	10	Type	Yes Available												
	11	Safety rating	CAT III 1000 V/ CAT IV 600 V EN/IEC 61010-1:2001, ANSI/UL 61010-1:2004, and CAN/CSA-C22.2 No.61010-1-04												
	12	Jaw size (dia in closed state)	~2 inches												
<b>44</b>	<b>Dual range DC Power Supply, 0-15V, 7A, 0-30V,4A, 120W</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>+</b> <b>4</b>	<b>4</b>	

S.NO.	DESCRIPTION			Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Sr. No.	Parameter	Specification (Keysight E3)													
	1	<b>DC Output Rating</b>														
	a.	Voltage	0 - 30V													
	b.	Current	0 - 4A													
	2	Maximum Power	120W													
	3	<b>Load Regulation</b>														
	a.	Voltage	< 0.01% + 2 mV													
	b.	Current	< 0.01% + 250 μA													
	4	<b>Line Regulation</b>														
	a.	Voltage	< 0.01% + 2 mV													
	b.	Current	< 0.01% + 250 μA													
	5	<b>Over Voltage Protection</b>														
	a.	Accuracy	0.5% + 0.5 V													
	b.	Response Time	Less than 50 μsec for output within 15 mV following a change in output current from full load or vice versa													
	6	<b>Ripple &amp; Noise (20Hz to 20MHz)</b>														



S.NO.	DESCRIPTION		Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	a.	Voltage	< 350 $\mu$ Vrms/2 mVpp												
	b.	Current	< 2 mArms												
	7	<b>Readback Accuracy</b>													
	a.	Voltage	0.05% + 5 mV												
	b.	Current	0.15% + 5 mA												
	8	PC Interface	GPIO & RS - 232												
	9	<b>Readback Resolution</b>													
	a.	Voltage	0.5 mV												
	b.	Current	0.1 mA												
	10	Operating Temperature	0 degree to 55 degree C												
<b>45</b>	<b>RF Signal Generators 3 GHz &amp; equilent size</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	
	The RF Signal Generator has following Specs:														
	Frequency range	9KHz to 3GHz, with 0.1Hz resolution													
	Accuracy	less than 1dB													
	Aging	+/-0.1ppm /year aging rate													
Output Level	-127 to +13 dBm with resolution														

S.NO.	DESCRIPTION		Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*) Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	Total Accuracy	< ±1dB													
	Harmonic	-30 dBc (Level ≤ 0 dBm, Fc ≥ 1 MHz) at 3GHz at 0 dB level													
	Spectral Purity	less than -95 dBc													
	Sweep	Step and list sweep													
	VSWR	Less than 2													
	Modulation	AM, FM and phase modulation													
	Analog IQ input	Feature should be available for future upgrade													
	Low Frequency output	Should be available from 20Hz to 80 KHz													
	Interface	USB Interface													
	The Manufacturer should have National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited calibration and service facility in														

S.NO.	DESCRIPTION	Jalore	Dausa	Bundi	Tonk	Jhunjhunu	Bagidora	Bhilwara	Pratapgarh	Dholpur	Jaisalmer	Baran	Total Qty.	(*). Specify variation in Specification if any, otherwise write "No variation" / as per Specification & write Make & Model
	India with their presence locally													

**Terms & Condition :-**

- 1. F. O. R. Principal Government Polytechnic College, Baran/ Dholpur/Pratapgarh/ Jaisalmer/ Dausa/ Pali (for Jalore)/ Tonk/ Bundi/ Bagidora/Jhunjhunu/ Bhilwara.**
- 2. Delivery Period 50 days.**