विक्रम विश्वविद्यालय, उज्जैन

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क्रमांक /भण्डार/2025/194 दिनांक :- 08/08/25

–:: Sophisticated Equipment क्रय हेतु ई–निविदा वर्ष–2025 ::–

PM USHA (MERU) Project के अंतर्गत विक्रम विश्वविद्यालय के विभिन्न अ.शा. /संस्थानों/लेब आदि हेतु Sophisticated Equipment क्रय किए जाने हेतु पंजीकृत निर्माता फर्म/अधिकृत विक्रेताओं से www.mptenders.gov.in के माध्यम से ई–निविदा आमंत्रित की जाती हैं। निविदा का अनुमानित मूल्य लगभग राशि रू. 50700000/– (रू. पाच करोड सात लाख मात्र) है।

निविदा प्रकाशन की तिथि	: दिनांक 13/08/25
आनलाइन टेण्डर फार्म क्रय करने की तिथि	: दिनांक 13/08/25 से 02/09/25 समय 17:30 तक
आनलाइन बिड भरने की तिथि	: दिनांक 13/08/25 से 02/09/25 समय 17:30 तक
प्री–बिड मिटिंग तिथि	: दिनांक 19/08/25 को दोपहर 03.00 बजे।
निविदा (तकनीकी बिड) खोलने की तिथि	: दिनांक 04/09/25 को दोपहर 11.00 बजे।
निविदा हेतु तकनीकी समिति की बैठक	: दिनांक 08/09/25 को दोपहर 03.00 बजे।
निविदा प्रपत्र का मूल्य (आनलाइन जमा करें)	: 10,000/– (रूपये दस हजार मात्र) वापसी योग्य नही। ऑनलाईन जमा कर रसीद संलग्न करें।
निविदा प्रतिभूति राशि (EMD) (ऑनलाईन जमा करें)	: 15,21,000/– (रूपये पन्द्रह लाख इक्कीस हजार मात्र) ऑनलाईन जमा कर रसीद संलग्न करें।

नोट :– ई–निविदा में किसी भी प्रकार का शुद्धि पत्र/संशोधन/निविदा निरस्तीकरण की सूचना समाचार पत्र के माध्यम से नहीं की जावेगी इस संबंध में केवल http:// www.mptenders.gov.in और http:// www. vikramuniv.ac.in पर ही प्रकाशन किया जावेगा ।

आदेशानुसार

कुलसचिव

विक्रम विश्वविद्यालय, उज्जैन

निविदा प्रक्रिया संबंधी जानकारी (भाग– 1)

1. निविदा प्रपत्र htpps://www.mptenders,gov.in से डाउनलोड किया जावे निविदा संबंधी जानकारी विक्रम विश्वविद्यालय की वेबसाईट www.vikramuniv.ac.in पर भी देखी जा सकती है।

2. Sophisticated Equipment क्रय संबंधी निविदा केवल www.mptenders.gov.in पर ऑनलाईन प्रस्तुत की जावे। निविदा में किसी प्रकार के संशोधन की सूचना या जानकारी केवल वि.वि.की वेबसाइट www.vikramuniv.ac.in एवं www.mptenders.gov.in पर ही दी जावेगी।

3. निविदा का अनुमानित मूल्य लगभग राशि रू. 50700000/– (रू. पाच करोड सात लाख मात्र है।

4. यदि तकनीकी निविदा निर्धारित तिथि को नहीं खोली जाती है तो निविदा आगामी कार्य दिवस पर दोपहर 3.00 बजे खोली जावेगी। निविदा प्रपत्रों की जांच विश्वविद्यालय की तकनीकी समिति द्वारा की जावेगी। (निविदाकार या उनके प्रतिनिधि निविदा प्रपत्रों की जांच के समय तकनीकी समिति की बैठक में उपस्थित रह सकते है।)

प्रक्रिया–1. निविदा प्रपत्र का मूल्य रू. 10000/– (रू. दस हजार मात्र) है। निविदा प्रतिभूति राशि (EMD) रू. 15,21,000/– (रूपये पन्द्रह लाख इक्कीस हजार मात्र) है। दोनो प्रकार की राशि ऑनलाइन जमा कर रसीदों को निविदा के साथ अपलोड़ किया जाना है। उक्तानुसार निविदा प्रपत्र का मूल्य एवं प्रतिभूति राशि प्राप्त होने पर ही फर्म को प्रक्रिया–2 के लिए योग्य माना जावेगा।

प्रक्रिया–2 प्रक्रिया–1 में योग्य पाई जाने वाली फर्म की ही तकनीकी निविदा खोली जावेगी। तकनीकी निविदा में दर्शित दस्तावेज फर्म की सील एवं हस्ताक्षरित स्केन कर अपलोड किये जावें।

प्रक्रिया–3 प्रक्रिया–2 में योग्य पाई जाने वाली फर्मों की ही वित्तीय निविदा खोली जायेगी। वित्तीय निविदा भी ऑनलाईन प्रस्तुत की जाना है।

नोट :– 1. निविदाकार द्वारा निविदा प्रपत्र एवं निविदा के साथ संलग्न किए जाने वाले समस्त दस्तावेज शपथ पत्र आदि हस्ताक्षरित कर एवं सील सहित स्केन कर आनलाईन अपलोड किए जावे।

2. निविदा में उल्लेखित शर्त अनुसार समस्त दस्तावेजो को अनुक्रमाणिका (Index) बनाकर अपलोड किए जाए।

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निविदा की तकनीकी शर्तें (भाग– 2)
(दस्तावेज आनलाइन अपलोड किए जावे)

1. निविदा प्रपत्र का मूल्य 10000/– (रू. दस हजार मात्र) की जमा रसीद आनलाइन संलग्न करें।
2. निविदा प्रतिभूति राशि (EMD) रू. 15,21,000/– (रूपये पन्द्रह लाख इक्कीस हजार मात्र) की रसीद आनलाइन संलग्न करें।
3. म.प्र. के MSME पंजीकृत फर्मो को EMD एवं निविदा प्रपत्र से छूट की पात्रता होगी।
4. **अनुभवः–** फर्म द्वारा पिछले 05 असेसमेंट वर्षों (2020–21, 2021–22, 2022–23, 2023–24, 2024–25) में किसी भी शासकीय/अर्द्धशासकीय/UGC द्वारा मान्यता प्राप्त संस्थाओं में Sophisticated Equipment प्रदाय का कार्यादेश की प्रतिलिपियों एवं प्रमाणपत्र संलग्न करें।

   (4.1) निविदाकर्ता के पास निविदा के अनुमानित मूल्य का न्यूनतम 35 प्रतिशत राशि का एक कार्यादेश हो। (35 प्रतिशत राशि का कार्य किया गया हो।) **या**
   (4.2) निविदाकर्ता के पास निविदा के अनुमानित मूल्य के न्यूनतम 20 प्रतिशत राशि के 02 कार्यादेश हों। (20–20 प्रतिशत राशि के कार्य किए गए हो।) **या**
   (4.3) निविदाकर्ता के पास निविदा के अनुमानित मूल्य के न्यूनतम 15 प्रतिशत राशि के 03 कार्यादेश हों। (15–15 प्रतिशत राशि के कार्य किए गए हो।)

5. **टर्न ओवरः–**

   (5.1) OEM **वार्षिक** टर्नओवरः– लगभग रू. 20,28,00,000/– लाख (बीस करोड अट्ठावीस लाख मात्र) हो।
   (5.2) BIDDER **वार्षिक** टर्नओवरः– लगभग रू. 1,52,10,000/– (रूपये एक करोड़ बावन लाख दस हजार मात्र) हो।
   टर्नओवर की चार्टर्टेड अकाउंटेट से हस्ताक्षरित प्रमाणपत्र संलग्न किए जाए।

6. **बेलेन्स शीटः–** उक्त 05 असेसमेन्ट वर्षों (2020–21, 2021–22, 2022–23, 2023–24, 2024–25) की बेलेन्स शीट प्रस्तुत करना अनिवार्य है। CA द्वारा सील एवं हस्ताक्षरित/प्रमाणित दस्तावेज संलग्न किए जाए।
7. **आयकर रिटर्नः–** आयकर असेसमेंट वर्ष (2020–21, 2021–22, 2022–23, 2023–24, 2024–25,) के आयकर रिटर्न की छाया प्रति संलग्न करें।
8. निविदाकर्ता फर्म किसी भी शासकीय/अर्द्धशासकीय संस्था से कभी भी ब्लेक लिस्टेड न हो इस हेतु निविदाकर्ता को मूल शपथ पत्र प्रस्तुत करना अनिवार्य है। जो रू. 500/– के स्टाम्प पर (नोटराइज्ड) हो। **शपथ पत्र का प्रारूप संलग्न है।**
9. फर्म द्वारा जी.एस.टी. (GST) की प्रति संलग्न करें।

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10. आयकर (PAN) नंबर की प्रति संलग्न करें।

11. संस्था/फर्म/कम्पनी का वैध रजिस्ट्रेशन प्रमाण पत्र संलग्न किया जावे।

12. निविदाकर्ता फर्म द्वारा अघतन/वैध ISO प्रमाण पत्र की छाया प्रति संलग्न करें। साथ ही स्पेसिफिकेशन में दर्शाये गऐ Certifications के विस्तृत प्रमाण पत्रों की छाया प्रतिया भी संलग्न करना अनिवार्य है।

13. निविदाकर्ता को इस आशय का प्रमाण पत्र भी संलग्न करना होगा की उनके द्वारा न्यूनतम 03 वर्षो की गारंटी/वारंटी प्रदान की जावेगी।

14. निविदाकर्ता के पास उक्त निविदा के संबध में कंम्पनी द्वारा प्रदाय किया गया वैध Authorization प्रमाण पत्र होना अनिवार्य है। प्रमाण पत्र आवश्यक रूप से संलग्न किया जाए। प्रमाण पत्र पर Authorize करने वाले अधिकृत प्रधिकारी का Email id एवं मो.नं. आवश्यक रूप से अंकित हों।

15. निविदा के भाग–4 में अंकित स्पेसिफिकेशन अनुसार फर्म द्वारा Sophisticated Equipment के ब्रोशर आवश्यक रूप से संलग्न किया जाए। (पेज नं. सहित) ब्रोशर के अभाव में निविदा अमान्य की जावेगी।

16. फर्म का म.प्र. में सर्विस सेन्टर आवश्यक रूप से हो इस हेतु प्रमाण–पत्र संलग्न किया जाए।

17. निविदाकर्ता को Sophisticated Equipment का गारंटी/वारंटी प्रमाण पत्र भी देना आवश्यक है।

18. निविदाकर्ता को Sophisticated Equipment संबंधी निर्माता कंपनी/अधिकृत डीलर होने का प्रमाण पत्र संलग्न करना आवश्यक है।

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निविदा की सामान्य शर्तें (भाग– 3)

1. अपात्र फर्मो की धरोहर राशि सफल निविदाकार की दरें मान्य होने के पश्चात आनलाइन लौटा दी जावेगी।
2. सफल निविदाकार को संविदा मूल्य का 03 प्रतिशत राशि परफारमेंस ग्यारंटी (निष्पादन प्रतिभूति राशि) जमा करानी होगी। निष्पादन प्रतिभूति की राशि वि.वि. के खाते में आनलाइन माध्यम से या किसी भी वाणिज्यक बैंक के DD,FDR,Bankers cheque एवं irrevocable बैंक ग्यारंटी के रूप में जमा करानी होगीं। प्रस्तुत बैंक ग्यारंटी का सत्यापन संबधित बैंक से कराया जावेगा।
3. निष्पादन प्रतिभूति (परफारमेंस ग्यारंटी) आपूर्तिकर्ता की सभी संविदाकृत बाध्यताओं के पूरा होने की तारीख के बाद 60 दिवस की अवधि के लिए वैध होना आवश्यक है।
4. प्रदाय किए गए Sophisticated Equipment निविदा में उल्लेखित Specification के अनुसार नही होने पर भुगतान नही किया जावेगा।
5. सफल निविदाकर्ता को वि.वि. के साथ एक अनुबंध संपादित करना होगा। अनुबंध की शर्तो का उलंघन करने पर परफारमेंस ग्यारंटी जब्त की जा सकेगी।
6. भुगतान के समय नियमानुसार करों की कटोत्री की जावेगी।
7. Sophisticated Equipment प्रदाय के पूर्व किसी भी प्रकार का अग्रिम भुगतान नही किया जावेगा।
8. निर्धारित समय में Sophisticated Equipment की आपूर्ति नहीं करने पर म.प्र. भण्डार क्रय एवं सेवाउपार्जन नियम 2015 (यथा संशोधित 2022) नियमानुसार राशी कटौत्रा कर भुगतान किया जावेगा।
9. प्रदाय किए गए Sophisticated Equipment की गुणवत्ता एवं स्पेसिफिकेशन का परीक्षण तृतीय पक्ष जांच ऐजेंसी (किसी भी शासकीय ऐजेंसी) के सत्यापन के उपरांत ही किया जाएगा। सत्यापन हेतु जांच ऐजेंसी को किया जाने वाला भुगतान संबंधित फर्म द्वारा ही वहन किया जावेगा। इसके पश्चात ही भुगतान संबधी कार्यवाही की जावेगी।
10. निधार्रित तिथि एवं समय के पश्चात निविदा संबंधी किसी भी प्रकार के दस्तावेज स्वीकार नही किए जाएगें।
11. Sophisticated Equipment विश्वविद्यालय में प्रदाय करने एवं निधार्रित स्थान पर Install करने की सम्पूर्ण जिम्मेदारी सम्बंधित फर्म की होगी।

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12. Sophisticated Equipment हेतु निर्धारित बजट आवश्यक्तानुसार घटाया या बढ़ाया जा सकता है। तथा क्रय किए जाने वाले Sophisticated Equipment की संख्या का उल्लेख क्रय आदेश में किया जावेगा।
13. निविदा पर किसी भी प्रकार का अंतिम निर्णय विश्वविद्यालय कुलगुरू का होगा।
14. निविदा संबंधी किसी प्रकार के विवाद की स्थिति में न्यायालयीन क्षेत्राधिकार जिला उज्जैन होगा।
15. Sophisticated Equipment का प्रदाय सन्तोषजनक न होने या सफल निविदाकर्ता द्वारा शर्तो का पालन नहीं करने की स्थिति में सफल निविदाकर्ता का कार्य आदेश विक्रम विश्वविद्यालय, उज्जैन द्वारा किसी भी समय बिना किसी पूर्व सूचना के निरस्त किया जा सकता है एवं प्रतिभूति राशि (EMD) एवं निष्पादन राशि जब्त की जावेगी। इसमें जो भी अर्थिक हानि होगी उसकी वसूली स्वीकृत निविदाकर्ता से की जावेगी। ऐसी परिस्थिति में भुगतान से कटौती का अधिकार कुलसचिव विक्रम विश्वविद्यालय, उज्जैन के विवेकाधिकार पर सुरक्षित रहेगा।
16. Sophisticated Equipment स्वीकृत स्पेसिफिकेशन के अनुसार प्रदाय करने पर ही स्वीकार की जावेगी। आदेशित सामग्री स्पेसिफिकेशन अनुरूप न होने या निर्धारित गुणवत्ता से कम होने पर सफल निविदाकर्ता को उनके व्यय पर वापस की जावेगी। Sophisticated Equipment डुप्लीकेट या मूल निर्माता कम्पनी की न होने पर निविदाकर्ता पर नियमानुसार कार्यवाही की जावेगी।
17. निविदाकर्ता द्वारा वित्तीय निविद में Sophisticated Equipment की वित्तीय दर समान होने पर जिस निविदाकर्ता का टर्न ओवर अधिक होगा विश्वविद्यालय द्वारा उस निविदाकर्ता फर्म का चयन किया जावेगा। इस संबंध में किसी का दावा/आपत्ति मान्य नही होगी।
18. वित्तीय निविदा में Sophisticated Equipment का इन्स्टोलेशन, माल भाड़ा, आवश्यक्तानुसार प्रशिक्षण सम्बंधि व्यय सम्मिलित कर प्रस्तुत करें। पृथक से अन्य किसी व्यय का भुगतान विश्वविद्यालय द्वारा नहीं किया जावेगा।

7/8/2025

आदेशानुसार

कुलसचिव

सहमति पत्र
(निविदाकर्ता द्वारा भरा जावे)

प्रति,
कुलसचिव
विक्रम विश्वविद्यालय,
उज्जैन (म.प्र.)

विषय :– PM USHA (MERU) Project के अंतर्गत विक्रम विश्वविद्यालय के विभिन्न अ.शा. /संस्थानों/लेब आदि हेतु Sophisticated Equipment क्रय किए जाने हेतु ई–निविदा वर्ष 2025 बाबत्।

महोदय,

उपरोक्त विषयान्तर्गत निवेदन है कि हमारी संस्था की जानकारी निम्नानुसार है।

1. निविदाकार/फर्म/ संस्था का नाम :.....
2. पत्र व्यवहार का पता :.....
   .....
3. फर्म के प्रतिनिधि का नाम :.....
4. पद नाम :.....
5. दूरभाष क्र./फैक्स/ई–मेल
   अ) लेण्ड लाईन न. :.....
   ब) फैक्स नं. :.....
   स) ई–मेल :.....
   द) मोबाईल नं. :.....

प्रमाणीकरण

प्रमाणित किया जाता है कि निविदा के भाग 1, 2, 3 तथा 4 में उल्लेखित शर्तों के अनुसार विश्वविद्यालय में उपकरण प्रदाय करने हेतु सहमति प्रदान की जाती हैं। समस्त निविदा प्रपत्रों पर फर्म के हस्ताक्षर एवं सील लगा दी गई है। तथा अनुक्रमाणिका बनाकर दस्तावेज आनलाइन अपलोड कर दिए गए हैं।

फर्म के अधिकृत प्राधिकारी के हस्ताक्षर/नाम एवं सील

7/8/25

7/8/25

7/8/2025

—::शपथ—पत्र का प्रारूप::—
(रू 500 के स्टाम्प पर नोटराइजड)

मैं.....द्वारा प्रोपराइटर/मेसर्स.....

निम्नानुसार कथन कर शपथ लेता हूँ :—

1. यह कि फर्म को कभी भी किसी भी शासकीय संस्था/उपक्रम से ब्लेक लिस्टेड नही किया गया है।
2. यह कि फर्म का निविदा में दिए गए उपकरण के संबंध में कोई कानूनी विवाद नही है न ही फर्म को किसी भी प्रकार का कोई दंड अधिरोपित किया गया है।
3. यह कि फर्म को कभी भी किसी भी शासकीय संस्था/उपक्रम/बैंक द्वारा दिवालिया घोषित नहीं किया गया है।
4. यह कि फर्म द्वारा निविदा में उल्लेखित शर्त अनुसार चाहे गए दस्तावेज/अभिलेख पूर्णतः सत्य एवं प्रमाणिक है तथा इनमें किसी भी प्रकार की कोई कूट रचना नही की गई है।
5. यह कि निविदा में प्रस्तुत अथवा शपथ पत्र में पाई गई जानकारी असत्य पाए जाने पर निविदा निरस्त करने प्रतिभूति राशि (EMD) एवं निष्पादन राशि जब्त करने एवं फर्म को ब्लेक लिस्ट करने का अधिकार विक्रम विश्वविद्यालय, उज्जैन को होगा।

7/8/2025

विक्रम विष्वविद्यालय, उज्जैन

वित्तीय निविदा प्रपत्र वर्ष–2025
(ऑनलाईन भरा जाये)

उपकरणों की सूची

क्रं.	उपकरण का विवरण	प्रति नग उपकरण की दर समस्त कर सहित
01	Gas Chromatography	
02	FTIR Spectrometer	
03	HPLC-ECD for Central Lab.	
04	LC-MS triple cod for Central Lab.	
05	Gas Chromatography with all accessories	
06	High Performance Liquid Chromatograph with Complete Accessories (HPTLC)	
07	Fourier transform infrared spectroscopy F.T.I.R. with all attachments	
08	Particle size Analyzer with all attachments	
09	HPLC with all accessories	
10	Atomic absorption spectrophotometer double beam wavelength range 190-1100 nm with all accessories	

नोटः– उपकरणो का विस्तृत विवरण **Detailed Specification** में दिया गया है।

7/8/2025

प्रस्तुतकर्ता

Vikram University, Ujjain (MP)

List of Sophisticated Equipment with Specification to be procured under PM-USHA (MERU) Project

S.No.	S No. As per DPR	Name of the Equipment	Specification	Quantity	Total Cost in INR including Tax
1	219	**Gas Chromatography**	Gas Chromatograph 1. Intuitive graphic user interface with large touchpad color LCD (5.7"). 2. Automatic loading and saving up to 20 different analytical methods. 3. High speed data process by network (LAN) communication. 4. Various inlets and detectors installable up to three per each. 5. Time control : Automatic turn-on/off 1) Gas Chromatograph Oven System Module (1) Usable volume : 14L (2) Automatic cooling under processor control (3) Temperature operating range : 4°C above ambient to 450°Cor more -80°C ~ 450°C (with LN2 cryogenic cooling) -40°C ~ 450°C (with CO2 cryogenic cooling) (4) Temperature set-point : 0.1°C (5) Programming: 25 ramps, 26 steps temperature program (6) Maximum heating rate: 120°C/min (7) Maximum heating set point rate: no limitation (8) Run time: Maximum 9,999 min (9) Cool down rate: 6.5 minutes from 450°C to 50°C 5.5 minutes as option (10) Temperature program method: Maximum up to 20 (11) Temperature stability: ±0.01°C(Isothermal), ±0.1°C (Gradient) (12) Improved column conditioning function: Automatic set of split flow up to 5 ml/min on column conditioning	1	

(13) Prevention of oven malfunction (Over heating)
2) Inlet
(1) Packed inlet
a. Maximum Temperature : 450 oC
b. Pressure setting range : 0.001 ~ 100 psi (optional 150 psi)
c. Total flow setting range : 0.1~100 ml/min
d. Flow stability < ±0.05ml/min
e. Pressure stability < ± 0.005psi
f. Temperature set point : 0.1℃
g. Temperature stability < ±0.1℃
(2) Capillary inlet (Split/Splitless)
a. Maximum Temperature : 45 0C

Pressure setting range : 0.001 ~ 100 psi (optional 150 psi)
c. Total flow setting range : 0.1 ~ 400 ml/min N2
/ 0 ~ 1000ml/min He/H2
d. Splitless time set point : 0.01min
e. Total Flow stability < ±0.05ml/min
f. Pressure stability < ± 0.005psi
g. Temperature set point : 0.1℃
h. Temperature stability < ±0.1℃
i. Maximum spilt ratio: 7,500
j. Column ID: 0.05 to 0.53 mm ID
k. Septum purge: Fixed

3) Advanced Pneumatic Control
(1) Up to 6 APC blocks for inlets, detectors or auxillary gases
(2) Increased precision and accuracy in pressure and flow rate
: Increased the number of times sampling for flow and pressure
: Increased the number of times controlling for valves
: Shockproof APCs
: Automatic compensation for temperature & pressure in installation condition
(3) Up to 6 APCs can be installed and up to 18 channels of APC
(4) Flow setpoint : 0.1ml/min
(5) Pressure setpoint : 0.001psi
(6) Pressure display value: 0.001 psi
(7) All gas flows controlled by APC

				(8) Available gasses : N2, He, H2, Air, Ar/CH4 (9) Board for use of APC control : APC Main B/D (10) Constant Flow (11) Constant Pressure (12) Programmed Flow : 5step (13) Programmed Pressure : 5step (14) Leak detection (15) After an alarm for a shortage of gas, it automatically saves the method to method no. 0 and shuts down (16) Gas saver 4) Detector - Maximum no. of detector installation: three - Data Acquisition Rate : 200 Hz) Flame Ionization Detector a. 450 oC maximum operating temperature b. Automatic flame ignition c. Temperature set-point : 0.1 ℃ d. Ignition message: Alarm message as 'Flame out' e. MDL : 1.5 pg carbon/sec (dodecane) f. Linear dynamic range : 107 g. Temperature stability : ± 0.1℃ h. Air : 0~500 ml/min e. H2 : 0~100 ml/min f. Make-up gas : 0~100 ml/min (2) Thermal Conductivity Detector a. 400oC maximum operating temperature b. Flow through cell : 4 Rhenium-Tungsten filaments c. MDL : 2.5 ng/ml (Standard), e. Filament protection f. Temperature set-point : 0.1 ℃ h. Ref : 0~100 ml/min f. Make-up : 0~100 ml/min (3) Nitrogen-Phosphorous Detector a. 400oC maximum operating temperature b. MDL : <0.2pg N/s, azobenzene, <0.02pgP/s, parathion methyl c. Dynamic Range for N : > 104 d. Dynamic Range for P : > 104 5) Gas Sampling Valve (1) gas sampling(or Switching) valves (2) Maximum 20 methods for gas valve switching		

				(3) Various gas sample loops available (4) Area repeatability (precision): <2%(with a standard mixture of gas analysis) romatography Data System YL-Clarity Chromatography Data System (1) Full control of GC (2) Measuring: Simultaneous data acquisition from up to four independent chromatographs, each chromatograph can acquire data from up to 12 detectors.Integration: There is extensive possibility to modify chromatograms. The chromatogram can be changed by entering global parameters or interactively, through direct graphic modification of the baseline. (4) Overlay: Simultaneously displays a virtually unlimited number of chromatograms and their mathematical modification; for example, mutual deductions or derivations of any order. (5) Calibration: Internal and external standard calculation methods, calibration of groups of peaks and reference peaks method for better identification. (6) Automated measuring support: Sequence tables for any set of samples with or without an autosampler. (7) Postrun: Automatically displays, prints, exports and starts other programs after the completion of a measurement. (8) Summary result tables: Displays and prints selected results from all simultaneously displayed chromatograms. (9) User settings: User selects parameters for peak display and the specification for axes, including color from an extensive array of color settings. Text labels and lines, either as part of the area or anchored to a chromatogram, may also be inserted. (10) Export: Optional exportation of all results, with or without the chromatogram, in various formats, into a file or clipboard. (11) Import: Imports chromatograms or mathematical curves,		

				which have been saved in text or AIA formats, from other programs. (12) Method and calibration history: Each chromatogram can easily be displayed under the same conditions as when it was printed, exported or saved. (13) Column performance: Calculations of peaks in terms of symmetry, efficiency, resolution; all by several methods (tangent, moments, etc.). (14) Batch: Automatically batch processes, displays, exports or prints any number of chromatograms. (15) User calculations: Users can define custom calculations in the Result and Summary tables. Using the integrated editor you can create your own columns from original columns and individual mathematical functions. (16) User accounts: Sets up access rights and passwords (including their parameters e.g., minimum length, validity, etc.). Each user can define his or her own station appearance. (17) Audit trail: Records selected events and operations into a special file. Records selected operations directly into a chromatogram. (18) Electronic signature: Each chromatogram can be signed electronically. Signature selection is based on the username or the signature certificate. (19) Networked Solution: Clarity chromatography station files can be accessed from networked computers using Clarity software. This enables the offline evaluation of chromatograms, development of new methods and printing reports. (20) 21 CFR Part 11: Clarity Satisfies with the requirements of the 21 CFR Part 11 directive of theFDA. (21) Operating Windows: Microsoft Window 2000, XP, Vista and 7 3. Autosampler 2) YL3100A Autoinjector (1) General features a. Syringe volume: 0.5, 1, 5, 10, 25, 50 and 100ul b. Tray capacity: 15 vials, 2ml		

				c. Maintenance: Preventive counters available d. Electrical control: LAN and TTL; optional: RS232 e. Syringe area illumination: No (2) Filling a. Sample volume: as low as step of 0.1ul b. Air volume: as low as step of 0.1ul c. Filling speed: 1-100ul/sec d. Viscosity delay: 0-15s e. Bubble elimination: Up to 15 pull up strokes (3) Injection a. Injection speed: 1-100ul/sec b. Injection depth: Programmable c. Pre and post injection delay: 0-99s (4) Washing a. Type: pre-injection, sample, post-injection b. Solvent capacity: 6x10ml vials c. Mode: Single or double wash (5) Internal standard technique a. IS volume: as low as step of 0.1ul b. Air gap volume: as low as step of 0.1ul c. Mode: 1 or 2 air gaps (6) Physical features a. Dimensions (WxHxD): 280x570x320mm b. Weight: 6.4kg c. Power supply: 100-240±10%Vac; 50-60Hz; 60VA Head Space Sampler Temperature RangeUpto 200 deg. C or better Compatible Pyrolyzer System for pyrolysis of solid and liquid samples- inclusive in the scope of supplyYes "Salient Featutes of GC (Select applicable features Only)"Automatic leak testing/detection of Pneumatics "Software Features (Select Applicable Features only)"Compatible with Windows 7 or higher version operating system DisplayThrough PC (PC is not part of supply) Connectivity interfaceUSB ,ETHERNET ,RS 232 Provision to split the sample from single injection to two different detectors and get results for two detectors simultaneouslyYes Gas Supply inclusive in the scope of supplyNitrogen ,Hydrogen ,Zero Air Capacity of Gas cylinder47 liters water capacity		

			Number of Cyliners of each type supplied - inclusive in the scope of supply1 Gas cylinders certified by PESOYes Regulator - inclusive in the scope of supplyDual Stage Regulator "Other Accessories inclusive in the scope of supply (Select only those Accessories which are part of supply)"Gas purification panel for all Gases with moisture trap ,Hydrocarbon trap & Oxygen trap ,Syringe for manual injection x 05 nos ,Column Cutter x 2 nos Minimum Operating Temperature1 degree Celsius Maximum Operating Temperature35 degree Celsius Operating Humidity (RH) (%) at 40 degree C60 percent Warranty on equipment: 5 year		
2	230	FTIR Spectrometer	1. Wavelength Range- 7800-375 per cm 2. Resolution: 1cm-1 3. Signal to noise ratio : 30000:1 4. Detector: high performance DLATGS 5. Beam splitter : Coated KBr • Optics must be sealed in a metal alloy chassis for enhanced durability, KBr/Gebeamsplitter which covers 350 to 8000 cm-1 • Diamond turned mirror optics (better than gold mirror to avoid oxide formations like AuO or Al2O3) • SMART (continuous) background feature where users wouldn't require manual intervention or repetitive background collection for every sample. Background will be collected automatically and system will be anytime ready for sample analysis. • Multicolored LED bar display system status and spectral library match value /Quality check results test. • Upgradable to IR microscope which can detect sample < 100 um. • 5 years warranty on Diamond ATR inclusive of crystal, 10 years warranty on laser, source, and interferometer. • Built in, NIST traceable Polystyrene film for the calibration of instrument with 5 years validity. • Spectral Resolution should be 0.5 cm-1 and it should be certified by original manufacturer. • Sample compartment must be wide enough to accommodate gas cell up to 10cm pathlength and various third party accessories from venders like pike &specac.	1	

			• Database architecture of software which provide better data security compare to file structure. • 10000 Library spectra which includes polymers, forensics, excipients and pesticides with original licenses.		
3	357	HPLC-ECD for Central Lab.	System should be a true plug & play method compatibility system for HPLC and UHPLC separation. Should allow easy alteration between (HPLC) or (UHPLC) without any manual user intervention. Should have automatic and easy to use switchover between HPLC and UHPLC. The HPLC Pump should be free from any Pulse dampner based technology and compressibility compensation should be done automatically. 1. HPLC QUATERNARY SOLVENT MANAGER: • In built Quaternary Gradient pump for delivery and blending of up to four solvent system or higher. • Integrated four channel or better vacuum degasser chambers with automated piston seal wash. • It must be capable of delivering aqueous and organic solvents at operating pressures minimum of 9,500 PSI or higher. The pump must be capable of reaching a maximum operating pressure of 9,500 PSI over its entire flow rate range. • The pump must support flow ramping, settable from 0.01 to 30.00 minutes to gradually reach flow rates up to 5.000 mL/min or better. It must be able to support flow rates as low as 0.001 mL/min and as high as 5.000 mL/min or better with 0.001 mL increments. • Delay Volume: The separation of compound must be done with Fast Resolution and with minimum gradient delay volume <1000 ul for the system & Total system Bandspread of < 80 ul or better to get sharper and better chromatograms with higher peak heights. • The pump must be able to program both isocratic and gradient methods, able to program gradient methods directly in terms of pH and percent organic, pH and salt concentration. It must also Program gradients directly in terms of pH and ionic strength to minimize manual mobile phase preparation and reduce potential for human error in routine analysis.	1	

			• The pump must contain the ability to automatically select between multiple dwell volumes (Fluidic Paths) by user selection within the instrument method editor. • The instrument must adjust the injection relative to the gradient start to emulate other HPLC system dwell volumes, without the need to alter the gradient table. It should successfully transfer all the methods in just two or lesser injections. • Flow rate accuracy of ±1% or better, Precision of <0.075% RSD or better & compositional precision of 0.15% RSD or better having pH range between 1 to 12.5 or better. • Compressibility compensation must be Automatic and continuous for the solvents & requiring no user intervention. • For Method development & Gradient profiling there must be a provision of 10 or more gradient curves including Linear, Step, Concave and Convex etc. • The system must support fully integrated diagnostics with 96 hours of diagnostic data preserved. Data channels need to include individual pump piston pressures, system pressure, sample compartment temperature, column temperature and ambient temperature. The software must provide full maintenance of information such as counters for total solvent usage, number of injections etc. 2. HPLC SAMPLE MANAGER OR AUTOSAMPLER : • The system must be integrated with Autosampler or Sample Manager having Rheodyne Flow through needle technology or better. • For Autosampler or Sample Manager Injection volume range must be 0.1 to 50.0 µL or better. • Injection needle wash: Must be Integral, active and programmable along with Temperature control from 40 C to 400 C. • The injector precision must be equal to or less than 0.25% RSD from 5.0 to 1000.0 µL or better. • The injector linearity shall be equal to or better than 0.999 correlation coefficient over its entire injection range. • It must have advanced features like Auto-Dilution, Auto-Addition & Load Ahead capabilities. • Sample carryover must be as low as ≤0.002% or better. Standards or conditions must be mentioned. • The sample compartment temperature must be settable from 40 C		

				to 400 C. • The injector must have the ability to automatically dilute samples, to automatically withdraw from several sample vials and dispense into a single vial. • The sample compartment must be able to accommodate both HPLC Vials and/or well plates having minimum 90 vials or 380 well or better. 3. HPLC THERMAL COLUMN MANAGEMENT • The column compartment must be able to support columns up to 300 mm in length & as wide as 4.6 mm ID • The column compartment temperature must be upto 65 Degrees C or better with Peltier control. • The column compartment must have temperature accuracy of +/- 0.5 Degree C & temperature stability of +/- 0.3 Degree C. • Column usage history tracking technology must be associated with the column so that all the information related to number of injections, solvent consumption, Temperature, Pressure etc. should be available electronically & archives all of them so that the data can be acquired as when required & must help to create a paperless laboratory. 4: UV Detector o Wavelength Range : 190-700nm o Bandwidth : 5nm o Wavelength Accuracy : ±1nm o Wavelength Repeatability: ±0.1nm o Linearity range: < 5% at 2 AU o Base line noise: < 5% x10-6 o Drift: <1.0x10-4/Au/hr/°C, dry cell 254nm o Data acquisition rate: Upto 80Hz. o Flow cell design: Taperslit for reduced RI effects 5: Electro Chemical Detector (ECD Detector) 6:ORIGINAL (OEM) HPLC MANUFACTURER'S LICENSED SOFTWARE • Chromatography software should come integrated with secured &		

				relational database Oracle 8.0 or better. Oracle database for easy tracking and trending, Instrument Method, Processing Method, Report Method, etc. should be present. The instrument **manufacturer must be the manufacturer of the software also. 3rd party software must be avoided.** • It must come with minimum Five(5) named users license along with base license having separate user name & passwords. • Custom field / Custom calculations, Pre-made templates, customizable data reports, online help and answer Wizards should be included to help maximize the lab's productivity. • Each injection is time and date stamped for easy archiving, retrieval of data along with Drag and Drop, look and feel of Windows must be present. Report publisher facility for customized reports. Custom reporting with view filters for easy retrieval. • Software should offer multiple levels of password, security to ensure the integrity of all your raw data and results and extensive audit trail. **• Security of data, custom reporting with view filters for easy retrieval.** • The software should be able to show the capability of the system to operate in at least 10 or more various gradient curve mode including Linear, Step, concave, convex. exponential etc. • It must be compliant ready with GLP/GMP & 21 CFR PART 11 & documents must be submitted related to same. • Control, Data **Processing & Single point control of HPLC,** PDA detector and Mass **spectrometer in the futire must happen** with the quoted Software. **• Oracle database should come inbuilt with the software to manage the data properly.** • Software should have automatic built-in diagnostic facilities, programmability to run experiments and data processing including routine qualitative & quantitative analysis. It should be upgradable for automated method development Software. 7:INSTRUMENT& SOFTWARE QUALIFICATION SERVICE (IQ/OQ/PQ) & CERTIFICATION: **The instrument must be Qualified (IQ/OQ/PQ must be performed) along with the Software. Necessary reagents along with Documents must be provided for valid Instrument Qualification, Operational & Performance**		

				Qualification of the instrument along with Specification check during the installation. The vendors must quote the Qualification kits with defined list of items along with valid Cat. No./Cas No/Product ID etc. • Vendors must declare the availability of the spares for 10 years from the obsolescence date of the model from the Market. 8: Warranty: 12 months comprehensive Warranty must come with the instrument except consumables. A thorough Demonstration, Commissioning & Detailed training on Instrument & Application must be provided by the vendors on site. : UPS • Suitable UPS(preferably 3 KVA) with minimum battery backup up to 2 hr or better for complete system 9: consumables • C 18 column : 5µm, 4.6 x 250mn: 2 No and guard column: 02 No • Polar column 5 µm, 4.6 x 250mn: 2 No and guard column: 02 No • Required suitable tubing shall be provided • Maintenance kit which includes consumables for two years hassle free operation of instrument • Standard Samples 1. Caffine : 100g 10: Training Training shall be offered for two days(four persons) free of cost at HEMRL 11: Other Requirements • HPLC system shall be compatible to reverse as well normal phase • Wetted parts shall be stainless steel, titanium, sapphire, PEEK, carbon-fiber filled PTFE or equivalent • The sampler shall support a pressure similar to pump and it shall be compatible with environmental conditions such as temperature, RH etc • Safety features shall be available for the complete HPLC system such as leak detection, safe leak handling and excess pressure		

			monitoring leak 12: End user certificate • If end user certificate required will be provided as per HEMRL format 13:computer / printer compatible -1 set • HP 280 G6 CTO • Core i7 10TH Gen • 16GB DDR4 Ram • 512GB SSD • DVD Writer (Sata Or USB) • Lan Port Giga 2 No's • 22" FHD Led • USB KB & Mouse • Dos • 5Years Warranty			
4	358	LC-MS triple cod for Central Lab.	Tender Specifications of Quaternary Bio UPLC WITH LCMS HPLC/UPLC Instrument Specifications Supply, installation, commissioning and training of HPLC/UPLC system with PDA and single quad MS Detector Detail Specifications: The instrument should have High Performance Surfaces(HPS)-based technology to provide fast analysis. QUATERNARYSOLVENTMANAGER(QSM) Number of solvents Blend upto four solvents in any combination(standard) Expanded solvent choices with optional six-port solvent select valve Solvent degassing Integrated vacuum degassing, four chambers One additional chamber forthe SM-FTN purge solvent Solvent blending Automated,onlinepH,ionicstrength,and organic modifier blending from pure solvents should be possible	1		

				Gradient formation Low pressure mixing, quaternary gradient Gradient profiles 11 gradient curves (includinglinear,step[2],concave[4],andconvex[4]) Primary check valves Intelligent In take Valves(i²Valve),standard Pressure pulsation ≤1.0%or25psi,which ever is greater Flow accuracy ±1.0%at0.5to2.0mL/minusing100%A(withi 2Valve) Flow precision ≤0.075% RSD or ±0.01 min SD, whichever is greater, based on six replicates (withi 2Valve) Composition ripple ≤1.0mAu(≤0.1mAUwithoptional250µLmixer)(withi 2Valve) Composition precision† ≤0.15% RSD or ±0.02 min SD, whicheveris greater, based on six replicate injections (withi 2Valve) Composition accuracy† ±0.5% absolute (fullscale)from 5% to 90% from 0.5 to 2.0mL/min (withi 2Valve) Compressibility compensation Automatic and continuous Priming Wet priming can run at flow rates upto 4mL/min Pump seal wash Equipped with an automated active wash system to flush the rear of the high pressure seals and the plungers Flow ramping Range:0.01 to 30.00 min to reach 2.00mL/min Default:0.45min to reach 2.00 mL/min Primary wetted materials Titanium, PPS, fluoropolymer, fluoroelastomer, UHMWPEblend, sapphire, ruby, zirconia, Nitronic60, DLC, PEEK and PEEKblend Total system band spread,5σ ≤12 µL Dwell volume (total system) ≤400µL, includes standard		

			100µL mixer Gradient delay volume† ≤300 µL, includes standard 100 µL mixer Integrated leak management Leak sensors, as standard, and safe leak handling Quantum synchronization Injection synchronization between pump and sample manager enhances retention time reproducibility Settable flow rate range 0.010to2.000mL/min,in0.001mLincrementsor better Maximum operating pressure 15,000psi pH range† 2to10 SAMPLE MANAGERInjection volume range 0.1to10.0 µL as standard configuration Accuracy (aspiration) ±0.2µL, measured by fluid weight removed from vial with 10.0µL injections averaged over 20 injections using standard 100-µLsyringe Precision ≤0.25%RSD,5to100µL Linearity ≥0.999 (standard needle) Number of sample plates Any two of the following: • 96 and 384 microtiter plates • 48 position 2.00-mLvial plates Sample compartment 4.0 to 40.0°C, settable in0.1°C increments temperature range Temperature accuracy ±0.5°Catsensor Temperature stability ±1.0°Catsensor Sample manager heat time ≤30 min ambient 40°C Sample manager cool time ≤60 min ambient-4°C Injection needle wash Integrated, active, programmable Minimum sample required 3µLresidual,usingWatersTotalRecovery2-mL Vials (zerooffset) Sample carryover ≤0.002% caffeine(UV) ≤0.002% sulphadimethoxine(MS) Advanced sample Auto-dilution, autoaddition, and load-ahead manager capabilities Primary wetted materials Vespel SCP, PEEK blend, DLC, and HPS Photo Diode Detector(PDA Detector) OPERATING SPECIFICATIONS		

			Wave length range 190 to 800nm Light source Prealigned, intelligent technology deuterium lamp Wave length accuracy ±1nm Linearity range Deviation at 2.0AU≤5%,propylparaben,at257nm Optical resolution 1.2 nm Digital resolution 1.2 nm/pixel Baseline noise ±3μAU,230nm,2Hz,2s,wavelength compensation310to410,WET(2Dchannel) Drift ≤1.0x10 -3/AU/hour/°C **Flow cell design Light-guiding UPLC intelligent technology flow cell** Path length 10mm (analytical cell) Cell volume 500nL(analytical cell) Wetted materials 316 stainlesssteel,fusedsilica,Teflon®AF,PEEK Data acquisition Upto 80Hz Pressure limit 1000psi Unattended operation Leak sensors, full diagnostic data captured through console software COLUMN MANAGEMENT Column capacity Two columns, as standard (maximum length of 150mm with filter or **guardcolumn)** or four columns (maximum length **of 50mm) can be supported with** optional tubing kit, upto 4.6 mm **internaldiameter(I.D.)** Column compartment(s) 4.0to90.0 **°C,settable in 0.1 °C increments;** two independent heat/cool **zones per module, temperature range upto six zones in stacked configuration** **Column compartment(s) temp accuracy ±0.5 °C at sensor** **Column compartment(s) temp stability ±0.3 °C at sensor** **Column compartment heat time** **≤1** 5 min ambient-60°C Column compartment **cool time** **≤1** **5 min 60–20°C** **Solvent conditioning** Active pre-heating as standard		

			Column tracking eCord Technology column in formation management tracks and archives column usage history SPECIFICATIONS FOR SINGLE QUAD DETECTOR: • Ionization modes: Should have dual-orthogonal atmospheric pressure ionization (API) and electrospray (ES) interface. • Ion source transfer optics: Dual off-axis ion guides for elimination of neutral noise within creased sensitivity and robustness. • Mass analyser: Single high resolution quadrupoleanalyser • Detector: Detector Low noise, off-axis, electron multiplier detector with Digital dynamic range upto 4x106 • Acquisition modes: Full scanMS/Selected Ion Recording(SIR)both needed. • Mass range: 30 to 1250 m/z • Scan speed: 10Hzfor m/z100to1000or20Hzform/z50to500(minimum) • Mass accuracy: ±0.2Da or better over full mass range • Ion polarity switching time: 25 ms or better • Mass resolution: Automated mass resolution control(0.7Da) for constant data quality • Number of SIR channels: Upto1024 • Software compatible: Systems supported on software. • Accessories: High purity N2 generator and tool kits Integrated software to control MS and LC together 1. Software to control, acquire and process the data with interactive control and display of solvent delivery via controlled network. 2. The software should be original, authenticated and compliant for GLP/GMP/21 CFR Part 11. 3. All functions and features accessible from a single window. 4. Wizards to simplify and automate common system functions. 5. Seamless integration of all the modules should be available. 6. 3D spectral module should be provided for the diode array detector. 7. Methods – instrument, processing and reporting parameters in		

			one place. 8. Diagnostics functions, configuration wizards and extensive user help. 9. The software should have option for maintain security and regulatory compliance. 10. Embedded Oracle data base for best data security or better. 11. Required Qualification should be provided with original part number from OEM. 12. Should have option for manual Integration and auto integration. General terms and Conditions 1. Warranty: One year warranty from the date of installation shall be provided. 2. Manual: The vendor shall provide one set of complete operation manuals of the instrument along with the instrument. The vendor may provide service manual. 3. Spare parts: Supplier should assure supply of spare parts for the trouble-free operation of machine for ten years after warranty period. 4. The supplier shall ensure after sale service/maintenance of the instrument with qualified engineers. 5. The supplier should provide training to 6 persons for 5 days at purchaser's site after installation of the purchased instrument. 6. Supplier must offer best quality/certified material (wherever applicable). 7. All the items shall be brand new from reputed manufacturers procured from their authorized agents/principals.		
5	367	Gas Chromatography with all accessories	Gas Chromatography: Ø Should have Three channel architecture, with up to three inlets and four detectors. Ø Should have Fast oven temperature ramping 170°C/minute orbetter Ø Should have 10" High resolution full-color touch screen for easy operating of GC Ø Electronic flow control (EFC) Full automation capabilities through software and auto sampler	1	

Ø Prevention of Column over heating
Ø Suitable Automatic Gas Sampling Valve from the electrochemical cell should be provided
Ø Standard Analyzer Packages should be there
Ø Support for nine valves, 16 programmable events, heated (external) valve oven, Backflush, station or Multistream selection valves
Column Oven: **Temperature range:**
Ø Ambient +4 °C to 450 °C
Ø Should have Temperature program ramps/holds: **24/25**
Ø Should have Maximum temperature ramp rate: **150°C/min for all voltages**
Ø Cool down rate: 400 °C to 50 °C in 4.5 minutes
Ø Temperature set-point resolution: **0.1°C**
Ø Ambient temperature reject **<0.01°C change in oven for**1°C change in ambient temp
Ø Retention Time Repeatability **<0.008% based on Pentadecane** under temperature program conditions
Ø Area repeatability < 1% RSD
Ø Up to 3 EFC modules total, injector, **detector and auxiliary** Optional backflush
1. Columns
a. Fused silica **capillary column polar**
i. Column ID:0.25 **mm (ID)**
ii. Film thickness **:0.25µm**
iii. Length: 30 m
b. Fused silica capillary column **for gas analysis**
i. Column ID: 0.25mm (ID)
ii. Film thickness:0.25µm
iii. Length: 30 m
c. Fused silica capillary column **intermediate polar**
i. Column ID: 0.25mm (ID)
ii. Film thickness:0.25µm
iii. Length: 30 m
Columns:1. Columns
a. Fused silica capillary column polar
i. Column ID:0.25 mm (ID)
ii. Film thickness :0.25µm
iii. Length: 30 m

			b. Fused silica capillary column **for gas analysis** **i.** Column ID: 0.25mm (ID) **ii.** Film thickness:0.25µm **iii.** Length: 30 m c. Fused silica capillary column intermediate polar i. Column ID: 0.25mm (ID) ii. Film thickness:0.25µm iii. Length: 30 m **Injector: Ø Should have Split/SpitlessInjector** **Ø Pressure range: 0-150 PSI** **Ø Maximum Temperature: 450 deg C** **Ø Split Range: 1:10,000** **Detector:Ø FID Detector** **Ø Maximum temperature: 450 °C Detectivity: 1.2 pg C/sec** **Ø Linear dynamic range: 10^7 Software:Software should be 21 CFR Part 11 compliance with Intuitiveuser interface(IUI)** **Ø Should have 3 in 1 screen and data in real time.** **Ø Calibration: comprehensive calibration features that should allow multiple types and multiple levels of calibrations** **Ø Integration should be high accuracy and reproducibility even withdifficult peaks** **Ø Integration should be 100% customizable** **Ø Software should be capable of producing multichannel reportswith combined peak table results.** **Ø Ethernet: Protocol: TCP/IP** **Ø Data rate: 100 Mbps or better** **Ø Control: GC control and method parameters** **Computer &Printer:Ø Computer & printer, Gas purification panel:Ø Gas purification panel with He, H2, N2, Air gas and Oxytrap in He gas line Installation kit:Installation Kit :** **Ø 25 ft. cleaned tubing** **Ø 1/4x1/8' pipe thread connector** **Ø 1/8" Swagelok Fittings** **Ø Injector Nut Wrench** Ø Column Scoring Wafer & Fuses **Ø Compatible Data acquisition and display system** **Standard Warranty: 5 Years**		

6	413	High Performance Liquid Chromatograph with Complete Accessories (HPTLC)	HPLC Pump (or delivery system) • High Pressure binary gradient Two pump Integrated System. • The machine should be operable both in isocratic and gradient mode. • The flow rate should be within a range from 0.001 to 20 ml/min with the possibility of increment of 0.01 ml/min for carrying out semi-preparative applications. • Flow Precision: ≤ 0.1% RSD or better. • Flow Accuracy: ± 1.0% or better • Delay Volume : <200µl (with Mixer). • Max. Operating pressure: 6000 psi or more. • Gradient Composition Accuracy : ± 0.5%of setting 1ml. • Gradient Composition Precision : ± 0.5%of RSD of setting 1ml. • Should have possibility to operate in various gradient curve mode including Liner, Step, concave, convex etc. Manual Injector • Loop Size volumes should be of 5ul, 20ul, and 200 ul etc. with suitable syringe. Column Oven • Should have provision for housing at least four or more columns of 30 cm length. • Temperature setting rage: Ambient- 60oC or better • Operating temperature: ambient to 60oC or better UV Detector • The detector should have wavelength range of 190-700nm • Bandwidth <5nm • wavelength accuracy of • ± 1 nm • Wavelength Repeatability: • ± 0.1 nm • Linearity <5%at 2.4AUBase line Noise single wavelength 5.0x10-6 AU at 230 nm or better • Base line Noise Dual wavelength 35.0x10-6 AU at 230nm, 280 nm or better • Drift 1.0x10-4 AU • Sampling rate : Up to 80 • Flow Cell Path length: 10mm, Cell volume: 16.3 µl or less. • Light Source: Deuterium or tungsten lamp with minimum life of 2000 hrs or more.	1	

				• Should have provision of low noise performance within the operable wavelength range without lamp change. ECD Detector • Operating modes: Direct Current pulsed amperometric detector (PAD) scan. • Potential Range: ±200mV in 10mV steps (DC,PAD,Scan) • Column Oven: 70° C above ambient to 450 °C, 0.10° c resolution. • Analog Signal Output :± 1volt or :± 10 volt selectable. • Auxiliary Electrode:Stainless steel. • Working Mode: DC • Filter time constants: 0.1-5 seconds in 1,2,5 sequence steps ,DC mode • Current Range : DC 10pA(dummy load .47 Uf,200Mohms,+800mV, time constant 1.0 s) at temperature equal 300 C. • PAD Mode • Range: 20nA-200uA,1,2,5 sequence steps. • t1: 100-2000 ms • t2: 100-2000 ms • t3:0(off)-2000 ms in 10 ms steps • Sample times (ts)= 20, 40, 60, 80, 100 ms • Scan Range: 10nA-5uA in 1, 2, 5 steps • Scan Times: 1-50 Mv/s in 1, 2, 5 steps • Scan Cycles: Half, Full, Continuous • Time event programming: DC & PAD • Flow Cell: Design: Confined Wall-Jet • Standard flow cell: 0.08uL min. volume, flow rate 25uL/min-2mL/min Software • The software should be original and authenticated • Should have option for versatility for multitasking without multiple software packages • Should have option for data integrity along with advanced security measures Embedded Oracle data base software must be quoted.		

7	414	Fourier transform infrared spectroscopy F.T.I.R. with all attachments	Type of Optical System: Single beam Wavenumber- Maximum (Per cm): 7000 Wavenumber - Minimum (Per cm):350 Spectral (Wavenumber) Resolution (Per cm):2 Spectral (Wave Number) Accuracy (Per cm) (+/-):0.05 Interferometer: Michelson interferometer Wavelength setting and scanning: Automatic Beam Splitter: KBr Mirror Coating: Aluminium Peak to Peak Signal to Noise Ratio for 1 minute scan: 30000:1 or more Measurement modes: Transmittance, Absorbance &Reflactance Detector having temperature control:Yes Light Source: Mid IR Source Analyze Liquid and solid samples:Yes Analyze thin films on metals samples:Yes	2		
8	415	Particle size Analyzer with all attachments	**1. Measuring range: 0.02 µm - 2.8 mm** **2. Measuring principle: Laser diffraction** **3. Lasers: 3x Red 780 nm** **4. Laser power: 3 mW nominal** **5. Detection system: Two fixed photo-electric detectors with logarithmically spaced segments placed at correct angles for optimal scattered light detection from 0.02 to 165 degrees using 151 detector segments.** **6. Data: Volume, number and area distributions as well as percentile and other summary data** **7. Data format: Stored in ODBC format in encrypted Microsoft Access Databases to ensure compatibility with external statistical software applications.** **8. Data integrity: Data integrity may be ensured using FDA 21 CFR Part 11 compliant security features including password protection, electronic signatures and assignable permissions** **9. Measuring time: ~ 10 to 30 seconds** **10. Power requirements: AC input: 90 - 132 VAC, 47 - 63 Hz, single phase 200 to 265 VAC, 47 - 63 Hz, single phase** **11. Power consumption: 25 W nominal, 50 W max. (depending on options installed)** **12. Environmental conditions: Temperature: 5° to 40° Celsius (50° to 95° Fahrenheit)** **Humidity: 90% RH, non- condensing maximum** **Storage temperature: -10° to 50° Celsius (14° to 122° Fahrenheit) (dry only)** **Pollution: Degree 2** **13. Physical specifications: Case Material: Steel and impact resistant plastic** **Exterior surfaces are finished with corrosion resistant paint or plating**	1		

			14. Dimensions (W x H x D): ~ 560 x 360 x 460 mm (22 x 14 x 18 in) 15. Weight: ~ 27 kg (60 lbs) 16. Eductor air supply: 100 psi (689 kPa) maximum pressure 5 CFM (8,5 m3/h) at 50 psi (345 kPa) minimum flow rate Free of dry contaminants, moisture and oil 17. Vacuum: Vacuum must exceed 50 CFM		
9	426	**HPLC with all accessories**	HPLC Specifications :High Pressure Dual Pump Binary Gradient System with analytical and semi preparative capability (Two Individual Pumps) I. Dual Pump Binary Gradient for analytical and semi prep work - Operating Pressure 6000psi or more - Flow accuracy ± 1 % (for individual pump) Flow precision ≤ 0.1 %RSD (for individual pump) - Flow rate - 0.00 - 10.00ml/min in 0.01 ml increment - Delay volume- With mixer should be ± 200 ul - Pulse free delivery and good solvent blending capacity - Pressure ripple of single pump - ≤2 % at 1.0 ml/min Optional flow extendable to 22.00ml/min II. Manual Injector: Analytical injector with 5µl loops, 10µl loops, 20µl loops III. Detector: a) UV-Vis. Detector:- * Wavelength range - 190 to 700nm * Light source — Deuterium lamp (single lamp for both UV and Vis. Range) *** Noise - ≤5x106AU, dry Cell ,254nm** **• Drift- ≤1x104/AU/Hr.** *** Linearity - < 5% at 2.5AU at 257 nm** *** Band width —5nm** *** Accuracy - ± 1nm** *** Flow cell volume -<=16.3 ul** * The UV/Vis detector should be supported with flow cell, slit with tapered so as to recidce the refractive index effects and enhances better sensitivity. * Features - The UV/Vis detector should have scan function and on board user diagnostics features, including lamp status log, S/N registry, lamp hours and ignition.Should have lamp optimization	1	

25			feature also. Thermal Wander Management IV. Column Oven: * Temperature range from 20 to 150 °C (5°C above ambient)HPLC Software: #Windows based chromatography software should provide complete control of HPLC system. # The software should be quoted with a relational secured data base, independent of operating system like SQL/Oracle and an interface for the software to the database for strong integrity and security of data. The raw data should be available for processing at any time after modification of 'n' no. of times. 4 All meta data are automatically managed, linked and versioned Software should have customized reporting format. The quoted software should have the capability of programming at least 1-10 different gradient curves. #Columns 1. C-18 — 1no with mattering guard column. * Compatible PC of pre installed window 10 of configuration i7, 8 GB RAM, 1TB Hard disk, 2 GB Graphic, 64 bit of reputed manufacture and colored printer (laser of reputed) should be provided. * Laboratory installation- with power backup of 2KV UPS. Pre Requisites • Sample filtration Kit • Solvent Filtration Kit • Ultra Sonic Bath • HPLC syringe • Piping kits • Connectors & Ferrules kit Single point control/Single software must be quoted to control and acquire data from all the modules. Hardware Computer of standard make like HP, Dell or Lenevo should be supplied with mentioned specification: Processor: i4, or higher version; 4GB RAM, 1TB				

			hard higher drive or; DVD Read Write Drive, LED colour monitor; 101 keys key board, Mouse and Mouse Pad; with latest version of windows 7 Pro based operating software; LaserJet Printer, 3KVA UPS with 30 min Backup Columns: C18 (Two) Warranty: 2 Years with additional AMC of two years		
10	427	Atomic absorption spectrophotometer double beam wavelength range 190-1100 nm with all accessories	Product Specifications Spectral Bandwidth 1 nm Mobility Benchtop Detector PMT HC Lamp 0 to 30 mA, modulated Sample Feed Rate 3 to 8 mL/min (Adjustable) PMT -200 to -1000 V Accuracy +/-0.01 Abs at 1 Abs Range 190 to 900 nm Integration Time 0.04 to 99 Sec	1	

Total Amount Rs. 50700000