

Purchase & Store Section

Tender Approval Doc No: LUMHS/PSS/-24433 Dated: 12-08-2015  
Technical Bid Opened On: 17<sup>th</sup> September 2015.

# LIAQUAT UNIVERSITY

## OF MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH  
Telephone: + 92133350, Exch 771240, Ext. + 122  
Email: storesectionlumhs@yahoo.com  
Web Site: www.lumhs.edu.pk


REFERENCE: TENDER FOR PURCHASE & SUPPLY OF LABORATORY EQUIPMENTS/MODELS DESCRIPTION (A) FOR NEWLY ESTABLISHED BILAWAL MEDICAL COLLEGE AT LUMHS, JAMSHORO.


As per combined Technical Evaluation Report by Technical Evaluation Committee following firms / dealers have qualified for financial opening

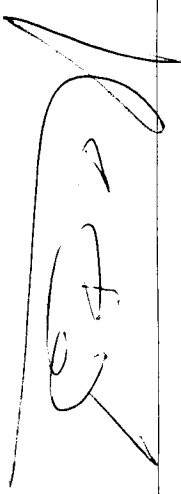
1	2	3	4	5
M/S Paktech Instrument Co.	M/S S. Ejazuddin & Co.	M/S Scientific Technical Corporation (Pvt) Ltd.	M/S Chemical House	M/S Global Marketing Services
6	7	8	9	
M/S Medinostic healthcare (Pvt) Ltd.	M/S UNI Brand International	M/S SEICO Scientific Traders	M/S Technology Links	

As per combined Technical Evaluation Report by Technical Evaluation Committee following firms/dealers have been disqualified for financial opening

1	2	3	4	5
M/S Labasco Enterprises	M/S Ansari Traders	M/S Muslim Trading Agency	M/S Hospicare Systems	M/S Zelon Scientific
6	7			
M/S Muslim Medical Services	M/S FY Scientific Associates			

  
Prof. Muhammad Yousef Memon,  
Chairman, (Central Purchase Committee)  
LUMHS, Jamshoro.

  
Ms. Hira Talpur,  
Director Finance  
LUMHS, Jamshoro.

  
Mr. Asif Pervaiz Khero,  
External Member  
University of Sindh

## BID EVALUATION REPORT

01. Name of Procuring Agency: Liaquat University of Medical & Health Sciences, Jamshoro.
02. Tender Approval No. LUMHS/PSS/-24433, Dated: 12-08-2015.
- Tender Description / Name of Work / Items: Library Books for Bilawal Medical College At LUMHS.
03. Method of Procurement Tender through: Single stage two envelopes bidding procedure
04. Tender Published Through LUMHS three Leading News Paper & SPPRA website
05. Total Bids Documents Sold 06 Nos.
06. Total Bids received 06 Nos.
07. Technical Bid Opening date: 17<sup>th</sup> September 2015
08. No of bid technically qualified: 05 No.
09. Bid (s) rejected 01 No.
10. Financial Bid Opening Date: 22<sup>nd</sup> October 2015
11. Bid Evaluation Report


### Medical Books (Local) For Bilawal Medical College.


S.No.	Name of Firm or Bidder	Cost offered by the bidders	Ranking in terms of cost	Comparison with estimated cost	Reasons for acceptance/rejection	Remarks
01.	M/S Z.S Dictionary, Karachi.	As per Financial Comparative Statement	1 <sup>st</sup> Lowest in items No.1,2,4,5,6,9,11,14,18,19,22	Within estimated	As per Bid Evaluation criteria	Qualified in items No.1,2,4,5,6,9,11,14,18,19,22
02.	M/S New Noble Books, Karachi.	As per Financial Comparative Statement	1 <sup>st</sup> lowest in items No.3,7,10,12,16,17,	Within estimated	As per Bid Evaluation criteria	Qualified in items No.3,7,10,12,16,17,

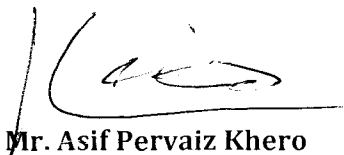
### Medical Books (Original) For Bilawal Medical College LUMHS, Jamshoro

S.No.	Name of Firm or Bidder	Cost offered by the bidders	Ranking in terms of cost	Comparison with estimated cost	Reasons for acceptance/rejection	Remarks
01	M/S Allied Book Company, Lahore	As per Financial Comparative Statement	1 <sup>st</sup> lowest in items No.1,2,3,4,5,6,7,8,9,10,11, 12,13,15,19,20,22,24,25,27 28,29,31,32,33,35,36,37,38, 40,41,45,48,49,50,51,52,53, 54,55,56,57,58,59,60,61,62, 63,64,65	Within estimated	As per Bid Evaluation criteria	Qualified in items No.1,2,3,4,5,6,7,8,9,10,11, 12,13,15,19,20,22,24,25,27 28,29,31,32,33,35,36,37,38, 40,41,45,48,49,50,51,52,53, 54,55,56,57,58,59,60,61,62, 63,64,65
02.	M/S Paramount Books	As per Financial Comparative Statement	1 <sup>st</sup> lowest in items No.14,16,17,21,30,34,43,44, 46,47,66,			Qualified in items No.14,16,17,21,30,34,43,44, 46,47,66,

### Central Purchase Committee

  
**Prof. Muhammad Yousuf Memon,**  
 Chairman, CPC

  
**Ms. Hina Talpur**  
 Director Finance

  
**Mr. Asif Pervaiz Khoro**  
 External Member University of Sindh  
 Member, CPC.



**LIAQUAT UNIVERSITY**  
**OF MEDICAL & HEALTH SCIENCES**  
**JAMSHORO, SINDH, PAKISTAN**

Web site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

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Purchase & Store Section

Tele: # -92-22-923308 - 2771340-9213350 Exchange: 122

**BILAWAL MEDICAL COLLEGE**

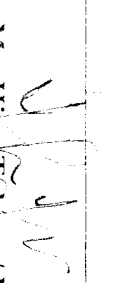
**FINANCIAL COMPARATIVE STATEMENT FOR BILAWAL MEDICAL COLLEGE LIBRARY**  
**AT LUMHS JAMSHORO THROUGH TENDER OPENED ON 17/09/2015.**

**Medical Books (Local) For Bilawal Medical College**

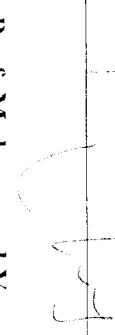
S.No	Author	Title	M/S Z.S Dictionary, Karachi	M/S New Noble Books, Karachi	Selected Book seller Name	Remarks
1.	Reehard snell	Clinical anatomy	Rs. 440.00 9 <sup>th</sup> ed.	Rs. 545.00 9 <sup>th</sup> ed. (2012)		
2.	B.D. Chaurasia	Human anatomy three volume set	Rs. 660.00 6 <sup>th</sup> ed.	Rs. 745.00 6 <sup>th</sup> ed. (2014)		
3.	Sadler	Langman's medical embryology	Rs. 200.00 13 <sup>th</sup> ed.	Rs. 320.00 15 <sup>th</sup> ed. (2015)		
4.	Keith L. Moore	The developing human clinically oriented embryology	Rs. 400.00 9 <sup>th</sup> ed.	Rs. 445.00 9 <sup>th</sup> ed. (2015)		
5.	Barbara young	Wheeler's functional histology	Rs. 350.00 6 <sup>th</sup> ed.	Rs. 595.00 6 <sup>th</sup> ed. (2014)		
6.	Lipincott	Illustrated biochemistry	Rs. 325.00 6 <sup>th</sup> ed.	Rs. 390.00 6 <sup>th</sup> ed. (2013)		
7.	Mustaque	Essentials of medical biochemistry 2 vol set	Rs. 180.00 7 <sup>th</sup> ed.	Rs. 170.00 8 <sup>th</sup> ed.		

  
Mr. Asif Perwaiz Khattar,

External Member from University of Sindh  
Member: Central Purchase Committee


  
Ms. Hina Talpur / Nominee


Director Finance  
Member: Central Purchase Committee


  
Prof. Muhammad Yousuf Memon

Director Academics / Chairman, Central Purchase Committee

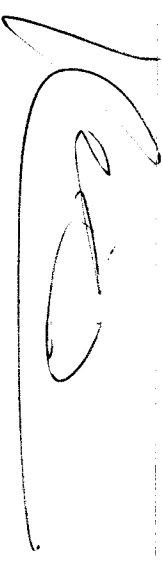
S.No	Author	Title	M/S Z.S Dictionary, Karachi	M/S New Noble Books, Karachi	Selected Book seller Name	Remarks
8.	Cunningham's	Manual of practical anatomy 3 vol. set	Not Quoted	Not Quoted		
9.	Rocheard snell	Neuro anatomy	Rs. 330.00 4 <sup>th</sup> ed.	Rs. 495.00 7 <sup>th</sup> ed.(2010)		
10.	Guyton hall	Text book medical physiology	Rs. 495.00 12 <sup>th</sup> ed.	Rs. 625 13 <sup>th</sup> ed.(2015)		
11.	Murray, grammer maury rodewll	Happer's illustrated biochemistry	Rs. 400.00 30 <sup>th</sup> ed.	Rs. 520.00 29 <sup>th</sup> ed. (2014)		
12.	Chatterjee	Textbook of medical biochemistry Illustrated biochemistry	Rs. 400.00 8 <sup>th</sup> ed	Rs. 340.00 8 <sup>th</sup> ed.(2012)		
13.	Sinuatamby	East's anatomy (Black & White)	Rs. 500.00 12 <sup>th</sup> ed.	Not Quoted		
14.	Ganong	Review of Medical Physiology	Rs. 300.00 24 <sup>th</sup> ed.	Rs. 425.00 24 <sup>th</sup> ed.(2012)		
15.	Campbell	Biochemistry	Not Quoted	Not Quoted		
16.	Travel Katzung	Pharmacology Examination and Review Pharmacology	Rs. 450.00 10 <sup>th</sup> ed.	Rs. 380.00 10 <sup>th</sup> ed.		
17.	Harvey Champo	Lippincott Illustrated Review Pharmacology	Rs. 400.00 6 <sup>th</sup> ed.	390.00 6 <sup>th</sup> ed. 2014		
18.	Kumar Abbas	Robbins Basic Pathology	Rs. 495.00 9 <sup>th</sup> ed.	Rs. 545.00 9 <sup>th</sup> ed.		
19.	Kumar Abbas	Robbins and Cotran Pathologic Basis of Disease	Rs. 750.00 9 <sup>th</sup> ed.	Rs. 900.00 9 <sup>th</sup> ed.		

  
**Mr. Asif Pervaiz Khero,**  
 External Member from University of Sindh  
 Member. Central Purchase Committee

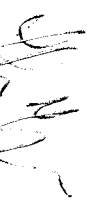
  
**Ms. Hina Talpur / Nominee**  
 Director Finance  
 Member. Central Purchase Committee

  
**Prof. Muhammad Yousuf Memon**  
 Director Academics / Chairman, Central Purchase Committee

S.No	Author	Title	M/S Z.S Karachi	M/S New Noble Books, Karachi	Selected Book seller	Remarks
20	Perk's	Textbook of Medical Jurisprudence Forensic Medicine and Toxicology	Not Quoted	Rs. 260.00 8 <sup>th</sup> ed.		
21	Hidayatullah Mohammad	Public health & community medicine by Mohammad	Rs. 585.00 4 <sup>th</sup> ed.	Not Quoted		
22	Siddiqi	Textbook of preventive & social medicine	Rs. 400.4 22 <sup>nd</sup> ed.	Rs. 425.00 22 <sup>nd</sup> ed. (2014)		



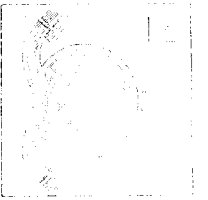
Mr. Asif Perwaiz Khuroo,  
External Member from University of Sindh  
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Prof. Muhammad Yousuf Memon  
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JAMSHORO, SINDH, PAKISTAN

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E-mail: [ahf64memnon@gmail.com](mailto:ahf64memnon@gmail.com)

**CENTRAL LIBRARY**

FINANCIAL COMPARATIVE STATEMENT FOR BILAWAL MEDICAL COLLEGE LIBRARY  
AT L.J.M.H.S JAMSHORO THROUGH TENDER OPENED ON 17/09/2015.

Medical Books (Original) For Bilawal Medical College L.J.M.H.S, Jamshoro.

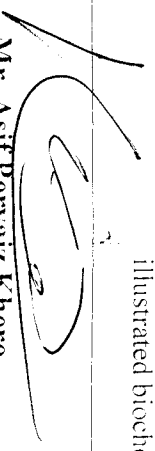
S.No	Author	Title	M/S Allied Book Company Lahore	M/S Paramount Book (PVT) Ltd	M/S Z.S Dictionary Karachi.	M/S New Noble Books Karachi.	Selected Book seller Name	Remarks
01	Richard snell	Clinical anatomy	Rs. 1646.18 9 <sup>th</sup> ed. (2012) Pak	Rs. 3300.89 9 <sup>th</sup> ed. (2012) Ind	Not Quoted	Not Quoted		
02	R.D. Chaurasia	Human anatomy three volume set	Rs. 1631.50 6 <sup>th</sup> ed. (2013) Ind	Rs. 678.98 6 <sup>th</sup> (2013) V-1 Ind	Not Quoted	Not Quoted		
				Rs. 820.73 6 <sup>th</sup> ed. (2013)V-2 Ind				
				Rs. 820.73 6 <sup>th</sup> ed. (2013)V-3 Ind				
03	Sadler	Langman's medical embryology	Rs. 689.97 12 <sup>th</sup> ed. (2012) Pak	Rs. 1124.55 12 <sup>th</sup> ed. (2013) Ind	Not Quoted	Not Quoted		
04	Keith L. Moore	The developing human clinically oriented embryology	Rs. 1684.05 9 <sup>th</sup> ed. (2014) Ind	Rs. 2176.34 9 <sup>th</sup> ed. (2012) Ind	Not Quoted	Not Quoted		
05	Barbara Young	Wheeler's functional histology	Rs. 921.05 6 <sup>th</sup> ed. (2015) Ind	Rs. 1117.94 6 <sup>th</sup> ed. (2013) Ind	Not Quoted	Not Quoted		
06	Lipincott	Illustrated biochemistry	Rs. 971.21 6 <sup>th</sup> ed. (2014) Pak	Rs. 1653.75 6 <sup>th</sup> ed. (2014)	Not Quoted	Not Quoted		

**Mr. Asif Pervaiz Khoro,**  
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**Ms. Hiba Talpur / Nominee**  
Director Finance  
Member: Central Purchase Committee

**Prof. Muhammad Yousuf Memon**  
Director Academics / Chairman, Central Purchase Committee

S.No	Author	Title	M/S Allied Book Company Lahore	M/S Paramount Book (PVT) Ltd	M/S Z/S Dictionary Karachi.	M/S New Noble Books Karachi.	Selected Book seller Name	Remarks
07	Mustaque	Essentials of medical biochemistry 2 vol set	Rs. 272.00 (2011) Pak	Rs. 128.00 8 <sup>th</sup> ed. (2008) Vol-1 Pak	Not Quoted	Not Quoted		
				Rs. 128.00 8 <sup>th</sup> ed. (2011) Vol-2 Pak				
08	Cunningham's	Manual of practical anatomy 3 vol. set	Rs. 1428.02 15 <sup>th</sup> ed. (2011) Pak 3 vol. set	Rs. 476.00 5 <sup>th</sup> ed. Pak Vol-1	Not Quoted	Not Quoted		
				Rs. 476.00 5 <sup>th</sup> ed. Pak Vol-2				
				Rs. 476.00 5 <sup>th</sup> ed. Pak Vol-3				
09	Reehard snell	Neuro anatomy	Rs. 1121.21 7 <sup>th</sup> ed. (2014) Pak	Rs. 1786.05 7 <sup>th</sup> ed. (2009) Ind	Not Quoted	Not Quoted		
10	Guyton. hall	Text book medical physiology	Rs. 1466.05 13 <sup>th</sup> ed. (2015) Ind	Rs. 1779.44 13 <sup>th</sup> ed. (2015) Ind	Not Quoted	Not Quoted		
11	Murray. grammer maurry rodewll	Harper's illustrated biochemistry	Rs. 1231.62 30 <sup>th</sup> ed. (2015) US	Rs. 1358.51 13 <sup>th</sup> ed. (2015) US	Not Quoted	Not Quoted		
12	Charterjea	Textbook of medical biochemistry illustrated biochemistry	Rs. 1259.89 8 <sup>th</sup> ed. (2013) Ind	Rs. 1410.41 8 <sup>th</sup> ed. (2012) Ind	Not Quoted	Not Quoted		



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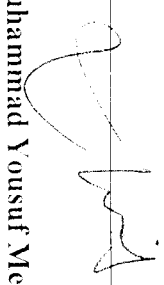


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13	Simanung	East's anatomy (Black & White)	Rs. 1738.49 12 <sup>th</sup> ed. (2011) UK	Rs. 3190.74 12 <sup>th</sup> ed. (2011) UK	Not Quoted	Not Quoted
14	Ganong	Review of Medical Physiology	Rs. 1619.39 24 <sup>th</sup> ed. (2012) US	Rs. 1590.23 25 <sup>th</sup> ed. US	Not Quoted	Not Quoted
15	West JB	Best and tailors physiological Basis of Medical Practice	Rs. 1496.19 13 <sup>th</sup> ed. (2012) Pak	Rs. 2242.49 13 <sup>th</sup> ed. Ind	Not Quoted	Not Quoted
16	Leminger	Principles of Biochemistry	Rs. 24475.19 6 <sup>th</sup> ed. (2013) US	Rs. 9297.01 6 <sup>th</sup> ed. (2013) UK	Not Quoted	Rs. 920.00 6 <sup>th</sup> ed. 2013
17	Singh V	Textbook of Clinical Neuroanatomy	Rs. 866.55 2 <sup>nd</sup> ed. (2014) Ind	Rs. 853.34 2 <sup>nd</sup> ed. (2010) Ind	Not Quoted	Not Quoted
18	Turbati	Oxford Dictionary English to English	Rs. 1525.27 8 <sup>th</sup> ed. (2010) UK	Not Quoted	Rs. 1995.00 9 <sup>th</sup> ed.	Rs. 1780.00 P.K
19	Rodney A. Rhoades	Medical Physiology: Principal for clinical Medicine	Rs. 8035.25 4 <sup>th</sup> ed. (2013) US	Rs. 8875.29 4 <sup>th</sup> ed. (2012) US	Not Quoted	Not Quoted
20	Eric P. wid mair	Vanders Human Physiology: The Mechanism of Body function	Rs. 4115.02 13 <sup>th</sup> ed. (2014) US	Rs. 4538.96 13 <sup>th</sup> ed. (2013) US	Not Quoted	Not Quoted
21	Sherrwood	Study guide for Human Physiology from cell system	Rs. 9446.80 8 <sup>th</sup> ed. (2012) UK	Rs. 22167.74 9 <sup>th</sup> ed. (2015) US	Not Quoted	Not Quoted
22	Burris & Ashwood	Tietz Fundamentals of Clinical Chemistry	Rs. 1607.75 7 <sup>th</sup> ed. (2014) Ind	Rs. 1951.43 7 <sup>th</sup> ed. (2014) Ind	Not Quoted	Not Quoted
23	Meeke	Biochemistry the Molecular Basis of life	Rs. 15196.48 6 <sup>th</sup> ed. (2015) US	Not Quoted	Not Quoted	Not Quoted
24	Tank p w	Grants Dissector	Rs. 905.19 15 <sup>th</sup> ed. (2013) Ind	Rs. 959.18 15 <sup>th</sup> ed. (2013) Ind	Rs. 600.00 14 <sup>th</sup> ed.	Not Quoted
25	Palasanga N	Anatomy and Human Movement structure and function	Rs. 2510.69 6 <sup>th</sup> ed. (2011) UK	Rs. 2773.17 6 <sup>th</sup> ed. UK	Not Quoted	Not Quoted

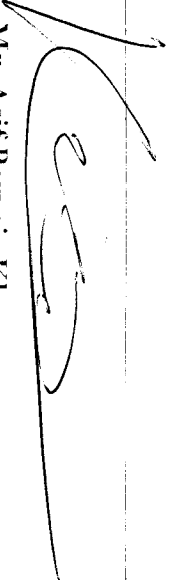
  
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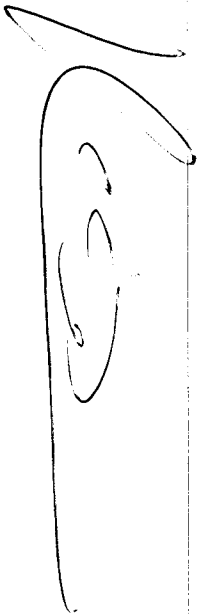
26	Salafin	Anatomy & Physiology	Rs. 4032.64 6 <sup>th</sup> ed. (2011) TS	Not Quoted	Not Quoted	Not Quoted
27	Anne M.R Aggar	Grant's Atlas of Anatomy	Rs. 2490.83 13 <sup>th</sup> ed. (2013) Ind	Rs. 2639.39 13 <sup>th</sup> ed. (2012) Ind	Not Quoted	Not Quoted
28	Beckett G	Lecture notes on clinical Biochemistry	Rs. 4220.96 9 <sup>th</sup> ed. (2013) TS	Rs. 6009.54 9 <sup>th</sup> ed. (2013) TS	Not Quoted	Not Quoted
29	Fisheerman	Mank's Basic Medical & Biochemistry	Rs. 7142.36 4 <sup>th</sup> ed. (2013) TS	Rs. 7889.04 4 <sup>th</sup> ed. (2012) TS	Not Quoted	Not Quoted
30	CL Ghai	A Textbook of Practical Physiology	Rs. 619.39 8 <sup>th</sup> ed. (2013) Ind	Rs. 559.91 8 <sup>th</sup> ed. (2012) Ind	Not Quoted	Not Quoted
31	RL Bijlani	Understanding Medical Physiology	Rs. 1558.26 4 <sup>th</sup> ed. (2011) Ind	Rs. 1693.91 4 <sup>th</sup> ed. Ind	Not Quoted	Not Quoted
32	Boyer	Modern Experimental Biochemistry	Rs. 647.48 3 <sup>rd</sup> ed. (2014) Pak	Rs. 871.88 3 <sup>rd</sup> ed. (2009) Ind	Not Quoted	Not Quoted
33	Verley	Practical Biochemistry	Rs. 3206.34 6 <sup>th</sup> ed. (2002) Ind	Rs. 3536.66 6 <sup>th</sup> ed. Ind	Not Quoted	Not Quoted
34	Standing	Grays anatomy	Rs. 7911.38 40 <sup>th</sup> ed. (2013) UK	Rs. 20530.88 41 <sup>th</sup> ed. (2016) TS	Not Quoted	Not Quoted
35	Ross	MH Histology A Text and Atlas with correlated cell & Molecular	Rs. 7304.70 7 <sup>th</sup> ed. (2016) TS	Rs. 5558.82 TS	Not Quoted	Not Quoted
36	Junqueira LC	Basic Histology Text and Atlas	Rs. 1561.15 13 <sup>th</sup> ed. (2013) TS	Rs. 1721.99 13 <sup>th</sup> ed. (2013) TS	Rs. 600.00 13 <sup>th</sup> ed. (1999)	Rs. 525.00 13 <sup>th</sup> ed. 2013
37	Seely . stephens	Anatomy & Physiology	Rs. 6137.51 10 <sup>th</sup> ed. (2013) TS	Rs. 6719.84 10 <sup>th</sup> ed. (2013) TS	Not Quoted	Not Quoted


  
**Mr. Asif Pervaiz Khoro,**  
 External Member from University of Sindh  
 Member. Central Purchase Committee


  
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**Prof. Muhammad Yousuf Memon**  
 Director Academics / Chairman. Central Purchase Committee

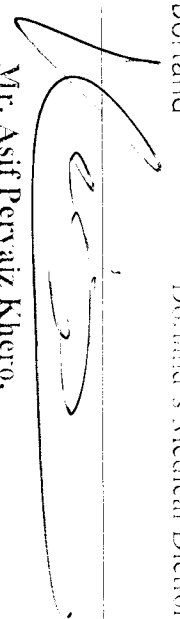
38	Syleia S. Mader	Understanding Human anatomy & Physiology	Rs. 3867.87 8 <sup>th</sup> ed. (2014) US	Rs. 4448.09 8 <sup>th</sup> ed. (2013) US	Not Quoted	Not Quoted
39	Banerjee s	Cell Biochemistry	Rs. 1319.31 (2009) Ind	Not Quoted	Not Quoted	Not Quoted
40	Luxton R	Clinical Biochemistry	Rs. 972.00 2 <sup>nd</sup> (2010) Ind	Rs. 1050.84 2 <sup>nd</sup> ed. Indian (2010) Ind.	Not Quoted	Not Quoted
41	Wilson B	High-yield Biochemistry	Rs. 3327.25 3 <sup>rd</sup> ed. (2010) US	Rs. 3675.10 3 <sup>rd</sup> ed. (2010) US	Not Quoted	Not Quoted
42	Garge G P	Organic Biochemistry	Rs. 2948.17 (2010) Ind	Not Quoted	Not Quoted	Not Quoted
43	Moore K.L	Before we are born essential of Embryology and birth defects	Rs. 1466.05 8 <sup>th</sup> ed. (2014) Ind	Rs. 5916.56 9 <sup>th</sup> ed. (2016) US	Not Quoted	Not Quoted
44	Gumpert Jones Mintel	Students companion for student's Biochemistry	Rs. 11977.65 8 <sup>th</sup> ed. (2015) UK	Rs. 7268.63 8 <sup>th</sup> ed. (2015) US	Not Quoted	Not Quoted
45	B Raghv	Practical Biochemistry for Medical Students	Rs. 228.20 (2003) Ind	Rs. 248.06 (2003) Ind	Not Quoted	Not Quoted
46	Devlin, TM	Textbook of Biochemistry with clinical correlation	Rs. 25159.37 7 <sup>th</sup> ed. (2011) US	Rs. 8626.59 7 <sup>th</sup> ed. (2010) US	Not Quoted	Not Quoted
47	Voel D	Fundamentals Biochemistry	Rs. 27269.85 4 <sup>th</sup> ed. (2012) US	Rs. 6688.03 4 <sup>th</sup> ed. (2012) US	Not Quoted	Not Quoted
48	Moses kp	Atlas of clinical gross Anatomy	Rs. 6833.65 2 <sup>nd</sup> ed. (2013) US	Rs. 7437.16 2 <sup>nd</sup> ed. US	Not Quoted	Not Quoted


  
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 External Member from University of Sindh  
 Member, Central Purchase Committee

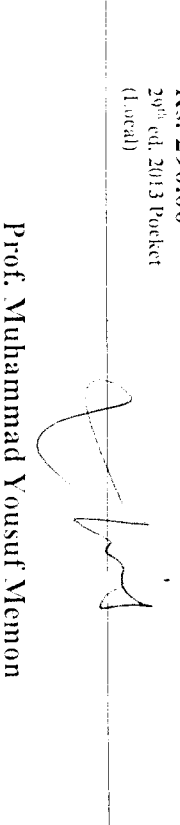
  
**Ms. Hiba Talpur / Nominee**  
 Director Finance  
 Member, Central Purchase Committee

  
**Prof. Muhammad Yousuf Memon**  
 Director Academics / Chairman, Central Purchase Committee

S.No	Author	Title	M/S Allied Book Company Lahore	M/S Paramount Book (PVT) Ltd	M/S Z/S Dictionary Karachi	M/S New Noble Books Karachi	Selected Book seller Name	Remarks
49	Drake RL	Gray's Basic Anatomy (2012) US	RS. 3455.96	RS. 3761.17 (2012) US	Quoted	RS. 740.00 3 <sup>rd</sup> ed. 2015 (Local)		
50	Kierszenbaum A	Histology and cell Biology an Introduction to Pathology 2 <sup>nd</sup> ed. (2006) US	RS. 6936.94	RS. 7440.75 4 <sup>th</sup> ed. US	Not Quoted	Not Quoted		
51	P H Abrahams	M. Atlas Color Atlas of Anatomy 7 <sup>th</sup> ed. (2013) UK	RS. 2887.48	RS. 3189.35 7 <sup>th</sup> ed. UK	Not Quoted	Not Quoted		
52	Frank Netter	Atlas of Human Anatomy 6 <sup>th</sup> ed. (2014) US	RS. 2384.98	RS. 74370.16 6 <sup>th</sup> ed. (2014) US	RS. 1995.00 6 <sup>th</sup> ed. (Local)	RS. 495.00 5 <sup>th</sup> ed. (Local)		
53	Testa B	Biochemistry of Drug Metabolism (Two Volume set) (2010) US	RS. 10958.27	RS. 12285.62 (2010) US	Not Quoted	Not Quoted		
54	Singh Inderbir	Text book of Human Histology with Color Atlas 6 <sup>th</sup> ed. (2011) Ind	RS. 619.39	RS. 744.19 6 <sup>th</sup> ed. Ind	Not Quoted	Not Quoted		
55	Tortora	Principal of anatomy and Physiology 14 <sup>th</sup> ed. (2012) US	RS. 25345.88	RS. 27784.41 14 <sup>th</sup> ed. (2014) US	Not Quoted	RS. 1350.00 2 Vols. set (Local)		
56	Mayak S	Essential of Biochemistry for Medical Students 2 <sup>nd</sup> ed. 2013 Ind	RS. 586.79	RS. 843.41 (2012) Ind	Not Quoted	Not Quoted		
57	Campbell	Biochemistry 8 <sup>th</sup> (2015) US	RS. 27609.56	RS. 659.14 (2011) Ind	Not Quoted	Not Quoted		
58	Dorland	Dorland's Medical Dictionary 32 <sup>nd</sup> ed. (2012) US	RS. 3460.08	RS. 4209.46 32 <sup>nd</sup> ed. (2012) US	Not Quoted	RS. 290.00 29 <sup>th</sup> ed. 2013 Pocket (Local)		

  
**Mr. Asif Pervaiz Khoro,**  
 External Member from University of Sindh  
 Member. Central Purchase Committee

  
**Ms. Hina Talpur / Nominee**  
 Director Finance  
 Member. Central Purchase Committee

  
**Prof. Muhammad Yousuf Memon**  
 Director Academics / Chairman. Central Purchase Committee

59	Richard L.R	Nurse's Atlas Of Human 711 Embryology: Updated Edition (Includes ...)	RS. 5597.91 (2012) US	RS. 6092.29 US (2012)	Not Quoted	Not Quoted
60	K. Park	Textbook of preventive & social medicine.	RS. 1600.73 23 <sup>rd</sup> ed. (2015) Ind	RS. 1871.10 23 <sup>rd</sup> ed. Ind	RS. 400.00 22 <sup>nd</sup> ed. (local)	RS. 425.00 2014 (local)
61	Qas Ahsani	Public health & community medicine by Mohammad.	RS. 548.01 1 <sup>st</sup> ed. (2008) Pak	RS. 548.80 1 <sup>st</sup> ed. (2007) Pak	RS. 585.00 1 <sup>st</sup> ed. (local)	Not Quoted
62	Park's	Textbook of Medical Jurisprudence Forensic Medicine and Toxicology	RS. 835.32 7 <sup>th</sup> ed. (2016) Ind	RS. 921.38 7 <sup>th</sup> ed. (2016) Ind	Not Quoted	RS. 260.00 8 <sup>th</sup> ed. (local)
63	Kumar Abbas	Robbins Basic Pathology	RS. 1684.05 9 <sup>th</sup> ed. (2014) Ind	RS. 2308.64 9 <sup>th</sup> ed. (2012) Ind	RS. 495.00 9 <sup>th</sup> ed. (local)	RS. 545.00 9 <sup>th</sup> ed. (local)
64	Kumar Abbas	Robbins and Cotran Pathologic Basis of Disease. (Two Vol-Set)	RS. 2479.75 (2015) Ind	RS. 3009.83 Ind	RS. 750.00 9 <sup>th</sup> ed. (local)	RS. 900.000 9 <sup>th</sup> ed. (local)
65	Kaung	Basic and Clinical Pharmacology	RS. 2055.45 13 <sup>th</sup> ed. (2015) US	RS. 3266.78 13 <sup>th</sup> ed. (2014) US	Not Quoted	Not Quoted
66	Traver Kaung	Pharmacology Examination and Review Pharmacology	RS. 1643.54 10 <sup>th</sup> ed. (2013) US	RS. 1812.86 11 <sup>th</sup> ed. US	RS. 485.00 10 <sup>th</sup> ed. (local)	RS. 380.00 10 <sup>th</sup> ed. (local)
67	Harvey Champpe	Lippincott Illustrated Review Pharmacology	RS. 1237.45 6 <sup>th</sup> ed. (2015) Pak	RS. 760.73 6 <sup>th</sup> ed. (2015) Ind	RS. 400.00 (local) (C'ohor)	RS. 390.00 6 <sup>th</sup> ed. (local) 2015 (local)

Mr. Asif Pervaiz Khero,  
External Member from University of Sindh  
Member. Central Purchase Committee

Ms. Hina Talpur / Nominee  
Director Rizebee  
Member. Central Purchase Committee

Prof. Muhammad Yousuf Memon  
Director Academics / Chairman, Central Purchase Committee

68	Latest health policy of Pakistan-2009-10	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
69	Provincial health policy -- Sindh-2005	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
70	Pakistan's environmental policy-2005	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
71	Pakistan demographic & health survey report-2013-14	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
72	Pakistan's nutrition policy, breast feeding policy	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
73	IMNCI tool kit	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
74	DHS tool kit	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
75	Documents related to various infectious disease control programs currently running in Pakistan.	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
76	Prevention & control of chronic non-communicable diseases.	Not Quoted	Not Quoted	Not Quoted	Not Quoted	Not Quoted
77	Latest world health reports 2015, 2014, 2013.	Rs. 2331.36 (2013)	Not Quoted	Not Quoted	Not Quoted	Not Quoted



Mr. Asif Perwaiz Khoro,  
External Member from University of Sindh  
Member, Central Purchase Committee



Ms. Hina Tahir / Nominee  
Director Finance  
Member, Central Purchase Committee



Prof. Muhammad Yousuf Memon  
Director Academics / Chairman, Central Purchase Committee

# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## CONTRACT EVALUATION FORM

### TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
- 2) PROVINCIAL / LOCAL GOVT./ OTHER Body Corporate
- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only)
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 03 Months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT Long List Email SPPRA  
(Enclose a copy)
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Chemical House, Lahore
- 16) CONTRACT AWARD PRICE Rs. 22,49325
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED : - (Tick one)
- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE  Domestic/ Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE
- c) TWO STAGE BIDDING PROCEDURE
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Sindh Kawish, Daily Jung Dated: 26-08-2015	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?

(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	
No	<input checked="" type="checkbox"/>

Signature & Official Stamp of  
Authorized Officer

CHAIRMAN CENTRAL  
PROCUREMENT COMMITTEE  
ISLAMSHORO

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# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## CONTRACT EVALUATION FORM

### TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
- 2) PROVINCIAL / LOCAL GOVT./ OTHER Body Corporate
- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only) \_\_\_\_\_
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 04 Four Months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT  
(Enclose a copy) Long List Email to SPPRA
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Scientific Technical Corporation , Lahore
- 16) CONTRACT AWARD PRICE \$4800 (Through LC)
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED : - (Tick one)
- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE \_\_\_\_\_  Domestic/ Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE \_\_\_\_\_
- c) TWO STAGE BIDDING PROCEDURE \_\_\_\_\_
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE \_\_\_\_\_

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Dially Kawish, Daily Jung Dated: 26-08-2015	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?  
(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	<input checked="" type="checkbox"/>
No	

Signature & Official Stamp of  
Authorized Officer

CHAIRMAN CENTRAL  
PURCHASE COMMITTEE  
LUMHS JAMSHORO

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# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

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- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
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- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE (For civil works only)
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 2.5 months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT (Enclose a copy) Long List Email to SPPRA
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Medinostic Healt Care, Karachi
- 16) CONTRACT AWARD PRICE Euro 94,739 & \$19790 (Though LC)
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT (i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED :- (Tick one)
- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE \_\_\_\_\_  Domestic/ Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE \_\_\_\_\_
- c) TWO STAGE BIDDING PROCEDURE \_\_\_\_\_
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE \_\_\_\_\_

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089
No	<input type="checkbox"/>	

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Dially Kawish, Daily Jung Dated: 26-08-2015
No	<input type="checkbox"/>	

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?  
(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Daily Kawish, Daily Jung Dated: 26-08-2015	<input type="checkbox"/>
No	<input type="checkbox"/>		<input type="checkbox"/>

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?

(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	
No	<input checked="" type="checkbox"/>

Signature & Official Stamp of  
Authorized Officer \_\_\_\_\_

*[Handwritten Signature]*  
**CHAIRMAN CENTRAL  
PURCHASE COMMITTEE  
LUMHS JAMSHORU**

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# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## **CONTRACT EVALUATION FORM**

### **TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS**

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
- 2) PROVINCIAL / LOCAL GOVT./ OTHER Body Corporate
- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only) \_\_\_\_\_
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 3-4 months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT  
(Enclose a copy) Long list email to SPPRA
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S S.Ejazuddin & Company
- 16) CONTRACT AWARD PRICE Euro 3114 & JPY 1585 (Through LC)
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED : - (Tick one)
- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE \_\_\_\_\_  Domestic/  Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE \_\_\_\_\_
- c) TWO STAGE BIDDING PROCEDURE \_\_\_\_\_
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE \_\_\_\_\_

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:



19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	28089	
<input checked="" type="checkbox"/>		
No		

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	Daily Dawn, Dially Kawish, Daily Jung Dated: 26-08-2015	
<input checked="" type="checkbox"/>		
No		

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?

(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	<input checked="" type="checkbox"/>
No	

Signature & Official Stamp of  
Authorized Officer



**CHAIRMAN CENTRAL  
PURCHASE COMMITTEE  
LUMHS JAMSHORO**

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# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## CONTRACT EVALUATION FORM

### TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
- 2) PROVINCIAL / LOCAL GOVT./ OTHER Body Corporate
- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only) \_\_\_\_\_
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 12 Twelve Months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT  
(Enclose a copy) Long List Email to SPPRA
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Seico Scientific, Karachi
- 16) CONTRACT AWARD PRICE Rs. 14,70000
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED : - (Tick one)
- |   |                                     |                 |
|---|-------------------------------------|-----------------|
| a) SINGLE STAGE – ONE ENVELOPE PROCEDURE _____      | <input type="checkbox"/>            | Domestic/ Local |
| b) SINGLE STAGE – TWO ENVELOPE PROCEDURE _____      | <input checked="" type="checkbox"/> |                 |
| c) TWO STAGE BIDDING PROCEDURE _____                | <input type="checkbox"/>            |                 |
| d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE _____ | <input type="checkbox"/>            |                 |

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	
No	<input type="checkbox"/>		

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Daily Kawish, Daily Jung Dated: 26-08-2015	
No	<input type="checkbox"/>		

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?

(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------


37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	<input checked="" type="checkbox"/>
No	

Signature & Official Stamp of  
Authorized Officer

  
**CHAIRMAN CENTRAL  
PURCHASE COMMITTEE**  
IS JAMSHORO

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# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## CONTRACT EVALUATION FORM

### TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
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- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only)
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 02 Two Months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT Long List Email to SPPRA  
(Enclose a copy)
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Global Markeeting,
- 16) CONTRACT AWARD PRICE \$1,25,407 (Through LC)
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest

18) METHOD OF PROCUREMENT USED : - (Tick one)

- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE \_\_\_\_\_  Domestic/ Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE \_\_\_\_\_
- c) TWO STAGE BIDDING PROCEDURE \_\_\_\_\_
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE \_\_\_\_\_

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS.

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	
No	<input type="checkbox"/>		

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Sindh Kawish, Daily Jung Dated: 26-08-2015	
No	<input type="checkbox"/>		

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
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23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?

(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	<input type="checkbox"/>
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	<input type="checkbox"/>
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	<input type="checkbox"/>
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	<input type="checkbox"/>
No	<input checked="" type="checkbox"/>

Signature & Official Stamp of  
Authorized Officer



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PURCHASE COMMITTEE  
LUMHS JAMSHORO**

***SPPRA, Block. No.8, Sindh Secretariat No.4-A, Court Road, Karachi***  
*Tele: 021-9205356; 021-9205369 & Fax: 021-9206291*



**Subject:** Bid Evaluation Report of Bilawal medical College at LUMHS, Jamshoro.

**From:** LUMHS Jamshoro (storesectionlumhs@yahoo.com)

**To:** tenders@pprasindh.gov.pk; storesectionlumhs@yahoo.com;

**Date:** Friday, April 22, 2016 11:54 AM

Dear sir,

Please find herewith the Bid Evaluation Report of Bilawal Medical College at LUMHS,  
jamshoro

#### Attachments

- Nov11-2015berbmclumhs.docx (65.77KB)



- Form – 1. - Application Letter
- Form-2 - General information of FIRM
- Form-3 - list of similar Projects/Procurements
- Form-4 - Details of Technical Staff
- Form-5 - Financial Standings/Obligations/GST/Income Tax.

LUMHS, Jamshoro



**Form 1**

Letter of Application

Registered Business Name:  
Registered Business Address:  
Telephone & FAX:

To: Chairman, Central Purchase Committee  
LUMHS, Jamshoro.

Sir,

I/We hereby apply for Procurement Services at LUMHS, Jamshoro as a registered Firm/Individual.

I/We authorize LUMHS or its authorized representatives to conduct any investigation to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application, from any person, bank, department, agency or firm.

The names and positions of the contact persons at our firm, who may be contacted for further information, if required are as follows:

Abc

Xyz

LUMHS, Jamshoro



I/We hereby declare that

The statements made and the information provided in the application are complete, true and correct in every detail,

This firm has never been black listed by any Government / Autonomous bodies or private company or corporation and not involved in any litigation, arbitration with any client.

Faithfully

Authorized Representative of applicant  
Official seal  
Dated



**Form – 2**

General information  
Name of Company  
Type of company  
Status of company  
Year of incorporation/establishment  
Head office address  
Telephone Nos  
Fax Nos  
E-mail address  
Branch offices  
Telephone No.  
E-mail address  
Attachments required

Attested copies of registration and ownership certificates of the FIRM

Detailed company profile must include main line of business, response time & after sale support statement, major client list, affiliation with international vendors and available resources for project execution.

**Name / designation/signature of  
Authorized Person**



**Technical Evaluation Criterion:**

- |  |          |
|--|----------|
| • Company profile (year of in-corporation/registration): | 10 marks |
| • Financial Standing                                     | 05 marks |
| • Similar nature projects experience                     | 30 marks |
| • Key person qualification and experience                | 05 marks |
| • Availability of workshop                               | 10 marks |

Application with required documents shall be evaluated by Technical Evaluation Committee on the score obtained and firms obtaining above 70% & above shall be qualified for (Category A) Lab Equipment/Models and firms obtaining 50% for (Category B) Books.

Liaquat University Of MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH

Telephone: + 9213350, Ext. + 122

Email: [storesectionlumhs@yahoo.com](mailto:storesectionlumhs@yahoo.com),

Web Site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

Purchase & Store Section

**Attendance Sheet for Bidders**

The Meeting Of Central Purchase Committee, LUMHS, Jamshoro on Thursday 17<sup>th</sup> September, 2015 in the Purchase & Store Section, LUMHS, Jamshoro regarding Description (A) technical tender opening for purchase & supply of **Laboratory Equipment / Models** at 12:30pm for Newly Established Bilawal Medical College at LUMHS, Jamshoro.

**Description A.**

S.No	Name of Firm	C contact No.	Signature
01.	Hospicare System	03000550116	<i>Zulq</i>
02.	Muslim Trading Agency	03000550116	<i>Zulq</i>
03.	Muslim Medical	03000550116	<i>Zulq</i>
04.	Seico Scientific	03458560616	<i>Zulq</i>
05.	S. Ejazuddin & Co.	0333 2639590	<i>Ejaz</i>
06.	Technology Links (Pvt) Ltd.	0333-3135975	<i>Muz</i>
07.	Scientific (Pvt) Technical Corporation	03123411686	<i>Zulq</i>
08.	Global Marketing Services	0321-2594512 0321-2177115	<i>Zulq</i>
09.	FY SUCCESS Pvt. Ltd. FY Diagnostics.	0333 2614718	<i>Zulq</i>
10.	CHEMICAL HOUSE	0300 2189289	<i>Zulq</i>

11 Zelon Scientific 03022338733

*Zulq*

4/10/15

I received Technical bid documents of following companies:

- 1- LABSCO
- 2- ANKARI TRADERS
- 3- PARTEC INSTRUMENTS COMPANY.
- 4- MEDINOSTIC HEALTHCARE LTD.
- 5- GLOBAL MARKETING SERVICES.
- 6- TECHNOLOGY LINKS.
- 7- MUSLIM TRADING COMPANY.
- 8- HOSPICARE SYSTEM.
- 9- MUSLIM MEDICAL SERVICES.
- 10- SIEDO SCIENTIFIC
- 11- SCIENTIFIC TECHNICAL CORPORATION.
- 12- UNIBRAND INTERNATIONAL.
- 13- ZELON SCIENTIFIC.
- 14- FI ~~ENTERPRISES~~ SCIENTIFIC ASSOCIATES
- 15- CHEMICAL HOUSE
- 16- S. ESTAZUDDIN. E CO.

Handwritten signature: *Abdul*  
 Date: 4/10/15  
 ENGR. ADEEL MEHDI  
 INCH. WORKSHOP, IBET, WARR



# SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY

## CONTRACT EVALUATION FORM

### TO BE FILLED IN BY ALL PROCURING AGENCIES FOR PUBLIC CONTRACTS OF WORKS, SERVICES & GOODS

- 1) NAME OF THE ORGANIZATION / DEPTT. Liaquat University of Medical & Health Sciences, Jamshoro Sindh, Pakistan.
- 2) PROVINCIAL / LOCAL GOVT./ OTHER Body Corporate
- 3) TITLE OF CONTRACT Newly Established Bilawal Medical College LUMHS, Jamshoro.
- 4) TENDER NUMBER No.LUMHS/PSS/24452, Dated: 20-08-2015
- 5) BRIEF DESCRIPTION OF CONTRACT Purchase & Supply of Equipment/Models
- 6) FORUM THAT APPROVED THE SCHEME Vice-Chancellor, LUMHS, Jamshoro.
- 7) TENDER ESTIMATED VALUE more than one million
- 8) ENGINEER'S ESTIMATE  
(For civil works only) \_\_\_\_\_
- 9) ESTIMATED COMPLETION PERIOD (AS PER CONTRACT) 04 to 06 Months
- 10) TENDER OPENED ON (DATE & TIME) 17-09-2015
- 11) NUMBER OF TENDER DOCUMENTS SOLD 16 Six Numbers  
(Attach list of buyers)
- 12) NUMBER OF BIDS RECEIVED 16 Six Numbers
- 13) NUMBER OF BIDDERS PRESENT AT THE TIME OF OPENING OF BIDS 14 Fourteen Numbers
- 14) BID EVALUATION REPORT  
(Enclose a copy) Long List Email to SPPRA
- 15) NAME AND ADDRESS OF THE SUCCESSFUL BIDDER M/S Uni Brand International, Rawalpindi
- 16) CONTRACT AWARD PRICE \$13417 (Through LC) Rs. 1,57,154
- 17) RANKING OF SUCCESSFUL BIDDER IN EVALUATION REPORT  
(i.e. 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> EVALUATION BID).  
1st lowest  
2nd lowest  
3rd lowest
- 18) METHOD OF PROCUREMENT USED : - (Tick one)
- a) SINGLE STAGE – ONE ENVELOPE PROCEDURE \_\_\_\_\_  Domestic/ Local
- b) SINGLE STAGE – TWO ENVELOPE PROCEDURE \_\_\_\_\_
- c) TWO STAGE BIDDING PROCEDURE \_\_\_\_\_
- d) TWO STAGE – TWO ENVELOPE BIDDING PROCEDURE \_\_\_\_\_

PLEASE SPECIFY IF ANY OTHER METHOD OF PROCUREMENT WAS ADOPTED i.e. EMERGENCY, DIRECT CONTRACTING ETC. WITH BRIEF REASONS:

19) APPROVING AUTHORITY FOR AWARD OF CONTRACT \_\_\_\_\_

20) WHETHER THE PROCUREMENT WAS INCLUDED IN ANNUAL PROCUREMENT PLAN?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

21) ADVERTISEMENT :

i) SPPRA Website  
(If yes, give date and SPPRA Identification No.)

Yes	<input checked="" type="checkbox"/>	25089	
No	<input type="checkbox"/>		

ii) News Papers  
(If yes, give names of newspapers and dates)

Yes	<input checked="" type="checkbox"/>	Daily Dawn, Daily Kawish, Daily Jung Dated: 26-08-2015	
No	<input type="checkbox"/>		

22) NATURE OF CONTRACT

Domestic/ Local	<input checked="" type="checkbox"/>	Int.	<input type="checkbox"/>
--------------------	-------------------------------------	------	--------------------------

23) WHETHER QUALIFICATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

24) WHETHER BID EVALUATION CRITERIA  
WAS INCLUDED IN BIDDING / TENDER DOCUMENTS?  
(If yes, enclose a copy)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

25) WHETHER APPROVAL OF COMPETENT AUTHORITY WAS OBTAINED FOR USING A  
METHOD OTHER THAN OPEN COMPETITIVE BIDDING?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

26) WAS BID SECURITY OBTAINED FROM ALL THE BIDDERS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

27) WHETHER THE SUCCESSFUL BID WAS LOWEST EVALUATED  
BID / BEST EVALUATED BID (in case of Consultancies)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

28) WHETHER THE SUCCESSFUL BIDDER WAS TECHNICALLY  
COMPLIANT?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

29) WHETHER NAMES OF THE BIDDERS AND THEIR QUOTED PRICES WERE READ OUT AT  
THE TIME OF OPENING OF BIDS?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

30) WHETHER EVALUATION REPORT GIVEN TO BIDDERS BEFORE THE AWARD OF  
CONTRACT?  
(Attach copy of the bid evaluation report)

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
-----	-------------------------------------	----	--------------------------

31) ANY COMPLAINTS RECEIVED  
(If yes, result thereof)

Yes	
No	<input checked="" type="checkbox"/>

32) ANY DEVIATION FROM SPECIFICATIONS GIVEN IN THE TENDER NOTICE / DOCUMENTS  
(If yes, give details)

Yes	
No	<input checked="" type="checkbox"/>

33) WAS THE EXTENSION MADE IN RESPONSE TIME?  
(If yes, give reasons)

Yes	
No	<input checked="" type="checkbox"/>

34) DEVIATION FROM QUALIFICATION CRITERIA  
(If yes, give detailed reasons.)

Yes	<input checked="" type="checkbox"/>
No	

35) WAS IT ASSURED BY THE PROCURING AGENCY THAT THE SELECTED FIRM IS NOT BLACK LISTED?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

36) WAS A VISIT MADE BY ANY OFFICER/OFFICIAL OF THE PROCURING AGENCY TO THE SUPPLIER'S PREMISES IN CONNECTION WITH THE PROCUREMENT? IF SO, DETAILS TO BE ASCERTAINED REGARDING FINANCING OF VISIT, IF ABROAD:  
(If yes, enclose a copy)

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
-----	--------------------------	----	-------------------------------------

37) WERE PROPER SAFEGUARDS PROVIDED ON MOBILIZATION ADVANCE PAYMENT IN THE CONTRACT (BANK GUARANTEE ETC.)?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

38) SPECIAL CONDITIONS, IF ANY  
(If yes, give Brief Description)

Yes	
No	<input checked="" type="checkbox"/>

Signature & Official Stamp of  
Authorized Officer

**CHAIRMAN CENTRAL  
PURCHASE COMMITTEE  
LUMHS JAMSHORO**

**FOR OFFICE USE ONLY**

**SPPRA, Block. No.8, Sindh Secretariat No.4-A, Court Road, Karachi**

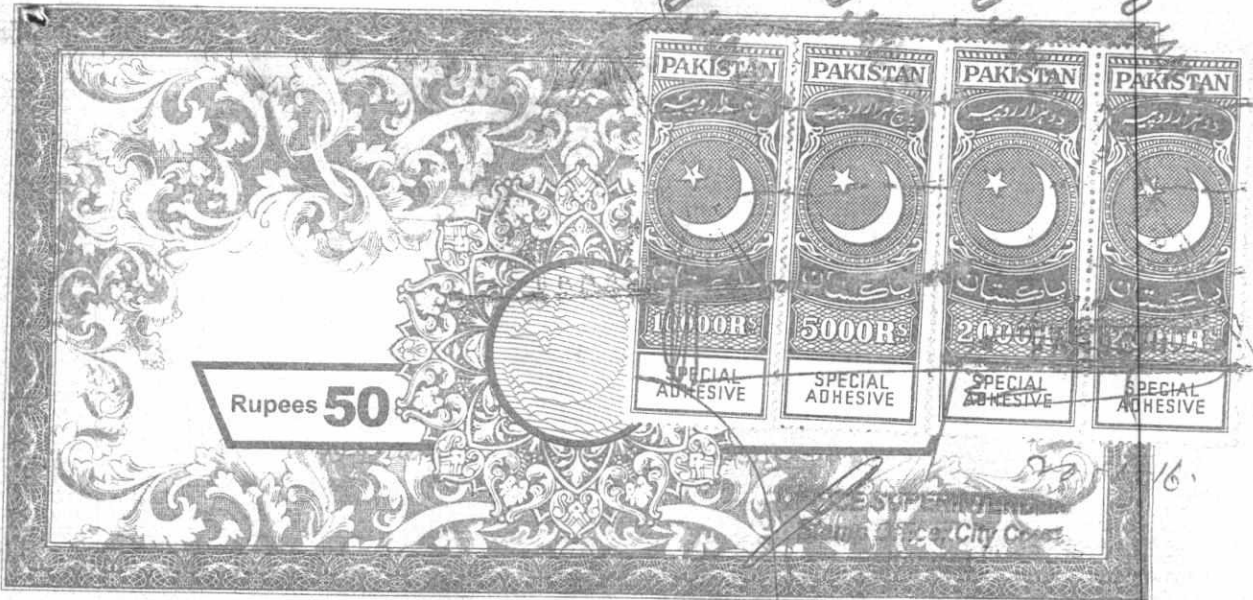
**Tele: 021-9205356; 021-9205369 & Fax: 021-9206291**

Print

Save

Reset

E576808



M. KALEEM M. ALI KHAN STAMP VENDOR  
 Licence # 22, Shop # 64, New Ruby Centre,  
 Talpur Road, Boultan Market, Karachi.

02 JUN 2015

20 JAN 2016

SR. NO. 21800 DATE  
 ISSUED TO WITH ADDRESS MR. Muhammad Khalid Khan (Advocate)  
 THROUGH WITH ADDRESS MR. KBA No: 1739  
 PURPOSE  
 VALUE R.  
 STAMP VENDOR SIGNATURE

**ARTICLES OF AGREEMENT**

"Not Use For Free Will & Divorce Purpose"

This Agreement made the 20<sup>th</sup> day of January 2016, by and between the Chairman, CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, hereinafter called the University, of the one part,

And MR. AMIR FAROOQUI (GENERAL MANAGER)  
 (Name and designation of the authorized person)

Of M/S TECHNOLOGY LINKS (PVT) LTD  
 Located at 4/11-12, Rimpa Plaza, M.A. Jinnah Road, Karachi Pakistan

Hereinafter called "the Contractor which expression shall include their successors, legal representatives of the second part.

Whereas the University Require Books and Equipment for institute of

S at Jamshoro, Whereas the Contractor has agreed to supply, install, put into operation and demonstrate the working of the said work valued at [ GBP 28,500 Twenty Eight Thousand Five Hundred & US\$. 8,500 Eight Thousand Five Hundred Only (hereinafter called "the Contract Price").

In the period of 03 months, subject to the terms and conditions set forth, hereinafter, which have been accepted the contractor.

Now this Agreement witnessed as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been

Signed by \_\_\_\_\_ on behalf of the Contractor, and by

Signed by \_\_\_\_\_ on behalf of the University, all of

This shall be deemed to form and be read as a part of this Agreement viz.

- a) Articles of Agreement;
- b) Instruction to Tender;
- c) Condition of Contract;
- d) Contractors offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in,
- e) The specification of the equipment and other related item,
- f) Bill of Quantity with prices.

3. In consideration of the payment to be made to the Contractor, the Contractor hereby covenants with the University to supply, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects with the provisions of the Contract.

4. The University hereby Covenants to pay the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the items, the Contract price in the manner prescribed by the Contract and approved by the University.

In witness whereof the parties have hereunto set their respective hands and seals, the day, month and year first above written.

Chairman, CPC LUMHS

Signature \_\_\_\_\_

Name: Prof. Mu Yousuf Memon  
Chairman CPC

WITNESSES:

University Witness No. 1: Signature \_\_\_\_\_

Name: Prof. Ashey Ali Khas Khali  
Designation: Dean Basic Med. of Science

University Witness No. 2: Signature \_\_\_\_\_

Name: DR. Lat Balush  
Designation: officer Incharge store

Contractor

Signature Sheh. Ali

Name: MR. AMIR FAROOQUI (GENERAL MANAGER)

Contractor's Witness No. 1: Signature [Signature]

Name: MUHAMMAD IMRAN

Designation: ASST INDENT MANAGER

Contractor's Witness No. 1: Signature [Signature]

Name: MUZAFFAR HUSSAIN

Designation: MANAGER SALES





3. in the consideration of the payment to be made to the Contractor, the Contractor hereby covenants with the University to supply, deliver, install, put into operation and demonstrate the working of the items in the conformity in all respect of the contract.

4. The University hereby covenants to pay the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the items, the contract price in the manner prescribed by the Contract and approved by the University.

**In witness thereof**

The parties have hereunto set their respective hands and seals, the day, month and year first above written.

Chairman, CPC LUMHS

Signature

Name:

Prof. Dr. Muhammad Yousaf Memon

WITNESSES:

University Witness No.1 Signature:

Name:

Designation:

Prof. ASHRAF

Dean Basic Medical

University Witness No.2 Signature:

Name:

Designation:

DR. Lat Bateh

officer exchange stores

Manager Sales & Service, M/s. Medinostic Health Care Pvt. Ltd.

Signature

Name:

MR. ADIL RAHMAN

WITNESSES:

Medinostic Witness No.1 Signature:

Name:

Designation:

DR. SYED WAQAR HUSSAIN

GENERAL MANAGER (M/s Medinostic)

Medinostic Witness No.2 Signature:

Name:

Designation:

MR. SYED SARIM AH

SR. SALES & SERVICE ENGINEER (M/s Medinostic)



G082216

5 150

243 7/3/2016



SIKANDAR IMRAN STAMP VENDOR

Licence No. 82, Post No. 84, P.O. of Karachi

S No. 41088

ISSUED TO WITH ADDRESS

THROUGH WITH ADDRESS

PURPOSE

VALUES

STAMP VENDOR

07 March 2016

-7 MAR 2016

**ARTICLES OF AGREEMENT ONE HUNDRED ONLY**

This Agreement made this 07<sup>th</sup> day of March 2016, by and between the Chairman CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, hereinafter called the "University", of the one part,

**And SEICO SCIENTIFIC TRADERS**

At 104, MUHAMMADIA PLAZA, GORDON COLLEGE ROAD, RAWALPINDI.

Hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the University Requires Books and Equipment for Institute at Jamshoro. Whereas the Contractor has agreed to supply, install, put into operation and demonstrate the working of the said work valued at **Rs.147000/- (Rupees One Hundred and Forty Seven Thousands Only)** in the period of 12 months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the Contractor.

**Now this Agreement witnesses as follows:**

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of **Contract** hereinafter referred to.

The following documents which, for the purpose of identification, have been signed by Imran Hussain (Sales Representative of Seico Scientific) on behalf of the Contractor, and by \_\_\_\_\_ on behalf of the University, all of this shall be deemed to form and be read as a part of this Agreement viz:

- a) Articles of Agreement;
- b) Instructions to Tenderer;
- c) Conditions of Contract;
- d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
- e) The specifications of the equipment and other related items;
- f) Bill of Quantity with prices.

In consideration of the payment to be made to the Contractor, the Contractor hereby covenants with the University of **supply, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects of the Contact.**

The University hereby covenants to **pay** the Contractor in consideration of the supply delivery, installation, putting into operation and demonstration of the working of the items the contract price in the manner prescribed by the Contract and approved by the University.



SWORN BEFORE

HASAN MEHDI  
OATH COMMISSIONER  
CITY COURTS KARACHI

In Witness Whereof the parties have hereunto set their respective hands and seals, the day, month and year first above written.

*[Handwritten Signature]*

Chairman, CPC LUMHS

Signature \_\_\_\_\_

Name: \_\_\_\_\_

WITNESSES:

*[Handwritten Signature]*

University Witness No.1: Signature: \_\_\_\_\_

Name: Prof. Ashraf Ali Khokheli

Designation: Dean Bahi Medical Sciences

University Witness No.2: Signature: \_\_\_\_\_

Name: Dr Lal Raza

Designation: in charge store

Contractor

*[Handwritten Signature]*

Signature \_\_\_\_\_

Name: IMRAN HUSSAIN

Contractor's Witness No.1: Signature: \_\_\_\_\_

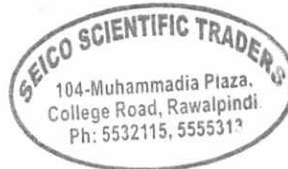
Name: M. Zubair

Designation: Manager Admin

Contractor's Witness No.2: Signature: \_\_\_\_\_

Name: Hina Sohail

Designation: Bid Officer



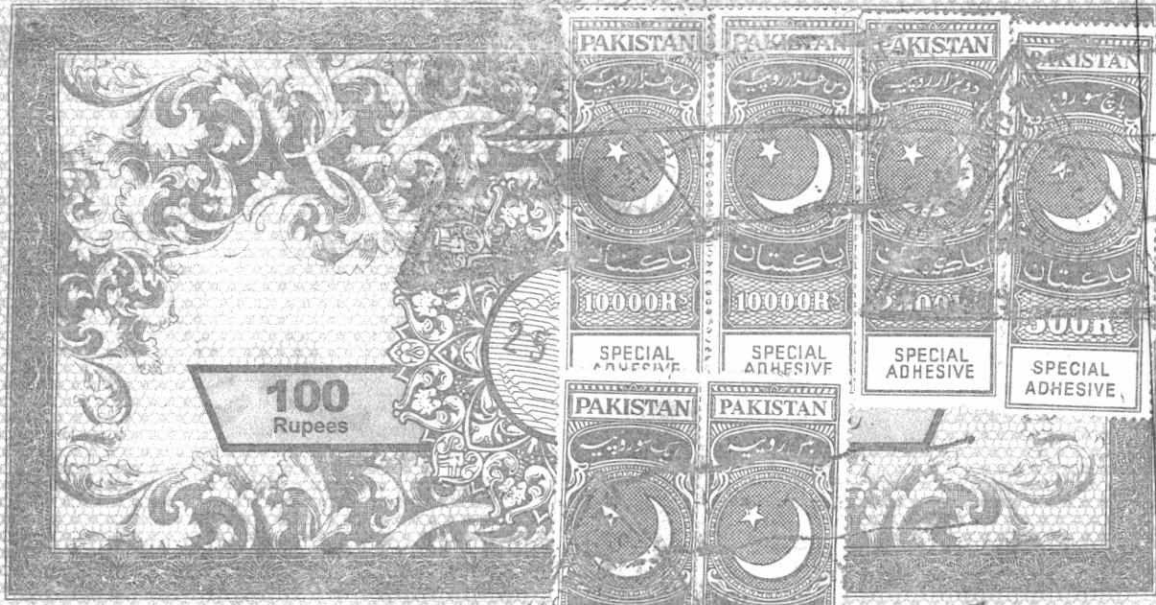
SWORN BEFORE ME

*[Handwritten Signature]*  
11/07/2016

HASAN MEHDI  
OATH COMMISSIONER  
CITY COURTS KARACHI

5784359

Rs. 22620/- C.No 349



**SYED NASIM JAWED IQBAL Stamp Vendor**  
 Licence No: 72, Office in City Court  
 Shed (A) Stall No: 14, Karachi-Pakistan

SR. NO. 10/135 DATE: 25 AUGUST 2016  
 ISSUED TO WITH ADDRESS MR. Muhammad Waris Khan Ajmeri  
 THROUGH WITH ADDRESS MR. Advocate Ledger No. 3539 KBA  
 PURPOSE: City Courts Karachi  
 VALUE RS. 100000/- ATTACHED: 100000/-  
 STAMP VENDOR SIGNATURE: [Signature]

25 AUGUST 2016

**ARTICLES OF AGREEMENT**

OFFICE SUPERINTENDENT  
 Stamp Office, City Court  
 Karachi

JAN 2016

This Agreement made this 11<sup>th</sup> Jan 2016, by and between the Incharge Purchase & Store Section Liaquat University of Medical & Health Sciences, located at Jamshoro, Sindh, including his successors in office and Assignees/Agents, acting through the Incharge Purchase & Store Section Liaquat University of Medical & Health Sciences, located at Jamshoro, Sindh.. hereinafter called the "University", of the one part,

And Paktech Instruments Company located at 185, Street # 15, Block-3 Sharfabad, Karachi hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the University requires Supply of Equipments /Models for Newly Established Bilawal Medical College at LUMHS, Jamshoro and whereas the Contactor has agreed to supply, install, put into operation and demonstrate the working of the said equipment value at Rs.7,571,071/- (Rupees: Seventy Five Lac Seventy One Thousand & Seventy One only). Against Contract No. LUMHS/PSS/354 dated 05-01-2016 in the period of 04 (Four) months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the Contractor.

**Now this Agreement witnesses as follows:**

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by Raees Iqbal Farooqui (Manager Accounts) on behalf of the **Contractor**, and by Chairman Central Purchase Committee Liaquat University of Medical & Health Sciences on behalf of the **University**, all of which shall be deemed to form and construed as a part of this **Agreement** viz:

- a) Articles of Agreement;
- b) Instructions to Tenders;
- c) Conditions of Contract;
- d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
- e) The specifications of the equipment; and
- f) Bill of Quantity with prices.

3. In consideration of the payment to be made to the contractor, the Contractor hereby covenants with the university to supply, deliver, install, put into operation and demonstrate the working of the Items in conformity in all respects of the Contract.
4. The University hereby covenants to pay the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the Items in conformity in all respects of the Contract.

In Witness Thereof the parties have hereunto set their respective hands and seals, the day, month and year first above written.

University [Signature]

Contractor [Signature]



Witness No.1: [Signature]

Witness No.1: [Signature]

Signature \_\_\_\_\_

Signature \_\_\_\_\_

Name Prof. Ashraf Ali Khokhli

Name M. Rehman

Designation Dean Basic Medical Science

Designation G. A. O.

Witness No.2

Witness No.2

Signature [Signature]

Signature [Signature]

Name DR Lal Buecheh

Name SAGHIR AHMED

Designation officer incharge

Designation Admin Manager

Shree UMS





28511  
21/1/16



KASHIF RAZA STAMP VENDOR  
Licence No 02 G-14, Spanish Homes  
Phase I, H.A., Karachi.

01 JAN 2016

RUPEES ONE HUNDRED

Issued to With Address: **MUHAMMAD SABIR** ARTICLES OF AGREEMENT  
Through Whose Address: **Advocate HC/1109/Khi**  
Purpose: **to**  
Valid from this **03** day of February 2016, by and

Stamp Vendor's Signature: **Chairman, CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES**, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, hereinafter called the "University", of the one part,

And

**Mr. Shoaib Rana, Business Manager/CEO**  
(name and designation of the authorized person)

Of **M/s. Chemical House**, located at **6C, Sikandar Malhi Road, Canal Park, Gulberg II, Lahore-54660, Pakistan**, hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the **University** Requires Books and Equipment for Institute of **\_\_\_\_\_** at Jamshoro. Whereas the **Contractor** has agreed to supply, install, put into operation and demonstrate the working of the said work valued at **Rs. 2,249,325.00** **Twenty Two Lac Forty Nine Thousand Three Hundred Twenty Five** (amount in figures and words) in the period of **03** months, subject to the terms and conditions set forth, hereinafter which have been accepted by the **Contractor. Now this Agreement witnesses as follows:**

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.



OFFICE SUPERINTENDENT  
Stamp Office City Court  
Karachi

07 JAN 2016

2. The following documents which, for the purpose of identification, have been signed by M/s. Chemical House on behalf of the

**Contractor**, and by Mr. Shoaib Rana, Business Manager/CEO  
(name and designation of the authorized person)

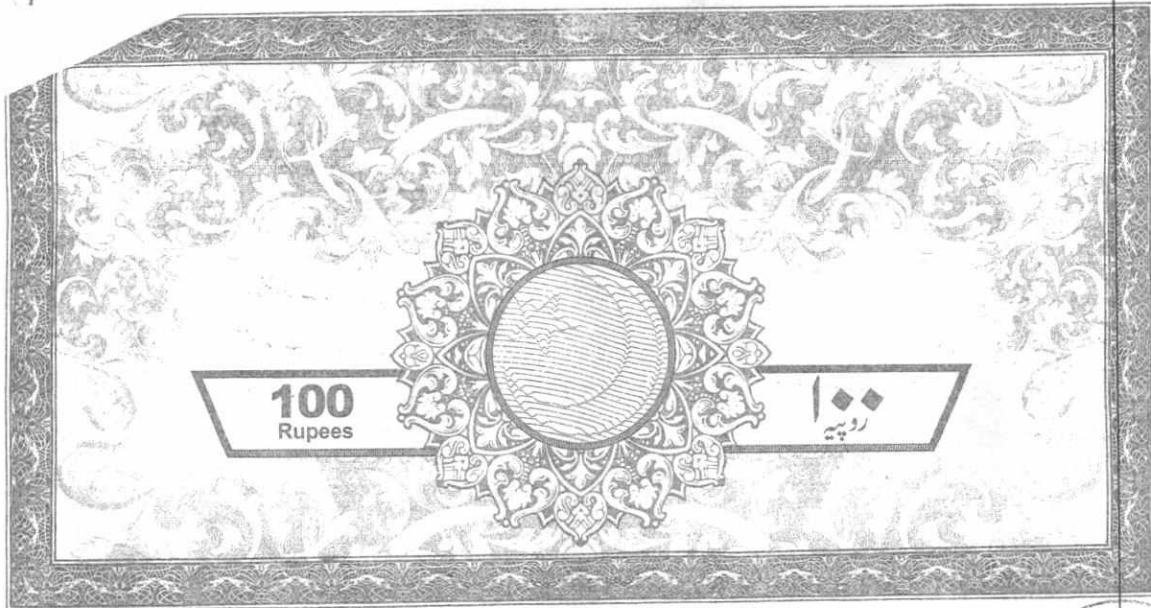
M/s. LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES on behalf of the **University**, all of Chairman, Central Purchase Committee  
(name and designation of the authorized person)

this shall be deemed to form and be read as a part of this Agreement viz.:

- a) Articles of Agreement;
- b) Instructions to Tenderer;
- c) Conditions of Contract;
- d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
- e) The specifications of the equipment and other related items;
- f) Bill of Quantity with prices.

3. In consideration of the payment to be made to the Contractor, the **Contractor** hereby **covenants** with the University **to supply**, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects of the Contract.

4. The **University** hereby **covenants to pay** the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the



2. The following documents which, for the purpose of identification, have been signed by M/s. Chemical House on behalf of the

**Contractor**, and by Mr. Shoaib Rana, Business Manager/CEO  
(name and designation of the authorized person)

M/s. LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES JAMSHORO on behalf of the  
**University**, all of Chairman, Central Purchase Committee  
(name and designation of the authorized person)

this shall be deemed to form and be read as a part of this Agreement viz.:

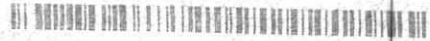
- a) Articles of Agreement;
- b) Instructions to Tenderer;
- c) Conditions of Contract;
- d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
- e) The specifications of the equipment and other related items;
- f) Bill of Quantity with prices.

3. In consideration of the payment to be made to the Contractor, the **Contractor** hereby **covenants** with the University **to supply**, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects of the Contract.

4. The **University** hereby **covenants to pay** the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the



ATTESTED  
M.Z. Ashraf Advocate



working of the items, the contract price in the manner prescribed by the Contract and approved by the University.

**In Witness Thereof** the parties have hereunto set their respective hands and seals, the day, month and year first above written.

*[Handwritten Signature]*

**Vice Chancellor LUMHS**

Signature

Name: Prof. M. Yousuf Memon Chairman (CPC)

**WITNESSES:**

University Witness No.1: Signature: *[Handwritten Signature]*

Name: Dr. Lal Bakhsh

Designation: Incharge Purchase & Store Section

University Witness No.2: Signature: *[Handwritten Signature]*

Name: Prof. Ashraf Ali Tashkeli

Designation: Dean Basic Medical Sciences

**Contractor**

Signature: *[Handwritten Signature]*

Name: Mr. Shoaib Rana

Contractor's Witness No.1: Signature: *[Handwritten Signature]*

Name: Mr. Irfan Ali

Designation: Sales Executive

Contractor's Witness No.2: Signature: *[Handwritten Signature]*

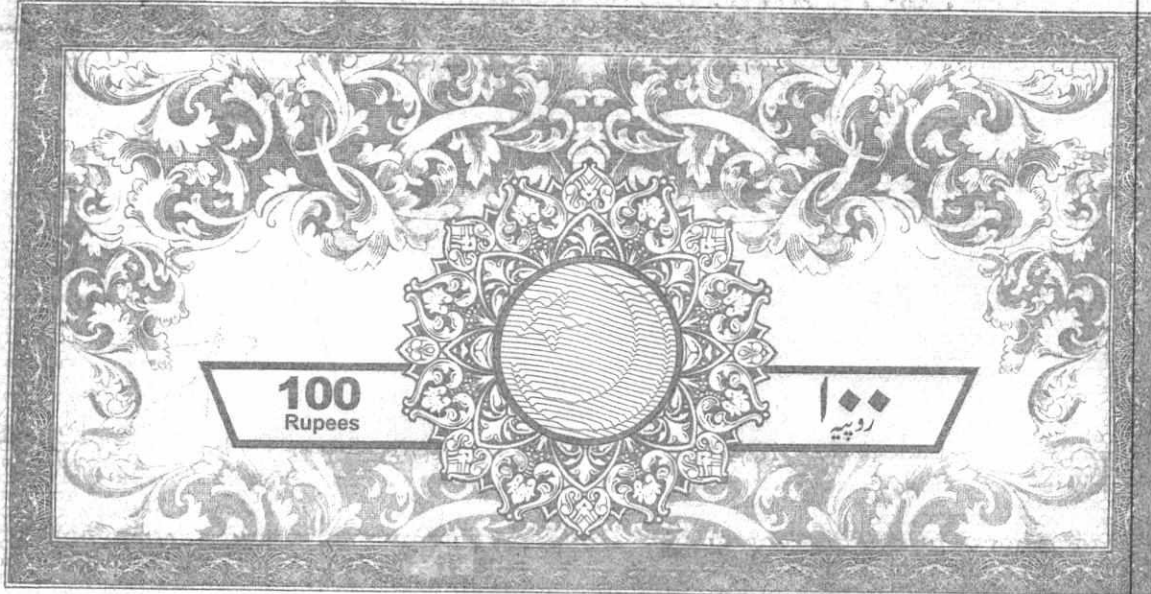
Name: Mr. Irfan Aurangzeb

Designation: Logistics incharge



**ATTESTED**  
M.Z. Ashraf Advocate  
Oath Commissioner, Lahore





This Agreement made this 02-02-16 day of 2015, by and between the Chairman, CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, hereinafter called the "University", of the one part,

And

**Global Marketing Services**

of

**(Majid Jamal -Director),**

Office located at **House No.227, St No. 12 Bahadurabad, Block 3 Karachi Ph.no.021-34853345**

Hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the University requires Books and Equipment for Institute of **Bilawal Medical College** at Jamshoro. Whereas the Contractor has agreed to supply, install, put into operation and demonstrate the working of the said work valued at **(\$ 125,407.00. (Dollar One Lac Twenty five thousand four hundred & Seven only))** in the period of **Two (02)** months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the Contractor

Now this Agreement witnesses as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by **Majid Jamal -Director** on behalf of the Contractor and by **(Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES Jamshoro, Subdh)** on behalf of the University, all of this shall be deemed to form and be read as a part of this Agreement viz.:
  - a) Articles of Agreement;
  - b) Instructions to Tenderer;
  - c) Conditions of Contract;
  - d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
  - e) The specifications of the equipment and other related items;
  - f) Bill of Quantity with prices.
3. In consideration of the payment to be made to the Contractor, the Contractor hereby covenants with the University to supply, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects of the Contract.
4. The University hereby covenants to pay the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the items, the contract price in the manner prescribed by the Contract and approved by the university.

**In Witness Thereof** the parties have hereunto set their respective hands and seals, the day, month and year first above written.

*[Handwritten signature]*

**WITNESSES:**

University Witness No.1: Signature:

Name: *Prof. Ashraf Ali Khokhali*

Designation: *Dean of Education*

University Witness No.2: Signature:

Name:

Designation: *Dr. Lal Baluch Khan  
officer Purchase Stores  
LUMHS*

**WITNESSES:**

Contractor's Witness No.1: Signature:

Name: *Syed Asad Hasan Naqvi*

Designation: *Back Office Manager*

Contractor's Witness No.2: Signature:

Name: *Muhammad Ali*

Designation: *Asst. Manager Institution*

Chairman, CPC LUMHS

Signature

Name:

*Prof. M. Iqbal Khan*

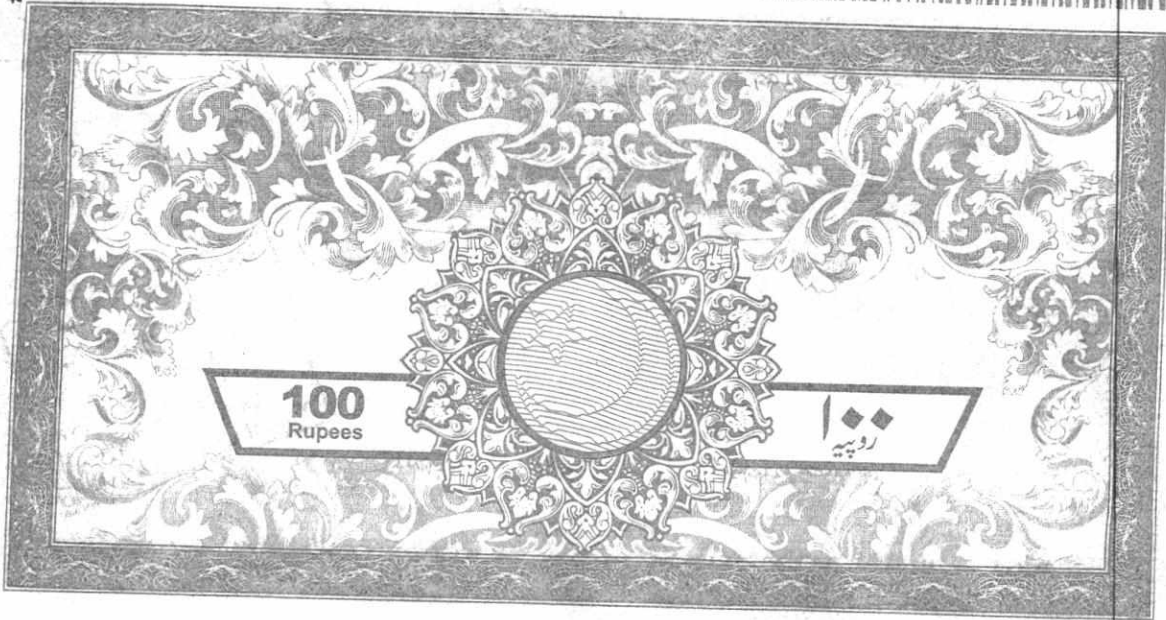
*[Handwritten initials]*

Contractor

Signature

Name: *Majid Jamal*

**GLOBAL MARKETING SERVICES**  
House No. 227, Street # 12, Bahadurabad,  
Block-3, Karachi, Ph. 34932736, 34853345  
[www.gms-world.com](http://www.gms-world.com)



**0.03% Stamp Duty Paid Against Purchase Order**

**Doc# LUMS/PSS/355 for amount of Rs. 1, 31,42,653.60/-  
dated 05<sup>th</sup> January 2016**

As per contract against M/s. Global Marketing Services & M/s Liaquat University of Medical & Health Sciences Equipments. Agreement on stamp duty paper valuing 0.03% of the value of contract, the cost of which will be borne by us as per article 22-A (Contract) of the schedule of stamp act 1899.

Please accept acknowledge receipt of this award.

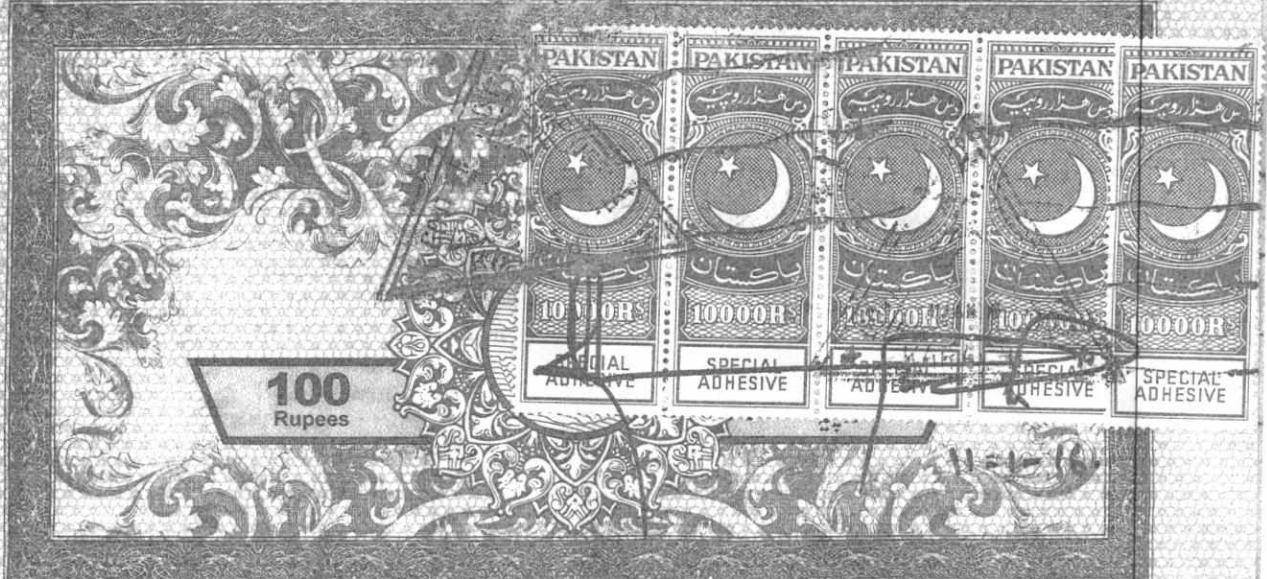
Muhammad Ayub  
(Director Operations)  
Global Marketing Services



Stamp  
Value = 3950/-  
Date 14-1-16 2189  
Global Marketing Services  
Rawalpindi Treasury

E784381

Rs. 136,350/- C.No 347



**SYED NASIM JAWED IQBAL Stamp Vendor** 25 AUG 2015

Licence No: 72, Office in City Court  
Shed (A) Stall No: 14, Karachi-Pakistan

SR. NO. 10137 DATE.....  
ISSUED TO WITH ADDRESS MR. Muhammad Waris Khan Ajmeri  
THROUGH WITH ADDRESS MR. Advocate Ledger No. 3539 KBA  
PURPOSE.....  
VALUE RS..... ATTACHED.....  
STAMP VENDOR SIGNATURE.....  
City Courts Karachi

**ARTICLES OF AGREEMENT**

This Agreement made this 11<sup>th</sup> January 2016, by and between the Incharge Purchase & Store Section Liaquat University of Medical & Health Sciences, located at Jamshoro, Sindh, including his successors in office and Assignees/Agents, acting through the Incharge Purchase & Store Section Liaquat University of Medical & Health Sciences, located at Jamshoro, Sindh, hereinafter called the "University", of the one part.

And Paktech Instruments Company located at 185, Street # 15, Block-3 Sharfabad, Karachi, hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the University requires Supply of Equipments /Models for Newly Established Bilawal Medical College at LUMHS, Jamshoro and whereas the Contactor has agreed to supply, install, put into operation and demonstrate the working of the said equipment value at **US\$ 429,076.48/-** In Pak Rs.45,482,107/- (Rupees Four Crore Fifty Four Lac EightyTwo Thousand One Hundred & Seven only). Against Contract No. LUMHS/PSS/353 dated 05-01-2016 in the period of 04 (Four) months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the Contractor.

Now this Agreement witnesses as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by Raees Iqbal Farooqui (Manager Accounts) on behalf of the **Contractor**, and by Chairman Central Purchase Committee Liaquat University of Medical & Health Sciences on behalf of the **University**, all of which shall be deemed to form and construed as a part of this Agreement viz:

- a) Articles of Agreement;
- b) Instructions to Tenders;
- c) Conditions of Contract;
- d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
- e) The specifications of the equipment; and
- f) Bill of Quantity with prices.

3. In consideration of the payment to be made to the contractor, the Contractor hereby **covenants** with the university to supply, deliver, install, put into operation and demonstrate the working of the Items in conformity in all respects of the Contract.

4. The **University** hereby **covenants to pay** the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the Items in conformity in all respects of the Contract.

**In Witness Thereof** the parties have hereunto set their respective hands and seals: the day, month and year first above written.

University [Signature]  
 Chairman CPC

Contractor [Signature]  


**Witness No.1:**  
 Signature [Signature]  
 Name Prof. Ashraf Ali Khokhali  
 Designation Dean Basic Medical Sciences

**Witness No.1:**  
 Signature [Signature]  
 Name M. Rehman  
 Designation G.A.D

**Witness No.2:**  
 Signature [Signature]  
 Name Dr. Farid Baloch  
 Designation Officer Business  
Store

**Witness No.2:**  
 Signature [Signature]  
 Name SAGHIR AHMED  
 Designation Admin Manager





Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
JAMSHORO, SINDH  
Telephone: + 92(3350) Exch. 770240, Ext. +122  
Email: storesection@lumhs.edu.pk  
Web Site: www.lumhs.edu.pk

Doc# LUMHS/PSS/ 356  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015.

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/24379 Dated: 24-07-2015 the competent authority under his office letter No. 329, Dated: 28-12-2015 is pleased to place this Purchase Order on **M/S Unibrand International**. (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro. demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro. through opening Letter of Credit (L.C) at the rates on C&F Basis, Quantity given below on Terms & Conditions mentioned in contract agreement.

### A. Details of Items.

- Note: submit contract performance Bond & Contract of Agreement on stamp paper / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S UNIBRAND INTERNATIONAL.					
S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
Department of Pathology					
06	Staining rack adjustable	4	\$412.00	\$412.00	\$1648.00
60	Hot plate	1	\$2,076.00	\$2,076.00	\$2,076.00
71	Autoclave	1	\$8,360.00	\$8,360.00	\$8,360.00
81	Water Bath electric	1	\$1,333.00	\$1,333.00	\$1,333.00
Thirteen Thousand Four Hundred Seventeen Dollars					\$13417.00

### A. Special Conditions:

- The above cited price including sales tax is firm & final and shall not be escalated for any reason whatsoever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten Signature]*  
5/1/16



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
JAMSHORO, SINDH  
Telephone: + 9213350, Exch 771240, Ext. + 122  
Email: storesectionlumhs@yahoo.com  
Web Site: www.lumhs.edu.pk

Doc# LUMHS/PSS/- 362  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/328 Dated: 28-12-2015 the competent authority under his office letter No. 8020, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Medinostic Health Care PVT.** (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro, through opening Letter of Credit (L.C) at the rates on C&F Basis, Quantity given below on Terms & Conditions mentioned in contract agreement.

### A. Details of Items.

- Note:** submit contract performance Bond & Contract of Agreement on stamp paper / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S MEDINOSTIC HEALTH CARE (PVT) LTD.					
S. No.	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Anatomy</b>					
2	<b>Skele Torso</b> Skeleton disarticulates into seven pieces One side of skeleton hand-painted and lettered to show muscle origins and insertions Deluxe medical skull and vertebral column Deluxe brachial plexus, elbow and hand/wrist Deluxe male pelvis hinged and sagittally sectioned so that right hip swings 45° Deluxe hip, knee and foot/ankle Left hip disarticulates with ball and socket joint Organs easily removed for individual study	1	€ 595.00	€ 595.00	€ 595.00
3	<b>Pelvis Male or Female</b> <b>Female Pelvis Model</b> Grade 7 to adult. One-half scale, mid-sagittal cross-section shows the anatomy of the female pelvis, including the ovary and fallopian tube. 6-1/4" x 2-3/4" x 5-1/2". Education card included. <b>Male Pelvis Model</b> Grade 7 to adult. One-half scale, mid-sagittal cross-section showing the anatomy of a male pelvis and testis. Normal-size prostate is included with model. The education card shows three prostate stages including normal and benign hypertrophy. 7" x 1" x 4-3/4".	1	€ 297.00	€ 297.00	€ 297.00
4	<b>Plastention</b> Upper Extremity – Musculature 1 Set	1 Set	\$4,330.00	\$4,330.00	\$4,330.00
5	<b>Plastention</b>	1 Set	\$4,580.00	\$4,580.00	\$4,580.00

*Handwritten signature and date: 5/1/16*

	Upper Extremity- Circulatory	1 Set				
6	<b>Plastention</b> Lower Extremity-Musculature	1 Set	1 Set	\$5,420.00	\$5,420.00	\$5,420.00
7	<b>Plastention</b> Lower Extremity-Circulatory	1 Set	1 Set	\$4,290.00	\$4,290.00	\$4,290.00
8	<b>Plastention</b> Knee Joint	1 Set	1 Set	\$650.00	\$650.00	\$650.00
10	<b>Plastention</b> Shoulder Joint	1 Set	1 Set	\$520.00	\$520.00	\$520.00
11	<b>Intrauterine Human Development Models and Fetal Ultrasounds CD-ROM</b> Features eight beautiful, hand-painted, anatomically accurate models from 4 weeks to 7 months (including 5-month twins). This series of models depicts the fetus inside coronally dissected pregnant uteri from the first through the seventh month of pregnancy. Second and third trimester fetuses are removable. The CD-ROM lets you view over 200 digital videos with accompanying text describing normal and abnormal fetal conditions during the first, second, and third trimesters. Fetal images on the CD-ROM range from 12 weeks to near term and were prepared in cooperation with experts at major teaching centers. Models are individually mounted on smoked Lucite® base. Models come with instruction manual and CD-ROM for Windows 98/ME operating systems.		1	€ 695.00	€ 695.00	€ 695.00
13	<b>Skeleton with hand-Painted and labeled Muscle Attachments.</b> All the bones on the right half of the skeleton have been enhanced with hand-painted muscle origins (red) and insertions 9navy0 with have their names hand-lettered in place. Where space limitations prevent spelling out muscle names, alphanumeric coding is .Additional colors differentiate the components of the Erector spinae muscle complex from other muscle Complex from other muscle origins and insertions of The neck and back regions – iliocostalis; origins (orange), insertions (yellow) longissimus: origins (dark green) insertions (light green) On the left half of the skeleton, all bones and osteological Features of anatomical and clinical significance have been Number coded for identification. Comprehensive Key to all coded structures is furnished.		1	€ 595.00	€ 595.00	€ 595.00
14	<b>Anatamage Table Virtual Dissection</b> Both the accuracy of the real human anatomy and the quantity of pathological examples are unique aspects of the Anatamage Table. Combined with powerful hardware and software, the product offers unprecedented technology for medical education. Students are motivated and can easily digest complicated 3D shapes of human anatomy which makes the Table very effective for anatomy education. Pathological and Procedural Training Pre or Post Lab Review The Anatamage Table is sufficient to cover the full anatomy class. High accuracy and rich contents offer an excellent replacement to traditional cadaver based dissection. Since the data preserves the real life patient color and shape, the Table is more effective than embalmed cadavers. <b>True Human Anatomy in a Life-Size Scale</b> The data are from real patient scans or cadavers, and thus highly accurate. The Anatamage Table is the only system that can display true human gross anatomy in real life size. It makes for an excellent advanced education tool as well as a technical showpiece. With powerful radiology workstation features, it can be used for radiology, surgery case review, patient consultation, and research purposes as well as anatomy education. The Anatamage Table opens any medical imaging data and provides high quality interactive 3D renderings. Whether it is your own scan or one of the Digital Anatomy Library cases, the Table shows full 3D anatomy that can be intuitively controlled. Anatomy and radiology can now be seamlessly introduced and integrated in the same course. <b>Clean, Safe, Reusable Technology</b> The Anatamage Table is simple to operate and over time will save customers money. There are no recurring costs or disposal concerns like traditional cadaver labs. Likewise, costly chemicals or ventilation requirements are not required and the virtual cadavers can be used repeatedly for safe and consistent performance year after year. Module: Digital Anatomy Library Module Invivio5 Imaging Software		1	€ 66,500.00	€ 66,500.00	€ 66,500.00

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Medical Design Studio Module					
15	<p><b>Special Edition Premier skull looks just like real bone.</b></p> <p>Special Edition premier skull has been hand-rubbed with A custom formulated stain, highlighting every suture, fissure, fossa and pore, and creating a convincing Natural bone appearance. A magnificent specimen For study and display. For study and display.</p>	1	€ 98.00	€ 98.00	€ 98.00
16	<p><b>Lumbar Spine with Musculature, Nerves, Pelvis, and Femur Heads</b></p> <p>Natural cast from the bones of an adult male, this Flexibly articulated specimen has been fitted with Synthetic muscles of resilient plastic attached with Elastic bungee cord. Skeletal components included are: all five Lumbar vertebrae (L4 and L5 are colored blue and Exhibit facet syndrome and arthritic bone degeneration.  * Complete pelvis with sacrum and coccyx  * movable femur heads. The following muscles are included; quadrates Lumborum * Piriformis * Psoas major * Iliacus * lumbar and sacral sections of multifidus * gemellus superior and inferior * gluteus medius and minimus * and obturator internus. Other features included are: paired spinal Nerves * sciatic nerve complex * sacrospinal ligament * and a herniated disc between L4 and L5. Complete with suspension stand.</p>	3	€ 156.00	€ 468.00	€ 468.00
17	<p><b>Three part model fleshes out the Structural Anatomy of the hand and Wrist.</b></p> <p>Complete with fingerprints, this exceptionally Detailed full-scale model of the left hand presents a Superficial dissection of its dorsal surface which Exposes the veins, nerves, tendons, and the extensor Retinaculum, while the palmar surface features three Dissections at progressively deeper levels; 1<sup>st</sup> layer – palmar aponeurosis * 2<sup>nd</sup> layer – exposes the flexor retinaculum, superficial palmar arch, and tendons of the flexor digitorum and lumbricales muscles * 3<sup>rd</sup> layer – reveals the deep palmar arch, and deep layer of muscles, nerves, tendons and ligaments. 48 anatomical structures are coded for identification in the accompanying key.</p>	3	€ 282.00	€ 846.00	€ 846.00
18	<p><b>Auditory Ossicles.</b></p> <p>Life size replicas of the three tiny bones of the Middle ear, the malleus (hammer), incus (anvil) and Stapes (stirrup) cast from actual human specimens. Ossicles are labeled and embedded in plastic for Protection.</p>	1	€ 66.00	€ 66.00	€ 66.00
20	<p><b>Nine Part muscular Anatomy of the leg and Hip.</b></p> <p>Nine Part Muscular Anatomy of the leg and Hip. dissectible into a total of nine parts, this ¾ scale reproduction depicts the muscles, nerves, bones, tendons and blood vessels of the left leg, foot and hip. eight superficial muscles detach individually to expose the deeper muscle layer. Key features are numbered for identification in the accompanying Key card. Mounted vertically in an inverted position On a pedestal base the leg stands 30 inches (77 cm) tall</p>	1	€ 537.00	€ 537.00	€ 537.00
21	<p><b>Functional Shoulder Joint</b></p> <p>Model is articulated with flexible ligaments. this cast replica includes the proximal half of the Humerus, clavicle and scapula, fitted with flexible Synthetic ligaments, which demonstrate motions of the shoulder joint. The model is mounted on a Display stand. 6x5x8 inches overall (16x12x20cm)</p>	1	€ 71.00	€ 71.00	€ 71.00
22	<p><b>Right Half of Head and Neck Musculature.</b></p> <p>Sagittally sectioned, unbreakable vinyl replica Represents the human head and neck down to the Level of the clavicle. Surface muscles and blood Vessels are depicted on one side, while the other Shows the median section through the interior. 119 Features are numbered and identified in the corresponding Key. Overall dimensions: 13x8x7 inches.</p>	1	€ 287.00	€ 287.00	€ 287.00
23	<p><b>Human Sinuses Model</b></p> <p>4 times life size, in hand painted vinyl, this model that exposes all the human sinuses. Perfect as a surgical trainer, key anatomical landmark Such as the internal carotid artery and optic nerve are Portrayed. The middle turbinate is detachable, Exposing the partially dissected uncinate, infundibulum, and ethmoid bulla. The model pivots on a hardwood base and Measures: 14x12x4 inches.</p>	1	€ 237.00	€ 237.00	€ 237.00
24	<p><b>Giant Regional Brain</b></p> <p>Besides exhibiting some 120 numbered neurostructures, this giant brain replica incorporates nine vibrant Colors to differentiate the front, parietal, Occipital and temporal lobes,</p>	2	€ 597.00	€ 1194.00	€ 1194.00

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	as well as the cerebellum, Brain stem and the motor, somato sensory and Limbic cortices. In addition, each of the lobes, the Limbic cortex, pre and post central gyri is identified With hand lettering. Complete with key to numbered Structures and reproducible copy masters, the model Measures 8x8x10 inches (2x20x25cm) overall.				
25	<b>Sagittal Brain Section</b> Sectioned through the right side of the brain and Base of the skull, this enlarged section is also double sided. One surface conforms to the median plane and includes a section of the falx cerebri. The reverse surface depicts a sagittal cut which Exposes the lateral ventricle. 49 color coded features of the brain and meninges are identified in the accompanying key. The model rests on a detachable stand. Overall dimensions: 10x7x5 inches (25x18x12cm)	3	€ 242.00	€ 726.00	€ 726.00
26	<b>Deluxe Spinal Cord.</b> 6 times life size, this vinyl plastic model replicates a segment of the upper thoracic spinal cord. Sectioned both longitudinally and in cross section, a portion of white matter of the right half has been cut away to expose the anterior and posterior nerve roots. 30 numbered features are identified in a corresponding key. Overall dimensions: 12x8x5 inches.	1	€ 416.00	€ 416.00	€ 416.00
27	<b>Deluxe Human brain Stem model</b> Representing the human brain stem dissected Free of over-lying cerebral tissue, this free-standing plastic model is mounted vertically, permitting access from all aspects. furnished with an illustrated guide which Identifies the brain stem stands 9 inches. 23 cm high on a hardwood base.	1	€ 174.00	€ 174.00	€ 174.00
28	<b>Giant Eye in Bony orbit.</b> 6 times life size (twice the size of competitors' models) and dissectible into eight parts, this unbreakable vinyl eyeball sits in its bony socket to provide a better understanding of its relationship with major blood vessels, muscles and nerves. 77 hand numbered features are identified in the accompanying key. Also included is a reproducible black line copy master with numbered parts that correspond to the model, making it easy to print illustrated study sheets. Answer key is on reverse. Overall dimensions: 12x10x9 inches.	1	€ 205.00	€ 205.00	€ 205.00
30	<b>Nose and olfactory Organ Set.</b> Two unbreakable plastic models on one hardwood base depict the nose and nasal passages enlarged to 4 times their normal size. The model on the right shows the nasal septum, its arteries and veins, the inner group of olfactory nerve filaments, nasopalatine nerve, soft and hard palate, uvula and the cranial floor. The model on the left depicts the left nostril, olfactory nerve, bulb and filaments. 32 numbered features are identified in the identified in the accompanying key. Overall dimensions: 18x4x14 inches.	1	€ 523.00	€ 523.00	€ 523.00
31	<b>Giant Functional Larynx.</b> 4 times life size and uniquely American made, this unbreakable vinyl replica is complete with hyoid bone and epiglottis. The right side depicts only the cartilaginous structure, while the left shows the musculature as well Movable vocal cords, arytenoids cartilages and Epiglottis all accurately demonstrate their functions. Perfect for speech correction and music. as Well as anatomy and physiology. 55 hand-coded Features are identified in the accompanying key. Overall dimensions: 15x7x6"	2	€ 562.00	€ 1124.00	€ 1124.00
32	<b>Human lungs Reproduction</b> Cast from actual human lungs in soft resilient plastic, this reproduction features five lobes that are color coded and held together elastically for easy viewing of septa, bronchioles, pulmonary arteries and veins. Key to coded structures and detachable Hardwood display base.	1	€ 784.00	€ 784.00	€ 784.00
33	<b>The Heart of America PLUS</b> Possessing all the exclusive features of the original Heart of America PLUS. an accurately scaled branchiocephalic trunk, left Common carotid and left subclavian artery. Complete with right and left internal thoracic (internal mammary) arteries. PLUS attachable/ detachable bypass vessels of flexible tubing in a variety of lengths. Simply attach tubing with build-in quick connects to model to configure single, double, triple, LIMA or bilateral IMA bypass grafts. Overall dimensions on base 7x7x17 inches.	1	€ 299.00	€ 299.00	€ 299.00

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34	<p><b>Liver and Gallbladder.</b>  1&amp;half times life size, the ventral surface of this replica is dissected to expose major blood vessels and bile ducts in deep relief. Color coding clarifies the complex vascular network, with contrasting colors differentiating the portal vein and its branches, the gallbladder and bile ducts, the hepatic artery and the hepatic veins. 28 hand numbered structures are identified in the accompanying key. Overall dimensions: 13x11x6 inches</p>	2	€ 93.00	€ 186.00	€ 186.00
35	<p><b>Female Neurovascular Skull with Cervical Spine, on Stand.</b>  Because it doesn't suffer from the visual limitations of 2 dimensional diagrams  Allowing study from all aspects our neurovascular skull eliminates much of the confusion associated with neurocranial studies.  Our adult female medical skull and all seven Cervical vertebrae are situated on a stand.</p>	1	€ 559.00	€ 559.00	€ 559.00
36	<p><b>Three part model fleshes out the Structural Anatomy of the hand and Wrist.</b>  Complete with fingerprints, this exceptionally Detailed full-scale model of the left hand presents a Superficial dissection of its dorsal surface which Exposes the veins, nerves, tendons, and the extensor Retinaculum, while the palmar surface features three Dissections at progressively deeper levels; 1<sup>st</sup> layer – palmar aponeurosis * 2<sup>nd</sup> layer – exposes the flexor retinaculum, superficial palmar arch, and tendons of the flexor digitorum and lumbricales muscles * 3<sup>rd</sup> layer – reveals the deep palmar arch, and deep layer of muscles, nerves, tendons and ligaments. 48 anatomical structures are coded for identification in the accompanying key.</p>	1	€ 282.00	€ 282.00	€ 282.00
37	<p><b>Deluxe Know Body Teaching Torso with Detachable Head and Hardwood Turntable Base.</b>  * 23 dissected or dissectible structures  * 16 detachable parts  * 300 hand numbered anatomical features  much more internally detailed than the Basic and advanced knowBody torsos, with emphasis placed on the brain, cardiopulmonary and digestive Organs, the Deluxe KnowBody has a detachable Head which aids in studies of the brain head and neck. other detachable parts include:  * Eyeball with extracular muscles  * 4 part brain half with arteries  * Left lugn with ribs (with blood vessels and bronchioles sectioned open)  * Right lung with ribs (with blood vessels and bronchioles intact)  * Heart (2 halves)  * Liver and gallbladder with color coded blood vessels and ducts (includes diaphragm section)  * Stomach (2 halves)  * large intestine  * Small intestine  * Torso unit. Stands 38 inches (97 cm) tall on rotating hardwood turntable base.</p>	1	€ 876.00	€ 876.00	€ 876.00
38	<p><b>Flexible Spine with Movable Femur Heads with Suspension Stand.</b>  Full size replica ,life like accuracy in color ,texture and detail including completely flexible articulation to reproduce natural vertebral movements alignments, occipital bone of skull, spinal cord with medulla, vertebral arteries, paired spinal nerves, detachable sacral flap which expose the branching cauda equina, proximal femur segments articulated to duplicate movement at the ball and socket joint of the hip.</p>	03	€ 170.00	€ 510.00	€ 510.00
39	<p><b>Flexible Thoracic spine.</b>  Encompassing the twelve thoracic vertebra, T1-T12 and their intervertebral disc ,complete with resilient spinal cord and paired spinal nerves, mounted on a wooden base.</p>	1	€ 62.00	€ 62.00	€ 62.00
40	<p><b>Cervical spine with Musculature and Nerves.</b>  Muscle included are rectus capitis posterior major and minor obliquus capitis superior, interspinales, scalenus medius, scalenus posterior, longus capitis, longus colli and multi fidis (cut) with skeletal muscles flashcard set.</p>	1	€ 62.00	€ 62.00	€ 62.00
41	<p><b>Lumber Vertebrae with Pelvis Showing Lumber and sacral plexi.</b>  5 lumber vertebrae, together with the pelvis, the spine model illustrate a herniated disc, as well as lumber and sacral plexi</p>	1	€ 62.00	€ 62.00	€ 62.00

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5/11/16

42	<b>Male and Female Bony Pelvis.</b> Each pelvis exhibits four pairs of sacral foramina	2	€ 101.00	€ 202.00	€ 202.00
43	<b>Life Size axial torso.</b> Depicts human anatomy in cross section. Human internal anatomy as viewed in axial plane. 15 axial sections in full color. Mounted on stand size 51x16x14 inches.	1	€ 3,753.00	€ 3,753.00	€ 3,753.00
44	<b>Dual Sex Torso with open back, 28 parts</b> Two part heart, two parts lung, two parts stomach, four parts intestinal tract, front half of kidney, liver with gall bladder, 7 <sup>th</sup> thoracic vertebrae, female chest wall, three part female genital insert with embryo, four part male genital insert.	1	€ 771.00	€ 771.00	€ 771.00
45	<b>Binocular Microscope</b> <b>Stand:</b> sturdy stand with antirust antibacterial materials. Heat isolating hand rests <b>Viewing Bodies:</b> 45° inclined, 360° rotatable dovetail, interpupillary distance 54 – 74mm <b>Eyepieces:</b> Wide Field focusable paired eyepieces 10x/18mm with foldable eye guard, lockable, antifungal. <b>Nosepiece:</b> Quadruple nosepiece (ball bearing type) with rubber grip, click stop for exact position. <b>Objectives:</b> LP Series DIN Semi-Plan Achromatic objective 4x, 10x, 40x (Spring loaded), 100x (Spring loaded, oil), antifungal <b>Mechanical stage:</b> Rackless stage, size 135 x 124mm, X/Y travel range 76mm x 50mm, low drive movement controls, single specimen holder. <b>Condenser:</b> Sub stage abbe condenser NA 1.25 with aspheric lens and Iris diaphragm. With snap-in blue filter. Rack and pinion movements on metal guides. <b>Focusing:</b> Co-axial coarse and fine focusing on ball drive system for smooth operation, fine drive movement 0.2mm/division, tension adjustment for torque control. <b>Illumination:</b> Halogen 6V-20W illumination with variable illumination control. Up to 200,000 hours of Halogen lamp life. <b>Electrical:</b> Universal power supply (100V-240V, 50/60 Hz) Built-in voltage stabilizer	10	€ 450.00	€ 4500.00	€ 4500.00
S. N	<b>Name of Equipment/Models</b>	<b>Qty</b>	<b>Unit Rate in C&amp;F</b>	<b>Unit Rate Pak Rupees</b>	<b>Total Amount</b>
<b>Department of Physiology</b>					
1	<b>Microscope Binocular</b> <b>Stand:</b> sturdy stand with antirust antibacterial materials. Heat isolating hand rests <b>Viewing Bodies:</b> 45° inclined, 360° rotatable dovetail, interpupillary distance 54 – 74mm <b>Eyepieces:</b> Wide Field focusable paired eyepieces 10x/18mm with foldable eye guard, lockable, antifungal. <b>Nosepiece:</b> Quadruple nosepiece (ball bearing type) with rubber grip, click stop for exact position. <b>Objectives:</b> LP Series DIN Semi-Plan Achromatic objective 4x, 10x, 40x (Spring loaded), 100x (Spring loaded, oil), antifungal <b>Mechanical stage:</b> Rackless stage, size 135 x 124mm, X/Y travel range 76mm x 50mm, low drive movement controls, single specimen holder. <b>Condenser:</b> Sub stage abbe condenser NA 1.25 with aspheric lens and Iris diaphragm. With snap-in blue filter. Rack and pinion movements on metal guides. <b>Focusing:</b> Co-axial coarse and fine focusing on ball drive system for smooth operation, fine drive movement 0.2mm/division, tension adjustment for torque control. <b>Illumination:</b> Halogen 6V-20W illumination with variable illumination control. Up to 200,000 hours of Halogen lamp life. <b>Electrical:</b> Universal power supply (100V-240V, 50/60 Hz) Built-in voltage stabilizer	10	€ 450.00	€ 4500.00	€ 4500.00
48	<b>Physiological Charts Set of 9</b>	1 Set	€ 126.00	€ 126.00	€ 126.00
54	<b>Human Physiology Charts</b>	5 Sets	€ 140.00	€ 700.00	€ 700.00
S. N o.	<b>Name of Equipment/Models</b>	<b>Qty</b>	<b>Unit Rate in C&amp;F</b>	<b>Unit Rate Pak Rupees</b>	<b>Total Amount</b>
<b>Department of Community Medicine</b>					
36	<b>Teach cam with illumina base to project as overhead projector, slide projector and as microscopic camera complete with T.V &amp; VCR</b>	1	€ 851.00	€ 851.00	€ 851.00
<b>Euro Ninety Four Thousand Seven Hundred Thirty Nine &amp; Dollars Nineteen Thousand Seven Hundred Ninety Only</b>					<b>€ 94,739.00 \$19,790.00</b>

*Handwritten signature and date: 5/11/16*

Euro Ninety Four Thousand Seven Hundred Thirty Nine & Dollars Nineteen Thousand Seven Hundred Ninety Only

A. Special Conditions:

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*W. S. S. S. S.*  
*5/19/16*



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH  
Telephone: +9213350, Exch. 771240, Ext. +122

Email: stores@lumhs.edu.pk

Web Site: www.lumhs.edu.pk

Doc# LUMHS/PSS/- 359

ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015.

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/327 Dated: 28-12-2015 the competent authority under his office letter No. 8091, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Paktech Instrument Company, Karachi.** (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro. the rates & Quantity mentioned below on following Terms & Conditions.

## A. Details of Items.

- Note: submit contract performance Bond & Articles of Agreement, 0.03% stamp duty paid by supplier of this purchase order.

M/S PAKTECH INSTRUMENT COMPANY, KARACHI.					
S.No.	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Anatomy</b>					
47.	Slide Boxes Large (24 Slides) Including General And Special Histology	5 Nos.	PKR 1,149.00	Rs. 1,149.00	Rs. 5,745.00
48.	Multimedia Projector	3 Nos.	PKR 200,571	Rs. 200,571.00	Rs. 6,01,713.00
49.	Wax bath	1 No.	PKR 5,223.00	Rs. 5,224.00	Rs. 5,224.00
54.	Fire Extinguisher	1 No.	Rs. 50,143	Rs. 50,144.00	Rs. 50,144.00
56.	<b>WATER BATH</b> Tissue flotation bath with removable glass tray. Stainless steel platform for drying and stretching of the sections, black, plastic coated Electronic. temperature control from 30 °C to 55 °C Temperature of working plate approximately 50 °C Illumination by fluorescent lamp Tray: 165 D x 270 W x 50 H mm Platform: 75 D x 370 W mm		Rs. 29,250	Rs. 29,251.00	Rs. 29,251.00
57.	B.P. APPARATUS Measuring Range 0 – 300 mmHg Mercury purity 99.99% Cuff Velcro size 14 cm x 54 cm		Rs. 1,985	Rs. 1,985.00	Rs. 1,985.00
58.	LCD T.V 40 inch	1 No.	Rs. 93,600	Rs. 93,601.00	Rs. 93,601.00
<b>Department of Physiology</b>					
06.	ESR Stands with tubes	5+25 Nos	PKR 1,776	PKR 1,776.00	Rs. 44,400.00
08.	Thermometers (clinical)	50 Nos.	PKR 230.00	PKR 230.00	Rs. 11,500.00
10.	Test tube Racks	10 Nos.	PKR 1,149	PKR 1,149.00	Rs. 11,490.00
13.	Measuring Cylinders/Beakers	10 Nos.	PKR 52,232	PKR 52,232.00	Rs. 5,22,320.00
14.	Ishihara Charts	5 Nos.	PKR 31,339	PKR 31,339.00	Rs. 1,56,695.00
15.	Lancets	5 PKT	PKR 1,358	PKR 1,358.00	Rs. 6,790.00
16.	Tunning fork 100 Hz	15 Nos.	PKR 5,223	PKR 5,223.00	Rs. 78,345.00

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5/11/16

17.	Stopwatches	15 Nos.	PKR 522	PKR 522.00	Rs. 7,830.00
19.	Syringes 5cc (B.D)	1000 Nos	PKR 731.00	PKR 731.00	Rs. 7,31000.00
21.	Filter Papers	10 Pkt	PKR 1,985	PKR 1,985.00	Rs. 19,850.00
22.	Percussion / Clinical / Reflex Hammers	20 Nos.	PKR 7,313	PKR 7,313.00	Rs. 1,46,260.00
23.	Oxygen cylinders	2 Nos.	PKR 52,232	PKR 52,232.00	Rs. 104,464.00
26	Stethoscope	25 Nos.	PKR 1,149	PKR 1,149.00	Rs. 28,725.00
29.	Vision E type (snellen's chart)	5 Nos.	PKR 50,143	PKR 50,143.00	Rs. 2,50,715.00
30.	Weighing machine	2 Nos.	PKR 43,875	PKR 43,875.00	Rs. 87,750.00
31.	Ear Specula (3,4,5,6-mm)	5 Nos.	PKR 8,357	PKR 8,357.00	Rs. 41,785.00
32.	Nasal Speculum 8mm	5 Nos.	PKR 10,446	PKR 10,446.00	Rs. 52,230.00
33.	pH meter clinical	1 No.	PKR 9,924	PKR 9,924.00	PKR 9,924.00
35.	Balance analytical	1No.	PKR 150,930	PKR 150,930.00	PKR 150,930.00
36.	Tongue Depressor Plastic	10 packs	PKR 1,671	PKR 1,671.00	Rs. 16,710.00
37.	Torches	10 Nos.	PKR 940	PKR 940.00	Rs. 9,400.00
44.	Finger pulse oxymeter	1 No.	PKR 9,360	PKR 9,360.00	Rs. 9,360.00
45.	Frog's board & dissection boxes	5 Nos.	Rs. 5,223.00	Rs. 5,223.00	Rs. 26,115.00

### Department of Pharmacology

04.	<b>Distillation Plant:</b> Features: <ul style="list-style-type: none"> <li>Horizontal thick wall heat resistant Duran glass boiled fitted with 3 KW chromium heater.</li> <li>High efficiency coil condenser ensures low temperature, high output quality distillate of conductivity 3 to 4µs/cm.</li> <li>Compact construction suitable for bench and wall mounting.</li> <li>Screw thread connectors enable easy fitting or removal of hose safety.</li> <li>Built in constant level device with Schott Vendura - Nova valve for drainage provides easy descaling without dismantling.</li> <li>Safety thermostat built into the heater protects the Favorite water still in the event of water supply failure and automatically resets when the water supply is restored.</li> <li>Specifications: Capacity: 4litre/hour.</li> </ul>	1 No.	PKR 188,035.00	PKR 188,035.00	PKR 188,035.00
05	Oxygen Cylinder (Full size)	2 Nos.	PKR 64,768.00	PKR 64,768.00	Rs. 1,29,536.00
06	Oxygen Cylinder Regulator	2 Nos.	PKR 150,429	PKR 150,429.00	Rs. 3,00858.00
08	B.P. Apparatus Mercury manometer	10 Nos.	PKR 10,238	PKR 10,238.00	Rs. 10,2380.00
09	Stethoscope	10 Nos.	PKR 1,045	PKR 1,045.00	Rs. 10,450.00
10	Torches For rabbit eye experiments	20 Nos.	PKR 1,776	PKR 1,776.00	Rs. 35,520.00
11	Scissors (Surgical Instruments of assorted sizes for animal dissection)	20 Nos.	PKR 491.00	PKR 491.00	Rs. 9,820.00
12	Weighing Balance Range: 0g-2000 g Readability: 0.1	10 Nos.	PKR 71,036	PKR 71,036.00	Rs. 7,10,360.00

### Department of Forensic & Toxicology

	<b>POISONS</b> Acetic acid Dhatara Seeds Turpentine oil Turpentine oil Phenol Oxalic acid Copper sulphate Copper sulphate Marking nut Nux vomica seeds Sulphuric acid Spirit Acetaldehyde Ammonium chloride Aspirin powder Campher Mercury Lead		Rs. 1,358,036	Rs. 1,358,036.00	Rs. 1,358,036.00
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Aspirin Tablet's  
 Bulletins (17)  
 Cartirodge  
 Bhang  
 Caster seeds  
 Rati Seeds  
 Dhatura Fruit  
 Castes seeds  
 Chorcol  
 Capricar seeds  
 Dhatura fruit  
 Knife (1)  
 Caprices seeds  
 Poppy fruit  
 Aconite  
 Gun (Blacks) Powder  
 Axe (1)  
 Magnifying Glass (1)  
 HCN 1

LIVERS: - Case of burns

Case of Cirrhosis  
 Case of Fatty liver  
 Case of Trauma  
 Case of Poison  
 Case of Throttling

LUNG: - Case of Scalds

Case of Burns  
 Case of Strangulations  
 Case of Smothering  
 Case of Suffocation  
 Case of Hanging  
 Case of Traumatic ASPHYXIA  
 Case of Chocking  
 Case of Mugging

HEART: - HEART

Case of Suffocation  
 Case of Cardiomyopathy  
 Case of Strangulation  
 Case of Trauma  
 Case of Choking  
 Case of Burns  
 Case of Cardiomyopathy  
 Case of Suffocation  
 Case of Hanging  
 Case of Smothering  
 Case of Ischemic Heart

DISEASE Case of Cardiomegaly  
 Case of Burns

BONES

Two Boards'

1/= Fetal Skeleton (20 weeks)  
 2/= Ostrology of Neck region  
 3/= Vertebrae  
 Hyoid Bone  
 Fractured Ribs  
 Mandible (5)  
 Small Bones (10-12)  
 Sacrum (2)  
 Skull (1)  
 Long Bone (8)

**Department of Community Medicine**

75	Incinerator	1 No.	PKR 302,946.00	PKR 302,946.00	Rs. 302,946.00
77	Models of a Healthy House	1 No.	PKR 284,143.00	PKR 284,143.00	Rs. 284,143.00
78	Models of a Sanitary Well	1 No.	PKR 265,339.00	PKR 265,339.00	Rs. 265,339.00
79	Models of a Sanitary Latrine	1 No.	PKR 313,393.00	PKR 313,393.00	Rs. 313,393.00

**Department of Bio-Chemistry**

3	<p><b>WATERBATH</b>          Digital Precise Water Bath with Digital Fuzzy Control System  <u>Applications &amp; Features:</u>          Ideal for biotechnology, clinical, environmental, medical petroleum, pharmaceutical or Industrial application          Digital fuzzy controller implementing maximum temp. accuracy          Simplest control by jog-shuttle switch and LCD display          User's self-compensation function to control difference between real temperature and Indicated temperature (<math>\pm 10.0^{\circ}\text{C}</math>)          Stainless steel bath for superior durability &amp; high thermal efficiency          Stainless steel lid prevents evaporation and keeps</p>		PKR 45,964.00	PKR 45,964.00	Rs. 45,964.00
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	<p>constant temperature Over temperature &amp; over current protection, sensor error detection Digital timer function (99 hr 59min): delay time and operation time can be controlled Storage function for the set values of temperature and timer Alarm function: error status and timer-end Locking mode supported for experimental safety (input to jog-shuttle can be disabled)</p> <p><b>Technical Specifications:</b> Dimension (w x d x h): bath (mm): 500 x 295 x 150 Heater: 2 kW Capacity: 22 Lit Temp. Range: Ambient + 5 °C ~ 100 °C Temp. Accuracy: ± 0.1 °C Temp. Uniformity: ± 1.0 °C Temp. Sensor: PT100 Controller: Digital fuzzy controller with jog-shuttle switch (Turn + Push) Display: Digital LCD display (Temp + Timer) Timer: 99 hr 59 min (Delay &amp; Continues function included) Safety Devices: Over temp, and over current protection, sensor error detector Material internal: Stainless steel (#304) Material external: Powder coated steel Lid: Including stainless steel flat lid Drain valve: Available Others: Storage function (Temp., Timer) Locking for mode (Jog-Shuttle input disabled) User self-compensation function Alarm (Error Status and Timer-end) Power Supply: 220VAC. 50/60Hz</p>				
7	<p><b>Water Distillation Apparatus</b></p> <p><b>Features:</b> Horizontal thick wall heat resistant Duran glass boiled fitted with 3 KW chromium heater. High efficiency coil condenser ensures low temperature, high output quality distillate of conductivity 3 to 4µs/cm. Compact construction suitable for bench and wall mounting. Screw thread connectors enable easy fitting or removal of hose safety. Built in constant level device with Schott Vendura – Nova valve for drainage provides easy descaling without dismantling. Safety thermostat built into the heater protects the Favorit water still in the event of water supply failure and automatically resets when the water supply is restored. <b>Specifications:</b> Capacity: 4litre/hour.</p>		PKR 188,036.00	PKR 188,036.00	Rs. 188,036.00
17	Stopwatch	05	PKR 1,149	PKR 1,149.00	Rs. 5,745.00
19	Glucometer	02	PKR 1,518	PKR 1,518.00	Rs. 3,036.00
					<b>Rs. 757,1071.00</b>

In words: (Rupees Seventy Five Lac Seventy One Thousand Seventy One Only)

A. **Special Conditions:**

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten Signature]*  
5/1/16





Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
 JAMSHORO, SINDH  
 Telephone: + 9213350, Exch. 771240, Ext. + 122  
 Email: storesection@lumhs.edu.pk  
 Web Site: www.lumhs.edu.pk

Doc# LUMHS/PSS/- 360  
 ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015.

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/333 Dated: 28-12-2015 the competent authority under his office letter No. 8025, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Scientific Technical Corporation.** (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro. demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro. through opening Letter of Credit (L.C) at the rates on C&F Basis, Quantity given below on Terms & Conditions mentioned in contract agreement

A. Details of Items.

- Note: submit contract performance Bond & Contract of Agreement on stamp paper / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S SCIENTIFIC TECHNICAL COPORATION.					
S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate	Total Amount
<b>Department of Bio Chemistry</b>					
01.	<b>Spectrophotometer</b> <b>Features:</b> Microprocessor control, 16x2 LCD display. Auto zero and auto 100%T adjustment provided. Calibration curve can be set up by either measuring or entering up to 10 standards or entering K and B factors directly via the keyboard. Parameters can be saved for later use. Up to 10 calibration curves can be stored and edited for user's convenience. Data can be printed on an optional desktop printer and can downloaded to a PC through RS-232. PC control provided for more accurate and flexible measurement requirements (optional). Auto wavelength control (optional). <b>Specifications:</b> Wavelength: 320-1100nm Wavelength Accuracy: $\leq 1 \pm 0.0$ nm Wavelength Reproducibility: $\leq 1$ nm Monochromator: Single-beam C-T type, grating 1200L/mm Photometric Accuracy: $\leq \pm 0.5\%$ T Photometer Reproducibility: $\leq 0.3\%$ T Stray Light: $\leq 0.1\%$ T (NaNO <sub>2</sub> at 340nm) Spectral Bandwidth: 5nm (1, 2, 4nm optional) 0%T Stability: $\leq 0.2\%$ T (30min) 100%T Stability: 0.001A/30min (at 500nm, after warning up) Operation Mode: T, A, C, E Photometric Range: -0.3-3A Display: 16x2 LCD Detector: Silicone Photodiode Light Source: Tungsten halogen lamp, Power Requirement: 220/110V $\pm 10\%$ , 50/60Hz Power Consumption: 100W Dimension: 530x410x210mm Net weight: 15kg Complete with 16 glass cells, 4 quartz cells.	2			
			\$1,250.00	\$1,250.00	\$ 2,500.00
11.	<b>Digital Hotplate Stirrer Ceramic Coated Plate With Digital Feedback Control</b> <b>Applications &amp; Features:</b>	2	\$450.00	\$450.00	\$900.00

*Signature*  
 5/11/16

<p>CE-Certified. Digital feedback control by high performance microprocessor. Superior temperature uniformity: 10% less on the plate at current temperature.  Accurate temp. Control of the sample in the vessel using optional PT100 sensor. User's self-compensation function: to control difference between real temp. and indicate temp. (<math>\pm 10.0</math> °C). Digital LCD with back light function. Aluminum die-casting, Ceramic coated plate chemical/acid resistance. Storage function, timer, alarm.  Locking mode supported for experimental safety (input to jog-shuttle can be disabled).  <b>Technical Specification:</b>  Plate Size (mm): 180 x 180  Stirring Capacity (H<sub>2</sub>O): Max. 20Lit  Motor Rating (W): 9/4  Speed Range (rpm): 80 ~ 1,500  Speed Control Resolution: (rpm): 5  Temp. Range (°C): Max. 380  Temp. Accuracy: <math>\pm 0.3</math> °C at set temperature  Temp. Display Resolution (°C): 0.1  Temp. Control Resolution (°C): 0.5  Heating Power (W): 600  Heating Plate: Specially Designed Heating Module (High Uniformity: Temp. Difference 10% Less)  Controller: Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)  Display: Digital LCD with back light function.  Timer: 99hr 59 min, (Continuous function included)  Material Plate: Ceramic Coated Aluminum (Chemical/Acid Resistance)  Material Body: Powder Coated Aluminum  Dimension (w x h x d mm): 206 x 307 x 99  Weight (kg): 3.3  Others: Storage Function (Temp., RPM, Timer)  Locking Mode (Jog-Shuttle Input disabled)  User self compensation function  Alarm (Error Status and Timer end)  Power Consumption: 600 W  Power Supply: 220 volt, 50/60 Hz</p>				
<p><b>15. Digital Ultrasonic Cleaner Set With Lid Heat &amp; Timer Digital Control</b>  <b>Applications &amp; Features: -</b>  PL (Product Liability) Insurance.  Useful for cleaning to remove dirt, grease, waxes and oil from all lab instruments by ultrasonic frequency.  Microprocessor controller: timer, temperature, output control.  Multi-frequency sonication body.  Temperature range from ambient to 50°C.  Convenient preset function: Heating and Timer  <b>Technical Specifications: -</b>  Capacity: (Liters): 6L  Tank size inner (mm): 290 x 150 x h150  Heat temp. °C: Ambient to 90°C  Timer (min.): 0 ~ 99  Drain valve: None  HF-peak out (W): 150W  Power: 370W  Weight net (kg): 4.8 kg</p>	1	\$1,400.00	\$1,400.00	\$1,400.00
Dollars Four Thousand Eight Hundred Only				\$4,800.00

**A. Special Conditions:**

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS. against this purchase order.

*Devi*  
5/11/16



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
JAMSHORO, SINDH  
Telephone: + 9213350, Exch. 771240, Ext. + 122  
Email: [storesection@lumhs.edu.pk](mailto:storesection@lumhs.edu.pk)  
Web Site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

Doc# LUMHS/PSS/- 358  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/335 Dated: 28-12-2015 the competent authority under his office letter No. 8027, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Seico Scientific Traders.** (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro. the rates & Quantity mentioned below on following Terms & Conditions.

### A. Details of Items.

- Note: submit contract performance Bond & Articles of Agreement, 0.03% stamp duty paid by supplier of this purchase order.

M/S Seico Scientific Traders.					
S. N O	Name of Equipment/Models	Qty	Unit Rate in Pak	Unit Rate Pak Rupees	Total Amount
<b>Department of Pathology</b>					
56	ELISA washer and reader automated with UPS	1	Rs. 475,000	Rs. 475,000	Rs. 475,000
59	Electrolyte analyzer (ISE)	1	Rs. 520,000	Rs. 520,000	Rs. 520,000
Rupees Nine Lac Ninety Five Thousand Only					Rs. 9,95000.00

**Rupees Nine Lac Ninety Five Thousand Only**

### A. Special Conditions:

- The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*Handwritten signature and date: 5/11/16*



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
JAMSHORO, SINDH  
Telephone: +92(33350, Exch. 771240, Ext. +122  
Email: [storesection@lumhs.edu.pk](mailto:storesection@lumhs.edu.pk)  
Web Site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

Doc# LUMHS/PSS/- 358  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015

## 1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/336 Dated: 28-12-2015 the competent authority under his office letter No. 8028, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Chemical House**, (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro. the rates & Quantity mentioned below on following Terms & Conditions.

### A. Details of Items.

- Note: submit contract performance Bond & Articles of Agreement, 0.03% stamp duty paid by supplier of this purchase order.

M/S CHEMICAL HOUSE					
S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
Department of Bio Chemistry					
18.	Thermal Cycle	01	PKR 544,050.00	PKR 544,050.00	PKR 544,050.00
Department of Pathology					
25.	Apparatus electrophoresis complete with accessories, densitometry and UPS	1	Rs. 1,705,275	Rs. 1,705,275	Rs. 1,705,275
Rupees Twenty Two Lac Forty Nine Thousand Three Hundred Twenty Five					Rs. 22,49,325.00

### A. Special Conditions:

- The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten signature]*  
5/1/16



Doc# LUMHS/PSS/- 361  
 ISSUE DATE: 05-01-2016

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
 JAMSHORO, SINDH  
 Telephone: + 9213350, Exch.771240, Ext. + 122  
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 Web Site: www.lumhs.edu.pk

Purchase & Store Section

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/334 Dated: 28-12-2015 the competent authority under his office letter No. 8026, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Technology Link Karachi**. (the supplier) for the supply & installation of Description (A) Laboratory Equipment/Models for Newly Established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean, Faculty of Basic Medical Sciences., LUMHS, Jamshoro, through opening Letter of Credit (L.C) at the rates on C&F Basis, Quantity given below on Terms & Conditions mentioned in contract agreement.

**A. Details of Items.**

- Note: submit contract performance Bond & Contract of Agreement on stamp paper / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S Technology Links pvt Ltd					
S.N	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Pathology</b>					
57	Spectrophotomer UV range	1	\$8,500.00	\$8,500.00	\$8,500.00
75	Embedding station	1	£9,000.00	£9,000.00	£9,000.00
77	Cytotech centrifuge	1	£6,500.00	£6,500.00	£6,500.00
82	Paraffin embedding bath	1	£2,000.00	£2,000.00	£2,000.00
85	Tissue processor	1	£11,000.00	£11,000.00	£11,000.00
<b>Dollars Eight Thousand Five Hundred &amp; Pound Twenty Eight Thousand Five Hundred</b>					<b>\$8,500.00</b>
					<b>£28,500.00</b>

Dollars Eight Thousand Five Hundred & Pound Twenty Eight Thousand Five Hundred

**A. Special Conditions:**

- The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice, In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*Handwritten signature and date: 5/1/16*



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
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Doc# LUMHS/PSS/- 355  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015.

### 1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/332 Dated: 28-12-2015 the competent authority under his office letter No. 8024, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Global Marketing Services.** (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro, through opening Letter of Credit (L.C) at the rates on C&F Basis. Quantity given below on Terms & Conditions mentioned in contract agreement.

### A. Details of Items.

- Note:** submit contract performance Bond & Contract of Agreement on stamp paper / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S GLOBAL MARKETING SERVICES.					
S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Anatomy</b>					
51.	Microtome	1	\$7950.00	\$7950.00	\$7950.00
<b>Department of Bio Chemistry</b>					
13.	Micropipette Adjustable Individually Calibrate, Fully Autoclave able  <u>Features:</u> Smart and reliable volume adjustment and very fine volume resolution Single-handed volume setting Precision digital display visible at all times Click stops and rotating plunger cap prevent unwanted volume alteration Justip adjustable tip ejector fitting most tips Swift-set user calibration system Colour coding <u>Specifications:</u> Volume Range: 0.1 – 2µl Division: 0.002µl Inaccuracy (E%), Min. Vol: < ± 6.0% Inaccuracy (E%), Mid. Vol: < ± 4.0% Inaccuracy (E%), Max. Vol: < 2.0% Imprecision (CV%), Min. Vol: < 5.0% Imprecision (CV%), Mid. Vol: < 3.3% Imprecision (CV%), Max. Vol: < 1.5% Volume Range: 0.5 – 10µl Division: 0.01µl Volume Range: 2 – 20µl, Division: 0.02µl	1	\$425.00	\$425.00	\$425.00

*Handwritten signature and date: 5/1/16*

	Volume Range: 5 – 50µl, Division: 0.1µl Volume Range: 10 – 100µl, Division: 0.1µl				
<b>Department of Pathology</b>					
07	Automated haematology analyzer	1	\$4,800.00	\$4,800.00	\$4,800.00
10	Deep freezer -40 c				
		1	\$5,900.00	\$5,900.00	\$5,900.00
13	Microscope binocular	15	\$849.00	\$12,735.00	\$12,735.00
14	Microscope multie head(5 place)	1	\$10,752.00	\$10,752.00	\$10,752.00
19	Automatic pipette 10 ul fixed	1	\$65.00	\$65.00	\$65.00
20	Automatic pipette 100 fixed	1	\$65.00	\$65.00	\$65.00
21	Automatic pipette 200 ul fixed	1	\$65.00	\$65.00	\$65.00
22	Automatic pipette 50-500 ul adjustable	1	\$85.00	\$85.00	\$85.00
23	Automatic dispenser adjustable 5-50 ul	1	\$85.00	\$85.00	\$85.00
29	Blood bank large with temperature control, alarm and record graph		\$9,400.00	\$9,400.00	\$9,400.00
30	Blood bank medium with temperature control, alarm and record graph	1	\$8,400.00	\$8,400.00	\$8,400.00
38	Plasma extractor	1	\$390.00	\$390.00	\$390.00
49	Blood bag centrifuge refrigerated	1	\$20,800.00	\$20,800.00	\$20,800.00
50	Platelet incubator with mixer	1	\$7,250.00	\$7,250.00	\$7,250.00
72	Floating bath	1	\$830.00	\$830.00	\$830.00
76	Automatic stainer	1	\$5,760.00	\$5,760.00	\$5,760.00
78	Freezing microtome	1	\$18,240.00	\$18,240.00	\$18,240.00
87	Microtome	1	\$7,950.00	\$7,950.00	\$7,950.00
90	Photomicrography microscope	1	\$3,460.00	\$3,460.00	\$3,460.00
<b>Grand Total Amount</b>					<b>\$1,25,407.00</b>

Dollars One Lac Twenty Five Thousand Four Hundred Seven Only.

**A. Special Conditions:**

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten Signature]*  
BT/IG

01  
18/8/15

**LIAQUAT UNIVERSITY**  
OF MEDICAL & HEALTH SCIENCES, JAMSHORO, SINDH - PAKISTAN  
URL: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)  
Telephone # 92-22-9213379  
Department of Community Medicine

2099  
18/8/15

To  
The Dean  
Faculty of Basic Medical Sciences  
Liaquat University of Medical & Health Sciences  
Jamshoro

**SUBJECT: REQUIREMENT OF EQUIPMENT/MODELS & BOOKS FOR  
COMMUNITY MEDICINE FOR NEWLY ESTABLISHED  
BILAWAL MEDICAL COLLEGE AT LUMHS, JAMSHORO.**

Please find herewith the amended list of models / equipment/ books required for the department of Community Medicine in newly established Bilawal Medical College at LUMHS Jamshoro.

Moreover, it is to inform you that our department has services of dedicated artist who can make models/ miniatures if required material is provided to him.

Thanks

The store  
LUMHS  
18/8/15

*Khalida*  
(Dr. Khalida Naz Memon)  
Chairperson  
Department of Community Medicine  
LUMHS, Jamshoro

**Copy for information:**

1. The Vice Chancellor, LUMHS Jamshoro.
2. The Dean, Faculty of Community Medicine & Public Health Sciences
- ✓ 3. The PA to Registrar, LUMHS Jamshoro.
4. Office copy.

Add: in BMC  
Pender

*18/8/15*





## LIST OF MODELS/ EQUIPMENT & OTHER TEACHING MATERIAL

### 1. MODELS:

- a. Safe motherhood.
  - b. Healthy house.
  - c. Sanitary well.
  - d. Sanitary latrine.
  - e. Balanced diet.
  - f. Global warming.
  - g. Winged & wingless insects of public health importance.
  - h. Levels of prevention of diseases.
  - i. Marasmus & Kwashiorkor.
  - j. Types of desks: zero , minus & plus desks.
  - k. Models of methods of purification of water.
  - l. Methods of family planning.
2. Wall charts showing health indicators & Millennium Development Goals.
  3. IMNCI wall charts.
  4. Wall charts revealing various plans of rehydration.
  5. Wall chart showing steps of planning cycle.
  6. Wall charts – Population pyramid & demographic transition.
  7. Wall charts showing steps of counseling.
  8. Growth charts for tracking growth of children.
  9. Food guide pyramid.
  10. Chain of transmission of infection.
  11. EPI cold chain.
  12. Vaccines used under Expanded Program on Immunization.
  13. Weighing machine with height measuring scale for measuring BMI.

**BOOKS/DOCUMENTS:**

1. Park's Textbook of Preventive & Social Medicine. 30<sup>th</sup> Edition
2. Public Health & Community Medicine By Mohammad Ilyas. 8<sup>th</sup> Edition
3. Latest Health Policy of Pakistan-2009-10.
4. Provincial Health Policy –Sindh-2005
5. Pakistan's Environmental Policy-2005
6. Pakistan Demographic & Health survey Report-2013-14.
7. Pakistan's Nutrition Policy, Breast feeding policy.
8. IMNCI tool kit.
9. DHIS tool kit.
10. Documents related to various infectious disease control programs currently running in Pakistan.
11. Prevention & Control of Chronic non-communicable diseases.
12. Latest World Health Reports 2015,2014, 2013.

**OTHER EQUIPMENT:**

Multimedia, Overhead projector, flip charts for small group discussion, DVD player along with monitor for playing CDs showing various health related activities, counseling etc.


**Dr: Khalida Naz Memon**

## LIST OF EQUIPMENT FOR PHARMACOLOGY

### Specifications

S.no	Description	Qty	Unit Price	Total Amount
1	<p><b>Two channel data recording system</b> complete with accessories and Software. Must be capable of recording at speeds of up to 400,000 samples per second continuously to disk (aggregate), and are compatible with instruments, signal conditioners and transducers supplied in the tender.</p> <ul style="list-style-type: none"> <li>• High-throughput full-bandwidth sampling of any analog signal 2 mV - 10 V</li> <li>• Full 16-bit ADC resolution; resolve voltage differences as small as 61 nV (35 Series)</li> <li>• 200 kHz maximum sampling rate (35 Series)</li> <li>• Built to last, ISO certified, with a hardware warranty of up to 3 years</li> <li>• Flexible Connectivity</li> <li>• Analog outputs for external device control or stimulation protocols</li> <li>• DIN connectors for recalibrated transducers and low-cost amplifiers</li> <li>• Digital input and output connectors for signaling to/from TTL devices</li> <li>• 2 channel analogue inputs</li> <li>• 1 built in animal stimulator</li> <li>• High grade Isotonic transducer.</li> <li>• Bridge Amplifier</li> <li>• USB and Power Cable</li> <li>• Software CD, upgradable to five years</li> </ul>	8		
2	<p><b>Tissue Bath One Channel.</b></p> <ul style="list-style-type: none"> <li>• Complete with glassware and tubing.</li> <li>• 25 mL 1660 series tissue bath.</li> <li>• The steel base is coated to resist corrosive salt solutions. The perfusate flows from a water jacketed, temperature controlled 1-liter reservoir to the tissue bath through a pre-heating coil built within the water jacket of tissue bath. The bath is emptied via a bottom drain controlled with a stopcock. The bath may also be used in a constant flow mode with excess perfusate exiting an overflow outlet at the top of the bath. Both overflow and drains may be routed to permit monitoring the release of endogenous substances, drug metabolites, or to design a cascade system configuration. Bath aeration is finely controlled via a removable Teflon needle valve Oxy-tube.</li> <li>• 6L Thermo regulated water bath (220) Features include a temperature range of 5 to 100 degree Celsius with +/- 0.1 accuracy and 14L/min pump speed. Dimensions are 350 x 210 x 410mm and weight is 11kg. Other features include</li> </ul>	8		

	innovative Patented Easy-to-Use Digital Fuzzy Controller and is CE certified. It has a stainless steel bath and lid for superior durability, high thermal efficiency, prevents evaporation and keeps constant temperature. Nozzle 7mm ID 11mm OD.			
3	<b>Force Transducer:</b> high performance (0-20g) force transducer. Should be supplied with an 8-pin DIN connector and is compatible Bridge Amps data acquisition supplied in the tender.	8		
4	<b>Distillation Plant:</b> Features: <ul style="list-style-type: none"> <li>• Horizontal thick wall heat resistant Duran glass boiled fitted with 3 KW chromium heater.</li> <li>• High efficiency coil condenser ensures low temperature, high output quality distillate of conductivity 3 to 4<math>\mu</math>s/cm.</li> <li>• Compact construction suitable for bench and wall mounting.</li> <li>• Screw thread connectors enable easy fitting or removal of hose safety.</li> <li>• Built in constant level device with Schott Vendura – Nova valve for drainage provides easy descaling without dismantling.</li> <li>• Safety thermostat built into the heater protects the Favorite water still in the event of water supply failure and automatically resets when the water supply is restored.</li> <li>• Specifications: Capacity: 4litre/hour.</li> </ul>	1		
5	<b>Oxygen Cylinder (Full size)</b>	X	2	
6	<b>Oxygen Cylinder Regulator</b>	X	2	
7	<b>Electronic Balance</b> Range 0-500 g Readability: 0.01g	1		
8	<b>B.P. Apparatus</b> Mercury manometer	10		
9	<b>Stethoscope</b>	10		
10	<b>Torches</b> For rabbit eye experiments	20		
11	<b>Scissors</b> (Surgical Instruments of assorted sizes for animal dissection)	20		
12	<b>Weighing Balance</b> Range: 0g-2000 g Readability: 0.1	10		

  
**Prof. Munawar A. Ansari**  
 MBBS, M.Phil, Ph.D  
**CHAIRMAN**  
 Department of Pharmacology  
 LUMHS, Jamshoro

2118  
~~2118~~  
24/8/15

DOC#: LUMHS/PHY/- 221 2111  
ISSUE DATE 24/8/15



**LIAQUAT UNIVERSITY**  
OF MEDICAL & HEALTH SCIENCES, JAMSHORO, SINDH-PAKISTAN  
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Department of Physiology

To,  
The Incharge Purchase & Store Section  
Liaquat University of Medical &  
Health Sciences, Jamshoro

Re: REQUIRMENT OF EQUIPMENT/MODELS/FURNITURE AND BOOKS  
FOR NEWLY ESTABLISHED BILAWAL MEDICAL COLLEGE AT  
LUMHS JAMSHORO

In response to your letter No. LUMHS/PPS/-24433 dated: 12-08-2015

I am sending you a Soft copy of the list of equipment changes <sup>made</sup> ~~order~~ according to the  
requirement of PMDC.

Kind Regards

*Feb*

(Dr Abdullah Abbasi)  
Associate Professor  
Department Of Physiology  
LUMHS, Jamshoro

## Revised list of lab equipments according to PMDC

List of Equipments Physiology Department (Lab)				
Sr#	Name Of Equipment	Qty	Unit Price	Total Amount
1	<p><b>Microscope Binocular</b>  <b>Stand:</b> sturdy stand with antirust antibacterial materials. Heat isolating hand rests  <b>Viewing Bodies:</b> 45<sup>0</sup> inclined, 360<sup>0</sup> rotatable dovetail, interpupillary distance 54 – 74mm  <b>Eyepieces:</b> Wide Field focusable paired eyepieces 10x/18mm with foldable eye guard, lockable, antifungal.  <b>Nosepiece:</b> Quadruple nosepiece (ball bearing type) with rubber grip, click stop for exact position.  <b>Objectives:</b> LP Series DIN Semi-Plan Achromatic objective 4x, 10x, 40x (Spring loaded), 100x (Spring loaded, oil), antifungal  <b>Mechanical stage:</b> Rackless stage, size 135 x 124mm, X/Y travel range 76mm x 50mm. low drive movement controls. single specimen holder.  <b>Condenser:</b> Sub stage abbe condenser NA 1.25 with aspheric lens and Iris diaphragm. With snap-in blue filter. Rack and pinion movements on metal guides.  <b>Focusing:</b> Co-axial coarse and fine focusing on ball drive system for smooth operatin, fine drive movement 0.2mm/division, tension adjustment for torque control.  <b>Illumination:</b> Halogen 6V-20W illumination with variable illumination control. Up to 200,000 hours of Halogen lamp life.  <b>Electrical:</b> Universal power supply (100V-240V, 50/60 Hz) Built-in voltage stabilizer</p>	10		
2	<p><b>Spectro photometer</b>  Microprocessor control, 16x2 LCD display. Auto zero and auto 100%T adjustment provided. Calibration curve can be set up by either measuring or entering up to 10 standards or entering K and B factors directly via the keyboard. Parameters can be saved for later use.  Up to 10 calibration curves can be stored and edited for user's convenience. Data can be printed on an optional desktop printer and can be downloaded to a PC through RS-232.PC control provided for more accurate and flexible measurement requirements (optional).  Auto wavelength control (optional).  <b>Specifications:</b>  Wavelength: 320~1100nm</p>	1		

	Wavelength Accuracy: $\leq 1 \pm 2.0 \text{ nm}$ Wavelength Reproducibility: $\leq 1 \text{ nm}$ Monochromator: Single-beam C-T type, grating 1200L/mm Photometric Accuracy: $\leq \pm 0.5\% T$ Photometer Reproducibility: $\leq 0.3\% T$ Stray Light: $\leq 0.1\% T$ (NaNO <sub>2</sub> at 340nm) Spectral Bandwidth: 5nm (1, 2, 4nm optional) 0%T Stability: $\leq 0.2\% T$ (30min) 100%T Stability: 0.001A/30min (at 500nm, after warning up) Operation Mode: T, A, C, E Photometric Range: -0.3~3A Display: 16x2 LCD Detector: Silicone Photodiode Light Source: Tungsten halogen lamp, Power Requirement: 220/110V $\pm 10\%$ , 50/60Hz Power Consumption: 100W Dimension: 530x410x210mm Net weight: 15kg Complete with 16 glass cells, 4 quartz cells.			
3	Centrifuge Machine 6 Tubes	1		
4	Refrigerator 14 Cu ft	1		
5	ECG machine	1		
6	ESR Stands with tubes	5+25		
7	Haemo cytometer	20		
8	Thermometers (clinical)	50		
9	Heamoglobinometers	15		
10	Test tube Racks	10		
11	Student kymograph	5		
12	Microhaematocrit centrifuge	1		
13	Measuring Cylinders/Beakers	10		
14	Ishihara Charts	5		
15	Lancets	5 packets		
16	Tunning fork 100 Hz	15		
17	Stopwatches	15		
18	Staining trays	10		
19	Syringes 5cc (B.D)	1000		

20	Slide Boxes	12		
21	Filter Papers	10 Pack		
22	Percussion / Clinical / Reflex Hammers	20		
23	Oxygen cylinders	2		
24	<p><b>Perimeter With Object,</b>  <b>Perimeter model 14014 Lafayette,</b>  Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets,  five right eye charts, five left eye charts, stand.</p> <p>Subject fixes eyes at midpoint in the perimeter's semicircular while experimenter moves a pointer to identified by subject at his / her visual periphery. This device is used to map areas of the retina sensitive to different colored stimuli.</p> <p>Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, and stand.</p>	10		
25	Sphygmomanometer	15		
26	Stethoscope	25		
27	<p><b>Class room infrared Transmitter</b>  The SimulScope allows physicians and students the ability to hear live physiological sounds with up to 20 other people at the same time. The SimulScope provides less intrusion on patients as only one stethoscope is placed on him or her. It is also effective in the simulation lab or classroom when used with simulators or manikins. This FDA approved product is popular in both universities and hospitals.</p>	1		
28	<p><b>SAM student auscultation Manikin</b>  SAM II, the Student Auscultation Manikin is a new innovation in teaching and learning heart, breath, &amp; bowel sounds. Containing the largest sound library available, SAM II is a portable and easy to use manikin. While SAM II is used in many simulation centers, it is also easily moved into a classroom or auditorium for group instruction.</p>	1		
29	Vision E type (snellen's chart)	5		
30	Weighing machine	2		
31	Ear Specula (3,4,5,6-mm)	5		
32	Nasal Speculum 8mm	5		
33	pH meter clinical	1		



34	<b>Audiometer Pure tone pulse type.</b> Test Air Conduction, Bone Conduction, Controlateral Masking Nbn, Wn, Transducer Air Conduction TDH49 / ER-3A / ER-5A Transducer Bone Conduction Bone vibrator B.71 Pure Tone Frequency AC: 125 Hz - 8000 Hz BC: 250 Hz - 6000 Hz Intensity Range Pure Tone Air Conduction: -10 dB HL ... +110 dB HL (1000 Hz) Bone Conduction: -10 dB HL ... +65 dB HL (1000 Hz) Intensity Range Masking Nbn 0 dB EM ... +80 dB EM Intensity Range Masking Wn 0 dB EM ... +80 dB EM Signal Mode Normal ON, Normal OFF, Pulsed (2,5 Hz, 50%, 200+200 mS), Masking with Traking External Input Soket USB type A to connect Pendrive for saving the graphic Audiogram. EN 60645-1, EN 60645-2 Must be CE Marked Make: Europe	1		
35	<b>Balance analytical</b>	1		
36	<b>Tongue Depressor Plastic</b>	10 packs		
37	<b>Torches</b>	10		
38	<b>Oven electric with thermostat</b>	1		
39	<b>Human and Physiology Recording Data Acquisition System with following accessories along with software Lab tutor V.3and upgradeable Lab Tutor software and Experiments software .</b> Pulse Transducer , Respiratory Belt Transducer , Sphygmomanometer, Push button switch, Cardio Microphone, Hand Dynamometer, Dry Earth Strap, Shielded Lead Wires(5Alligator Clips,25 cm), EEG Flat Electrodes, Reusable ECG Electrodes, Disposable ECG Electrodes, Abrasive Gel, Electrode Cream, Electrode Paste, Alcohol Swap. Human Respiratory Kit,(Spiro meter Pod, Respiratory Flow Head, Clean bore tubing & adaptor, Student Respiratory Kit). Nerve & Muscle Kit (Bridge Pod, Force Transducer, Animal Nerve Stimulating Electrode, Nerve Chamber with cables, differential pod Input cables ,Stimulator cable). Shielded Bio Amp Cable, Shielded lead wire and Stimulating Bar Electrode.	2		

40	<b>VITALOGRAPH.</b> Autoclaveable Flow head, Parameters measured VC, IVC, FVC, FEV1, FEV1Ratio, FEV6, PEF (L/min), FEF25-75%, FEF25%, FEF50%, FEF75%, PIF, MVVInd, Lung Age over 50 test parameters, Choice of child incentives, Stand Alone Hand Held unit, Touch Screens operation, Including PC Software, Flow detection principle Fleisch Type Pneumotachograph, Back pressure Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005	2		
41	<b>Student's spirometer</b>	5		
42	<b>Thermal Paper roll for vitalograph box of 5</b>	20		
43	<b>Tred mill</b>	1		
44	<b>Finger pulse oxymeter</b>	1		
45	<b>Frog's board &amp; dissection boxes</b>	5		
47	<b>Heart pumping model</b> Easy-to-use, multi-sensory model uses a simple hand pump to demonstrate basic heart and pulmonary blood flow. Create a memorable exploration of how the heart and lungs work together for oxygen exchange. No mess - liquid is sealed in! Includes clearly labeled heart chambers, main artery, veins and lungs, plus activity guide. 12" L x 11" W x 5" D. Grade 3 and up.	1		
48	<b>Physiological Charts Set of 9</b>	1 Set		
49	<b>Reflex Kit</b> Used for stimulating and measuring human reflexes	2		
50	<b>E.O.G Kit</b> Configured for human eye movement	2		
51	<b>Single channel Stimulator</b> Pulse: Frequency: 1 - 99999 p.p.s. (10 KHz) Duration: 1 $\mu$ s - 9999 ms Train: Interval: 0.1 - 999.9 s Duration: 1 - 9999 ms Output: Constant voltage: 0 - 150 V (LE 12106/150) (1 V resolution) Constant voltage/current: 0 - 100 V/mA (1 V/mA resolution) Accuracy: $\leq$ 1% for timings $\leq$ 1% for output Sync out: 5 V TTL signal synchronic w/pulse onset DC DC level with the set amplitude	2		

	External trigger: TTL signal allowing for the external control of the pulse onset Max. power output: 20 W Power supply: 220/110 V, 50-60 Hz			
52	<b>Vitalo Graph mouth piece</b> (one way Each Box comprise 200 Pieces)	2 Boxes		
53	<b>Vitalo Graph Mouth Pieces</b> (Two way box of 200)	2 Boxes		
54	<b>Human Physiology Charts</b>	5 Sets		

LIAQUAT UNIVERSITY  
OF MEDICAL & HEALTH SCIENCES, JAMSHORO, SINDH - PAKISTAN

URL: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

Telephone # 92-22-9213353, 92-22-9213355, 92-22-2772825

Email: [chairmanpathology@hotmail.com](mailto:chairmanpathology@hotmail.com)



To,

Director Academics /  
Chairman Central Purchase Committee  
LUMHS, Jamshoro

Subject: LIST OF NECESSARY PATHOLOGY EQUIPMENTS FOR NEWLY ESTABLISHED BILAWAL MEDICAL COLLEGE AT LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO

Reference: LUMHS / PSS/24454 Dated: 21-08-2015

Dear Sir,

Find enclosed herewith the necessary equipment list of pathology for newly established Bilawal Medical College at Liaquat University of Medical & Health Sciences, Jamshoro.

*o/c*  
*Amir*  
*Mishir*

(PROF. IKRAMUDDIN UJJAN)

Chairman  
Department of Pathology  
LUMHS, Jamshoro.

*Amir*  
*24.8.15*

Director Academics  
Liaquat University of Medical &  
Health Sciences, Jamshoro Sindh.



## PATHOLOGY(Equipment)

### Part III

	Equipment	Min Required
1.	Spectrophotometer (visible spectrum)	1
2.	Haemocytometer	0
3.	Westergren ESR system(bottles+ tubes +stand)x6	2
4.	Stain dropping bottles(250 ml)	4
5.	Wash bottle(500ml)	4
6.	Staining rack adjustable	4
7.	Automated haematology analyser	1
8.	Hot air oven(medium)	1
9.	Refrigerator 14cf	2
10.	Deep freezer -40 c	1
11.	Deep freezer -20 c	
12.	Water Bath with stirrer,temperature control and display	2
13.	Microscope binocular	15
14.	Microscope multie head(5 place)	1
15.	Microcope Fluoresent	
16.	Differential leucocyte counter manual(8-10 keys)	
17.	Differential leucocyte counter electronic	
18.	Automatic pipette 5ul fixed	
19.	Automatic pipette 10 ul fixed	
20.	Automatic pipette 100 fixed	
21.	Automatic pipette 200 ul fixed	
22.	Automatic pipette 50-500 ul adjustable	
23.	Automatic dispenser adjustable 5-50 ml	1
24.	Table lamp with flexible/adjustable head	1
25.	Apparatus electrophoresis complete with accessories, densitometry and UPS	1
26.	Centrifuges microhaematocrit with reader.	1
27.	Fixed high speed centrifuges with timer	1

28.	Centrifuges with timer and speed control to hold 06 ordinary test tubes	1
29.	Blood bank large with temperature control, alarm and record graph	
30.	Blood bank medium with temperature control, alarm and record graph	1
31.	Blood bank small with temperature control, alarm and record graph	
32.	Blood grouping tiles	3
33.	Pipette glass(Pyrex) graduated 1 ml	2
34.	Pipette glass(Pyrex) graduated 2 ml	2
35.	Pipette glass(Pyrex) graduated 5 ml	2
36.	Pipette glass(Pyrex) graduated 10 ml	2
37.	Stand test tube plastic/steel for sugar tubes	6
38.	Plasma extractor	1
39.	PH meter clinical	1
40.	Precision electronic balance	1
41.	Balance electronic top loader	
42.	Automated coagulation analyzer complete with accessories and UPS	
43.	Bone marrow aspiration needles adult(Islam)	2
44.	Bone marrow aspiration needles Paediatric(Islam)	1
45.	Bone marrow trephine biopsy needles adult(Islam)	1
46.	Bone marrow trephine biopsy needles Paediatric(Islam)	
47.	Rota Mixer	
48.	Magnetic mixer/stirrer	
49.	Blood bag centrifuge refrigerated	
50.	Platelet incubator with mixer	
51.	Glass beaker (Pyrex) 100 ml graduated	4
52.	Glass beaker (Pyrex) 500 ml graduated	4
53.	Glass cylinder (Pyrex) 500 ml graduated	4
54.	Flask conical glass(Pyrex) graduate	4
55.	Water still	4

56	ELISA washer and reader automated with UPS	1
57	Spectrophotomer UV range	1
58	Semi automated chemistry analyzer	1
59	Electrolyte analyzer (ISE)	1
60	Hot plate	
61	Automatic media	
62	Shaker	1
63	Incubator 37 c large	1
64	Incubator 37 c small	1
65	Incubator Co2	
66	Incubator cold 22-29 c	1
67	Safety cabinet	1
68	Laminar flow cabinet	
69	Anaerobic system with gas generator kit	
70	Inspissator	
71	Autoclave	1
72	Floating bath	1
73	Staining jars	20
74	Automatic tissue processor	1
75	Embedding station	1
76	Automatic stainer	
77	Cytotech centrifuge	
78	Freezing microtome	
79	Personal computer	1 each staff Member
80	Computer printer as per load	2 (minimum)
81	Water Bath electric	1
82	Paraffin embedding bath	1
83	Oven sterilizer	1
84	Vacuum pump	1
85	Tissue processor	1

86	Oven-wax embedding ( 100 c)	1
87	Microtome	1
88	Knife sharpener	1
89	Incubator large	1
90	Photomicrography microscope	1

*Prof. Ikram Din Ujjan*  
24.8.15

(PROF. IKRAM DIN UJJAN)  
CHAIRMAN  
Department of Pathology  
LUMHS, Jamshoro



No. LUMHS/PSS/-455  
Dated: 1/21/2016

## **LIAQUAT UNIVERSITY**

OF MEDICAL & HEALTH SCIENCES JAMSHORO, SINDH

**Purchase & Store Section**

Telephone: + 9213350, Exch.771240, Ext. + 122

Email: [storesectionlumhs@yahoo.com](mailto:storesectionlumhs@yahoo.com),

Web Site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

*Say no to corruption*

To,

The Manager (Assessment -V)  
Sindh Public Procurement Regulatory Authority,  
Karachi.

Subject:

**Tender for Purchase & Supply of Laboratory Equipment / Models & Library Books for newly established Bilawal Medical College at Liaquat University of Medical & Health Sciences, Jamshoro.**

In compliance of rule No.50 SPPRA please find herewith the following documents for further process.

1. Evaluation report
2. Letter of award
3. Bill of quantity

*[Handwritten Signature]*  
01/02/16

Prof. Muhammad Yousuf Memon,  
Chairman, Central Purchase Committee,  
LUMHS, Jamshoro.

SPRA PURCHASE ORDER

NO: \_\_\_\_\_

DATED: \_\_\_\_\_



Tender Approval Doc No. LUMHS/PSS/-24433 Dated: 12-08-2015

Technical Bid Opened On: 17<sup>th</sup> September 2015.

Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH

Telephone: + 9213350, Exch. 771240, Ext. + 122

Email: storesectionlumhs@vahoo.com

Web Site: www.lumhs.edu.pk

REFERENCE: TENDER FOR PURCHASE & SUPPLY OF LABORATORY EQUIPMENTS/MODELS DESCRIPTION (A) FOR NEWLY ESTABLISHED BILAWAL MEDICAL COLLEGE AT LUMHS, JAMSHORO.

As per combined Technical Evaluation Report by Technical Evaluation Committee following firms / dealers have qualified for financial opening

1	2	3	4	5
M/S Paktech Instrument Co.	M/S S.Ejazuddin & Co.	M/S Scientific Technical Corporation (Pvt) Ltd.	M/S Chemical House	M/S Global Marketing Services
6	7	8	9	
M/S Medinostic healthcare (Pvt) Ltd.	M/S UNI Brand International	M/S SEICO Scientific Traders	M/S Technology Links	

As per combined Technical Evaluation Report by Technical Evaluation Committee following firms/dealers have been disqualified for financial opening

1	2	3	4	5
M/S Labr Enterprises	M/S Ansari Traders	M/S Muslim Trading Agency	M/S Hospicare Systems	M/S Zelon Scientific
6	7			
M/S Muslim Medical Services	M/S FY Scientific Associates			

*[Handwritten signature]*

Prof. Muhamamd Yousif Memon,  
Chairman, (Central Purchase Committee)  
LUMHS, Jamshoro.

*[Handwritten signature]*  
Mr. Hina Talpur,  
Director Finance  
LUMHS, Jamshoro.

*[Handwritten signature]*

Mr. Asif Pervaiz Khero,  
External Member  
University of Sindh



Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES  
JAMSHORO, SINDH  
Telephone: + 9213350, Exch.771240, Ext. + 122  
Email: storesactionlums@yahoo.com  
Web Site: www.lums.edu.pk

Doc# LUMHS/PSS/-353  
ISSUE DATE: 05-10-2016

SUBJECT: LETTER OF INTENT.

Reference: Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015

### 1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/236 Dated: 28-12-2015 the competent authority under his office letter No.8031, Dated: 31-12-2015 is pleased to place this Purchase Order on **M/S Paktech Instrument Company, Karachi.** (the supplier) for the supply of Equipment / Models for newly established **Bitawal Medical College** at LUMHS, Jamshoro. demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro, through opening Letter of Credit (L.C) at the rates on C&F Basis, Quantity given below on Terms & Conditions mentioned in contract agreement.

### A. Details of Items.

- Note: submit contract performance Bond & Contract of Agreement on stamp paper of Rs. 100 / 0.03% stamp duty paid by Supplier of this purchase order.

If L/C is amended / cancelled at the request of supplier then the Bank Charges will be borne by the supplier.

M/S PAKTECH INSTRUMENT COMPANY, KARACHI.					
S.No.	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Anatomy</b>					
01.	Set of Histology Slides , Neuro-anatomy Slides/CDs	1No.	\$ 1,291.67	\$ 1,291.67	\$ 1,291.67
09.	Plastination Elbow Joint	1 Set	\$ 388.89	\$ 388.89	\$ 388.89
12.	<b>Human Reproduction and Development Kit with DVD</b> A thorough multimedia program, this kit presents an in-depth look at embryo and fetus development in humans. The accompanying text and teaching guide provide background information and study questions and include transparencies and black line masters. The DVD titled <i>The Miracle of Life</i> , along with the transparencies, tells the fascinating story of embryonic and fetal growth. The black line masters highlight important study points for students. The dramatic reproductions show the stages of human development in a unique, innovative way: plastic models and replicas each student can examine and study. The kit offers a direct and complete approach to an understanding of human reproduction from fertilization to birth.	1 No.	\$ 775.00	\$ 775.00	\$ 775.00
29.	Deluxe Eight part Ear. 5 times life size in unbreakable vinyl, our most detailed ear model provides a more complete per- spective of the middle and inner ear structures within the temporal bone. all the skin has been peeled off the detachable Auricle to expose its cartilaginous structure, Muscles, auricular arteries and nerves, as well as the entrance to the auditory canal. The cochlea itself separates into Halves to reveal cochlear, vestibular and tympanic Ducts and the branching of the cochlear nerve.95 hand numbred features are identified in the corresponding key. Overall dimension 17x11x8inch	1No.	\$ 958.33	\$ 958.33	\$ 958.33
50.	Microscope 5 headed Multi Head Microscope Stable stand with convenient location of focus controls with hand rests and heat resistant Nosepiece Reversed Quintuple revolving nosepiece with rubber grip for traction. Stage Double Layers Mechanical Stage 185x142mm, Moving Range	1 No.	\$ 7,600.00	\$ 7,600.00	\$ 7,600.00

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	75x55mm Focussing System Co-axial coarse and fine focusing system with auto focus stop Objectives Infinity Corrected Full Plan Achromatic Objectives Anti Fungus Coated 4x, 10x, 20x & 40x (Spring Loaded), 100x (Spring Loaded, Oil Immersion) Eye Piece Widefield 10x, Inter-pupillary distance and diopter adjustment Illumination Built-in Koehler illumination 12V-100W, Power supply 220-240V 50/60Hz, Inbuilt transformer and Potentiometer and Power Cord. Condenser Abbe Condenser N.A. 1.25 having Aspheric lens, centrable Compensation Free Trinocular Head, inclined at 30°, 360° Rotatable, Interpupillary Distance 48-75mm Qty: 1 Nos. Observation Heads Compensation Free Binocular head, inclined at 30°, 360° Rotatable, Interpupillary Distance 48-75mm Qty: 4 Nos. Pointer Green LED Pointer, Brightness Adjustable				
52.	Slide Dryer	1No.	\$ 8.93	\$ 8.93	\$ 8.93
53.	High frequency Film X-ray Viewer double bank with CCFL Lamp 20,000 hour lamp life	2 Nos.	\$ 1,070.00	\$ 2,140.00	\$ 2,140.00
S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Physiology</b>					
02.	<b>Spectro photometer</b> Microprocessor control, 16x2 LCD display. Auto zero and auto 100%T adjustment provided. Calibration curve can be set up by either measuring or entering up to 10 standards or entering K and B factors directly via the keyboard. Parameters can be saved for later use. Up to 10 calibration curves can be stored and edited for user's convenience. Data can be printed on an optional desktop printer and can be downloaded to a PC through RS-232. PC control provided for more accurate and flexible measurement requirements (optional). Auto wavelength control (optional). Specifications: Wavelength: 320~1100nm Wavelength Accuracy: $\leq 1 \pm 2.0$ nm Wavelength Reproducibility: $\leq 1$ nm Monochromator: Single-beam C-T type, grating 1200L/mm Photometric Accuracy: $\pm 0.5\%$ T Photometer Reproducibility: $\leq 0.3\%$ T Stray Light: $\leq 0.1\%$ T (NaNO <sub>2</sub> at 340nm) Spectral Bandwidth: 5nm (1, 2, 4nm optional) 0%T Stability: $\leq 0.2\%$ T (30min) 100%T Stability: 0.001A/30min (at 500nm, after warning up) Operation Mode: T, A, C, E Photometric Range: -0.3~3A Display: 16x2 LCD Detector: Silicone Photodiode Light Source: Tungsten halogen lamp, Power Requirement: 220/110V $\pm 10\%$ , 50/60Hz Power Consumption: 100W Dimension: 530x410x210mm Net weight: 15kg Complete with 16 glass cells, 4 quartz cells.	1 No.	\$ 1,748.00	\$ 1,748.00	\$ 1,748.00
03.	Centrifuge Machine 6 Tubes	1No.	\$ 1,178	\$ 1,178	\$ 1,178
04.	Refrigerator 14 Cu ft	1 No.	\$1,214	\$1,214	\$1,214
12.	Microhaematocrit centrifuge	1 No.	\$1,205	\$1,205	\$1,205
24	<b>Perimeter With Object,</b> Perimeter model 14014 Lafayette, Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, stand. Subject fixes eyes at midpoint in the perimeter's semicircular while experimenter moves a pointer to identified by subject at his / her visual periphery. This device is used to map areas of the retina sensitive to different colored stimuli.  Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, and stand.	10 Nos.	\$935	\$9,350	\$9,350
27	<b>Class room infrared Transmitter</b> The SimulScope allows physicians and students the ability to hear live physiological sounds with up to 20 other people at the same time. The SimulScope provides less intrusion on patients as only one stethoscope is placed on him or her. It is also effective in the	1 No.	\$9,993	\$9,993	\$9,993

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	simulation lab or classroom when used with simulators or manikins. This FDA approved product is popular in both universities and hospitals.				
28	<b>SAM student auscultation Manikin</b> SAM II, the Student Auscultation Manikin is a new innovation in teaching and learning heart, breath, & bowel sounds. Containing the largest sound library available, SAM II is a portable and easy to use manikin. While SAM II is used in many simulation centers, it is also easily moved into a classroom or auditorium for group instruction.	1 No.	\$19,444	\$19,444	\$19,444
34	<b>Audiometer Pure tone pulse type.</b> Test Air Conduction, Bone Conduction, Controlateral Masking Nbn, Wn, Transducer Air Conduction TDH49 / ER-3A / ER-5A Transducer Bone Conduction Bone vibrator B.71 Pure Tone Frequency AC: 125 Hz - 8000 Hz BC: 250 Hz - 6000 Hz Intensity Range Pure Tone Air Conduction: -10 dB HL ... +110 dB HL (1000 Hz) Bone Conduction: -10 dB HL ... +65 dB HL (1000 Hz) Intensity Range Masking Nbn 0 dB EM ... +80 dB EM Intensity Range Masking Wn 0 dB EM ... +80 dB EM Signal Mode Normal ON, Normal OFF, Pulsed (2.5 Hz, 50%, 200+200 mS), Masking with Traking External Input Soket USB type A to connect Pendrive for saving the graphic Audiogram. EN 60645-1, EN 60645-2 Must be CE Marked Make: Europe	1 No.	\$6,731	\$6,731	\$6,731
39	<b>Human and Physiology Recording Data Acquisition System with following accessories along with software Lab tutor V.3and upgradeable Lab Tutor software and Experiments software .</b> Pulse Transducer , Respiratory Belt Transducer , Sphygmomanometer, Push button switch, Cardio Microphone, Hand Dynamometer, Dry Earth Strap, Shielded Lead Wires(5Alligator Clips,25 cm), EEG Flat Electrodes, Reusable ECG Electrodes, Disposable ECG Electrodes, Abrasive Gel, Electrode Cream, Electrode Paste, Alcohol Swap. Human Respiratory Kit,(Spiro meter Pod, Respiratory Flow Head, Clean bore tubing & adaptor, Student Respiratory Kit). Nerve & Muscle Kit (Bridge Pod, Force Transducer, Animal Nerve Stimulating Electrode, Nerve Chamber with cables, differential pod Input cables ,Stimulator cable). Shielded Bio Amp Cable, Shielded lead wire and Stimulating Bar Electrode.	2 Nos.	\$15,806	\$31,612	\$31,612
40	<b>VITALOGRAPH .</b> Autoclaveable Flow head, Parameters measured VC, IVC, FVC, FEV1, FEV1Ratio, FEV6, PEF (L/min), FEF25-75%, FEF50%, FEF75%, PIF, MVVInd, Lung Age over 50 test parameters, Choice of child incentives, Stand Alone Hand Held unit, Touch Screens operation, Including PC Software, Flow detection principle Fleisch Type Pneumotachograph, Back pressure Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005	2 Nos.	\$ 4,889	\$ 9,778	\$ 9,778
41.	Student's spirometer	5 Nos.	\$ 2,111	\$ 10,555	\$ 10,555
42.	Thermal Paper roll for vitalograph box of 5	20 Nos.	\$ 311	\$ 6,220	\$ 6,220
43.	Tred mill	1 No.	\$ 1,528	\$ 1,528	\$ 1,528
47.	<b>Heart pumping model</b> Easy-to-use, multi-sensory model uses a simple hand pump to demonstrate basic heart and pulmonary blood flow. Create a memorable exploration of how the heart and lungs work together for oxygen exchange. No mess - liquid is sealed in! Includes clearly labeled heart chambers, main artery, veins and lungs, plus activity guide. 12" L x 11" W x 5" D. Grade 3 and up.	01 No.	\$157	\$157	\$ 157
48.	<b>Reflex Kit</b> Used for stimulating and measuring human reflexes	2 Nos.	\$2,778	\$5,556	\$5,556
49.	<b>E.O.G Kit</b> Configured for human eye movement	2 Nos.	\$1,333	\$2,666	\$2,666
50.	<b>Single channel Stimulator</b> Pulse: Frequency: 1 - 99999 p.p.s. (10 KHz) Duration: 1 µs - 9999 ms Train: Interval: 0.1 - 999.9 s		\$6,481	\$12,962	\$12,962

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	Duration: 1 - 9999 ms Output: Constant voltage: 0 - 150 V (LE 12106/150) (1 V resolution) Constant voltage/current: 0 - 100 V/mA (1 V/mA resolution) Accuracy: ≤ 1% for timings ≤ 1% for output Sync out: 5 V TTL signal synchronic w/pulse onset DC DC level with the set amplitude External trigger: TTL signal allowing for the external control of the pulse onset Max. power output: 20 W Power supply: 220/110 V, 50-60 Hz	2 Nos.			
51.	<b>Vitalo Graph mouth piece</b> (one way Each Box comprise 200 Pieces)	2 Boxes	\$167	\$334	\$334
52.	<b>Vitalo Graph Mouth Pieces</b> (Two way box of 200)	2 Nos. Boxes	\$144	\$288	\$288
<b>S. No</b>	<b>Name of Equipment/Models</b>	<b>Qty</b>	<b>Unit Rate in C&amp;F</b>	<b>Unit Rate Pak Rupees</b>	<b>Total Amount</b>
<b>Department of Pharmacology</b>					
01.	<b>Two channel data recording system</b> complete with accessories and Software. Must be capable of recording at speeds of up to 400,000 samples per second continuously to disk (aggregate), and are compatible with instruments, signal conditioners and transducers supplied in the tender. <ul style="list-style-type: none"> <li>High-throughput full-bandwidth sampling of any analog signal 2 mV - 10 V</li> <li>Full 16-bit ADC resolution; resolve voltage differences as small as 61 nV (35 Series)</li> <li>200 kHz maximum sampling rate (35 Series)</li> <li>Built to last, ISO certified, with a hardware warranty of up to 3 years</li> <li>Flexible Connectivity</li> <li>Analog outputs for external device control or stimulation protocols</li> <li>DIN connectors for recalibrated transducers and low-cost amplifiers</li> <li>Digital input and output connectors for signaling to/from TTL devices</li> <li>2 channel analogue inputs</li> <li>1 built in animal stimulator</li> <li>High grade Isotonic transducer.</li> <li>Bridge Amplifier</li> <li>USB and Power Cable</li> <li>Software CD, upgradable to five years</li> </ul>	8 Nos.	\$12,528.00	\$100224.00	\$100224.00
02.	<b>Tissue Bath One Channel.</b> <ul style="list-style-type: none"> <li>Complete with glassware and tubing.</li> <li>25 mL 1660 series tissue bath.</li> <li>The steel base is coated to resist corrosive salt solutions. The perfusate flows from a water jacketed, temperature controlled 1-liter reservoir to the tissue bath through a pre-heating coil built within the water jacket of tissue bath. The bath is emptied via a bottom drain controlled with a stopcock. The bath may also be used in a constant flow mode with excess perfusate exiting an overflow outlet at the top of the bath. Both overflow and drains may be routed to permit monitoring the release of endogenous substances, drug metabolites, or to design a cascade system configuration. Bath aeration is finely controlled via a removable Teflon needle valve Oxy-tube.</li> <li>6L Thermo regulated water bath (220) Features include a temperature range of 5 to 100 degree Celsius with +/- 0.1 accuracy and 14L/min pump speed. Dimensions are 350 x 210 x 410mm and weight is 11kg. Other features include innovative Patented Easy-to-Use Digital Fuzzy Controller and is CE certified. It has a stainless steel bath and lid for superior durability, high thermal efficiency, prevents evaporation and keeps constant temperature. Nozzle 7mm ID 11mm OD.</li> </ul>	8 Nos.	\$8,380.00	\$67040.00	\$67040.00

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03.	<b>Force Transducer:</b> high performance (0-20g) force transducer. Should be supplied with an 8-pin DIN connector and is compatible Bridge Amps data acquisition supplied in the tender.	8 Nos.	\$2,046.00	\$16,368.00	\$16,368.00
07.	Electronic Balance Range 0-500 g Readability: 0.01g	1 No.	\$3,010.00	\$3,010.00	\$3,010.00
<b>S. No</b>	<b>Name of Equipment/Models</b>	<b>Qty</b>	<b>Unit Rate in C&amp;F</b>	<b>Unit Rate Pak Rupees</b>	<b>Total Amount</b>
<b>Department of Forensic &amp; Toxicology</b>					
	<ol style="list-style-type: none"> <li>1. Abrasion on the Face</li> <li>2. Wound by Pallet</li> <li>3. Nose cut-off with a knife</li> <li>4. Homicidal cut throat</li> <li>5. Hanging Ligature</li> <li>6. Suicidal Cut Throat</li> <li>7. Punctured wound</li> <li>8. Nose bitten teeth</li> <li>9. Homicidal by Shooting with a gun</li> <li>10. Cutting throat with Thread</li> <li>11. Strangulation Homicidal</li> <li>12. Lacerated wound of scalp</li> <li>13. Bruises on shoulders</li> <li>14. Wound of Scalp with cutting weapon</li> <li>15. Lightning injuries</li> <li>16. Sulphuric Acid Poisoning Staining</li> <li>17. Suicidal shot with pistol</li> <li>18. Stab wound of the chest</li> <li>19. Contusion caused by Brows</li> <li>20. counter coup injuries of brain</li> <li>21. burns on the Back with a heat metallic object</li> <li>22. Road accident</li> <li>23. Foinged strangulation</li> <li>24. Showing contact flattening</li> <li>25. Nitric Acid stain</li> <li>26. case of strangulation</li> <li>27. homicidal multiple incised wound</li> <li>28. Postmortem staining</li> <li>29. electric burns on leg</li> <li>30. Electric burns on Hand</li> <li>31. Forearm converts into adipocere</li> <li>32. Incised wound of fingers and hand</li> <li>33. wound of revolver</li> <li>34. incised wound</li> <li>35. Defensive Wound</li> <li>36. self protection wound</li> <li>37. bruise on arm</li> <li>38. type of finger prints</li> <li>39. Type of hymen</li> <li>40. Models of degree of burn's</li> <li>41. Models of degree homicidal throttling.</li> <li>42. Gagging</li> <li>43. Suicidal cut throat</li> <li>44. electric burins of leg</li> <li>45. entry and exit wounds</li> <li>46. defensive wound</li> <li>47. wounds of a revolver bullet in skull bone</li> <li>48. hanging</li> <li>49. model of sodden condition of the skin on palmer aspect of finger and palm of hand in case of drowning</li> <li>50. abrasion</li> <li>51. Model of death from burning</li> <li>52. Entrance wound</li> <li>53. stomach in poisoning by oxalic acid</li> <li>54. stomach in poisoning by sulphuric acid</li> <li>55. exit wound</li> <li>56. finger prints</li> <li>57. throttling</li> <li>58. green putrefactive networks</li> </ol>		\$ 22,287	\$ 22,287	\$ 22,287

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- 59. Mummification 85cm child
- 60. suicide by shooting
- 61. skull injury
- 62. cadaver spasm
- 63. decomposed body of A boy
- 64. Leg injury
- 65. Froth at the nostrils

S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Community Medicine</b>					
1	Giant Medical Chart "Danger of Smoking Size: 20" x 26"	1 No.	\$46.00	\$46.00	\$46.00
2	3-Dimensional Display Hazards of Smoking 22.5" x 26"	1 No.	\$241.00	\$241.00	\$241.00
3	Death of a Lung Model 3-dimensional Display 9" x 12"	1 No.	\$257.00	\$257.00	\$257.00
4	3-Dimensional Consequences of Smoking Display with handle for easy carrying 28"x 27"	1 No.	\$819.00	\$819.00	\$819.00
5	Folding Display 58" x 22" Tobacco causes more illness & death	1 No.	\$241.00	\$241.00	\$241.00
6	Medical Hazards of Smokeless Tobacco folding display 58" x 22"	1 No.	\$241.00	\$241.00	\$241.00
7	Mr. Gross Mouth makes, em gag 6"x8"x4"	1 No.	\$296.00	\$296.00	\$296.00
8	Substance abuse identifications Kit 52"x 19"	1 No.	\$798.00	\$798.00	\$798.00
9	Drug abuse Its Hazards & Effect. Folding Display 58"x22"	1 No.	\$241.00	\$241.00	\$241.00
10	Large Drum Identification Guide. Teach the average person to identify 63 of today's most common drugs 32"x24"	1 No.	\$161.00	\$161.00	\$161.00
11	"Substance Abuse Chart set (9)	1 No.	\$431.00	\$431.00	\$431.00
12	The consequences of Alcohol abuse, 3D display 28"x 27"with case	1 No.	\$819.00	\$819.00	\$819.00
13	Effect of hazards of inhalant RE 79272	1 No.	\$48.00	\$48.00	\$48.00
14	The sobering consequences of Drugs abuse 28" x 27"	1 No.	\$819.00	\$819.00	\$819.00
15	Dramatic visuals show effects of inhalant abuse 58" x 22"	1 No.	\$241.00	\$241.00	\$241.00
16	Display uses 3-D Models to fight aids, consequences of Aids 28"x 27"	1 No.	\$819.00	\$819.00	\$819.00
17	Aids Virus (HIV) model L40 7"x 5"x 5	1 No.	\$137.00	\$137.00	\$137.00
18	Explain contraception choices with this 3D display. A guide to contraceptives	1 No.	\$728.00	\$728.00	\$728.00
19	Quick Reference to contraceptive methods and effectiveness. Contraceptive awareness Guide 36"x 24"	1 No.	\$224.00	\$224.00	\$224.00
20	STD's folding display, STD's sexually transmitted diseases 58"x22"	1 No.	\$241.00	\$241.00	\$241.00
21	Teaches the consequences of STD's 28"x 27"	1 No.	\$819.00	\$819.00	\$819.00
22	Contraceptives awareness guide.	1 No.	\$161.00	\$161.00	\$161.00
23	HIV/AIDS Flip Chart and "HIV/AIDS 16page booklet & 7, transparencies	1 No.	\$204.00	\$204.00	\$204.00
24	HIV /Aids;Death of an immune system & Video	1 No.	\$454.00	\$454.00	\$454.00
25	Updated folding display teaches about Aids. 58"x 22"	1 No.	\$241.00	\$241.00	\$241.00
26	Sexually Transmitted disease Video	1 No.	\$196.00	\$196.00	\$196.00
27	AIDS Update - the latest facts about HIV & Aids video tapes	1 No.	\$306.00	\$306.00	\$306.00
28	Large colorful charts are great for teaching (Set of 9 charts on tripod stand) 36"x 44".	1 No.	\$898.00	\$898.00	\$898.00

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29	Obesity folding display 58"x 22" Health facts about obesity with food guide pyramid chart.	1 No.	\$241.00	\$241.00	\$241.00
30	Pyramid Faux Food starter package	1 No.	\$563.00	\$563.00	\$563.00
31	Display model demonstrate consequences of obesity in a folding briefcase 28"x 27"	1 No.	\$241.00	\$241.00	\$241.00
32	Folding display shows facts on nutrition 58" x 22"	1 No.	\$241.00	\$241.00	\$241.00
33	Disease of a mouth, folding display 58" x 22"	1 No.	\$241.00	\$241.00	\$241.00
34	Skin cancer folding display 58" 22" 79327	1 No.	\$241.00	\$241.00	\$241.00
35	Nutrition Education Package	1 No.	\$761.00	\$761.00	\$761.00
37	Caution signs for cancer folding display 58"x 22"	1 No.	\$241.00	\$241.00	\$241.00
38	See for yourself; Why colorectal exam can save your life."9x"12 display	1 No.	\$257.00	\$257.00	\$257.00
39	The deadly effects of TB display with tuberculosis charts 14" x 12"	1 No.	\$722.00	\$722.00	\$722.00
40	Death of an artery 9" x 12" model to derens trote the way arteries can be collaged by deposits fat. You can easily explain the disease process of one of the most insidious and potent killer in the western world.	1 No.	\$257.00	\$257.00	\$257.00
41	Diseased & Condition of the Heart("58x"22)Folding display.	1 No.	\$241.00	\$241.00	\$241.00
42	The leading causes of death folding display	1No.	\$241.00	\$241.00	\$241.00
43	Loss of a bone 3D display, Easel Display	1No.	\$257.00	\$257.00	\$257.00
44	Exercise facts folding display	1No.	\$241.00	\$241.00	\$241.00
45	Arthritis Easel display	1No.	\$46.00	\$46.00	\$46.00
46	Fact about childhood immunization folding display	1No.	\$241.00	\$241.00	\$241.00
47	Food safety CD ROM	1No.	\$154.00	\$154.00	\$154.00
48	What you should know about over weight & obesity folding display	1No.	\$241.00	\$241.00	\$241.00
50	Stress and you folding display	1No.	\$241.00	\$241.00	\$241.00
51	Caution signs of cancer folding display	1No.	\$241.00	\$241.00	\$241.00
52	Diseases & condition of the mouth	1No.	\$241.00	\$241.00	\$241.00
53	Mr. Clean Mouth	1No.	\$276.00	\$276.00	\$276.00
54	The consequences of High blood pressure 3D display	1No.	\$819.00	\$819.00	\$819.00
55	The consequences of diabetes 3D display	1No.	\$819.00	\$819.00	\$819.00
56	Set of Video Cassettes, 50 nos. (See Below) 1 - Time life Medical Series (30 videos) 2 - Physical Effect of Alcohol 3 - Under the influence 4 - Drug education for teens (12) 5 - 7 steps to reduce the risk of SIDS 6 - Children's and Teens with type 2 diabetes. 7 - Cholesterol & Diet Video 8 - Child hood reversing the trend Video 9 - Stressed out stress management 101 10- Dealing with depression	1No.	\$4,809.00	\$4,809.00	\$4,809.00
57	The Consequences of Obesity.	1No.	\$819.00	\$819.00	\$819.00
58	Asthma DVD	1No.	\$61.00	\$61.00	\$61.00
59	Hepataities DVD	1No.	\$56.00	\$56.00	\$56.00
60	Setting Goals for Healthy Living DVD	1No.	\$131.00	\$131.00	\$131.00
61	Dealing with depression video	1No.	\$176.00	\$176.00	\$176.00
62	<b>Time life medical series.</b>	1No.	\$2,109.00	\$2,109.00	\$2,109.00

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	930-vol. series) This 30 volume series is endorsed by former US surgeon General C. Everett Koop and narrated by recognizable personalities. Perfect for patient education and health presentations, brown bag seminars, or anytime there is a need for concise, reliable health information. Adult. 30 minutes each. Alcoholism Alzheimer's Disease Anorexia & bulimia Arthritis Asthma in Children Back pain Breast Cancer. breast Lumps Cataracts Colon & Rectal Cancer Coronary Artery Disease Depression Diabetes Endometriosis Gallstones High Blood Pressure Infertility Insomnia Menopause Migraine & Other headaches Osteoporosis Overweight & Obesity Pregnancy Prostate Cancer Prostate Disorders Skin Cancer Stress 7 Anxiety Stroke Thyroid Disorders ulcers.				
63	Risk Factor For Cardiac Diseases	1 No.	\$241.00	\$241.00	\$241.00
64	Exercise Facets	1 No.	\$241.00	\$241.00	\$241.00
65	Life Cycle of Mosquito	1 No.	\$19.00	\$19.00	\$19.00
66	Life Cycle of House	1 No.	\$72.00	\$72.00	\$72.00
67	Life Cycle of Lice	1 No.	\$33.00	\$33.00	\$33.00
68	Life Cycle of Flea	1 No.	\$463.00	\$463.00	\$463.00
69	Photograph of Edward Jenner	1 No.	\$24.00	\$24.00	\$24.00
71	Photograph of John Snow	1 No.	\$117.00	\$117.00	\$117.00
72	Reverse Osmosis Plant	1 No.	\$450.00	\$450.00	\$450.00
73	Weighting Machine	1 No.	\$67.00	\$67.00	\$67.00
74	Harrook Apparatus	1 No.	\$380.00	\$380.00	\$380.00
76	Models of Winged & Wingless insects of Public Health Importance	1 No.	\$926.00	\$926.00	\$926.00
80	Food Guide Pyramid	1 No.	\$602.00	\$602.00	\$602.00
81	Vaccine used under expanded program on Immunization	1 No.	\$37.00	\$37.00	\$37.00
<b>Community Models</b>					
01.	<b>Models:</b> a. Safe motherhood. b. Healthy House. c. Sanitary well. d. Sanitary latrine. e. Balanced diet. f. Global warning g. Winged & wingless insects of public health importance. h. Levels of prevention of diseases. i. Marasmus & Kwashiorkor. j. Types of desks: zero, minus & plus desks. k. Models of methods of purification of water. l. Methods of family planning.		\$6,111.00	\$6111.00	\$6111.00
08.	Growth charts for tracking growth of children.		\$37.00	\$37.00	\$37.00
11.	EPI cold chain.		\$491.00	\$491.00	\$491.00

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S. No	Name of Equipment/Models	Qty	Unit Rate in C&F	Unit Rate Pak Rupees	Total Amount
<b>Department of Biochemistry</b>					
2	<b>Centrifuge Machine</b>		\$1,359.22	\$1,359.22	\$1,359.22
4	<b>OVEN Horizontal Flow Ovens, Forced-Air type</b> <b>With Digital Fuzzy Control &amp; Digital Back Light LCD</b> <u>Applications &amp; Features:</u> PL (Product Liability) Insurance. CE Certificate. Suitable for drying, baking, conditioning, curing, pre-heating aging. Digital fuzzy control system implementing superior temperature accuracy. High quality LCD with back light function used. Simplest control by Jog-shuttle switch. RS232C interface for remote monitoring and controlling with PC. Ambient to 250 °C range, accuracy of ± 0.3 °C. Maximum temp. uniformity by forced convection: rear side fan/heater mechanism (±1% uniformity). Stainless steel chamber and chrome coated shelves corrosion resistance. Perfect heat insulation made by heat resistance rubber packing and air flow layer (AFL). The strengthened double fold glass windows for observation without opening door and protect users from high temperature. (105-/155-/305-lit) Over temp. and over current protector, sensor error detector. 2 chrome coated steel shelves included. <u>Technical Specification:</u> Dimension internal (mm): 485 x 405 x 535 Capacity: 105 lit Heater: 1.2 kW Temp. Range: Ambient +5 °C to 250 °C Temp. Accuracy: ±0.3 °C Temp. Uniformity: ±1% of the reached Temp. Temp. Sensor: PT100 Controller: Digital fuzzy controller with jog-shuttle switch (turn + push) Display: Digital LCD display with back light function Timer: 99hr 59min (delay & continuous function included) Material Internal: Stainless steel Material External: Powder coated steel Material Insulation: Glass wool Shelves: 2 chrome coated steel shelves of adjustment position Door Gasket: High temperature grade foamed silicone rubber Ventilation: Stainless steel cap. Dia. 40mm x 2ea Circulation: Forced convection blower FAN Safety Device: Over temp. and over current protector, sensor error detector Others: RS232C interface for monitoring and controlling with PC. Storage function (Temp. Timer) Locking mode (Jog-Shuttle input disabled) Alarm (Error status and timer end) 2 polo plug Power Supply: 220 volt, 50/60 Hz		\$2,135.92	\$2,135.92	\$2,135.92
5	<b>Digital Incubators With Digital Fuzzy Control &amp; Digital LCD Back Light System</b> <u>Applications &amp; Features:</u> Variable application: microorganism culture, animal & plant cell culture, constant temperature, germination, and so on. Digital fuzzy control system implementing superior temperature accuracy. Simplest control by jog-shuttle switch (Patent Pending). High-quality LCD with Backlight function used. RS232C interface for monitoring and controlling with PC. Ambient to 70 °C range, accuracy of ±0.1 °C. Compact design of body. Optimized air circulation by natural convection preventing cross contamination of samples. Stainless steel chamber and chrome-coated shelves -		\$2,038.83	\$2,038.83	\$2,038.83

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	<p>corrosion resistance.  Over temperature &amp; over current protection, sensor error detection.  Storage function, alarm, timer.  Locking mode supported for experimental safety. (Input to jog-shuttle can be disabled).  PL (Product Liability) Insurance  CE Certificate  <b>Technical Specifications:</b>  Dimension (w x d x h) Internal (mm): 485 x 410 x 535  Capacity: 105 Lit.  Heater: 300 W  Temp. Range: Ambient + 5 °C ~ 70 °C  Temp. Accuracy: ± 0.1 °C  Temp. Uniformity: ± 1 °C  Controller: Digital fuzzy controller with jog-shuttle switch (Turn + Push)  Display: Digital LCD display with back-light function  Timer: 99hr 59min. (Delay &amp; Continuous Function Included)  Material Internal: Stainless steel (# 304)  Material External: Powder coated steel  Material Insulation: None  Shelves: 2 or 3 Teflon coated steel shelves of adjustable position  Door Gasket: High temperature grade foamed silicone rubber  Viewing Window: Inner Tempered Glass Door  Ventilation: Stainless steel cap, Dia. 40mm x 1ea  Sensor: PT100  Circulation: Natural convection  Safety Device: Over temp. and over current protector, sensor error detector.  Others: RS232C interface for monitoring and controlling with PC  Storage Function (Temp., Timer).  Locking Mode (Jog-Shuttle Input disabled)  Alarm (Error Status and Timer-end)  Power Supply: 220 volt, 50 / 60 Hz</p>				
6	<p><b>Binocular Microscope</b></p> <p><b>Stand:</b> sturdy stand with antirust antibacterial materials. Heat isolating hand rests  <b>Viewing Bodies:</b> 45° inclined, 360° rotatable dovetail, interpupillary distance 54 – 74mm  <b>Eyepieces:</b> Wide Field focusable paired eyepieces 10x/18mm with foldable eye guard, lockable, antifungal.  <b>Nosepiece:</b> Quadruple nosepiece (ball bearing type) with rubber grip, click stop for exact position.  <b>Objectives:</b> LP Series DIN Semi-Plan Achromatic objective 4x, 10x, 40x (Spring loaded), 100x (Spring loaded, oil), antifungal  <b>Mechanical stage:</b> Rackless stage, size 135 x 124mm, X/Y travel range 76mm x 50mm, low drive movement controls, single specimen holder.  <b>Condenser:</b> Sub stage abbe condenser NA 1.25 with aspheric lens and iris diaphragm. With snap-in blue filter. Rack and pinion movements on metal guides.  <b>Focusing:</b> Co-axial coarse and fine focusing on ball drive system for smooth operation, fine drive movement 0.2mm/division, tension adjustment for torque control.  <b>Illumination:</b> Halogen 6V-20W illumination with variable illumination control. Up to 200,000 hours of Halogen lamp life.  <b>Electrical:</b> Universal power supply (100V-240V, 50/60 Hz) Built-in voltage stabilizer.</p>		\$660.00	\$660.00	\$660.00
8	<p><b>Pharmaceutical Refrigerator Digital</b></p> <p><b>Features:</b>  <b>Remarkable Cooling Efficiency</b>  <b>Uniform Storage Unaffected by Ambient Temperature</b>  complete solution to meet strict and exact temperature requirements for pharmaceutical, medicine and temperature sensitive biological storage. An electronic sensor accurately monitors chamber temperature for precise control. Fans ensure gentle air circulation to provide top to bottom temperature control after frequent door openings.  <b>Effective Temperature Control</b></p>		\$3,786.41	\$3,786.41	\$3,786.41

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**Electronic Temperature Control System:** A thermistor sensor monitors temperature inside the chamber, and microprocessor and electronic temperature controls ensure that the set temperature is maintained. Even with frequent door openings, the circulation fan provides rapid temperature adjustment for a highly reliable, stable preservation environment unaffected by ambient temperature.

**Cycle Defrost System:** Defrosting is performed automatically during compressor 'off' cycles and by sensing frost levels. This method of defrosting is performed only when required, further protecting the contents against unnecessary temperature rise.

**Equipped with Digital Temperature Display**  
Easy to read digital display. Temperature readings are displayed in gradients of 1°C for settable temperatures ranging from 2° to 14°C.

**Cabinet Construction**  
Space Saving Design - less installation space is required with the use of two easy to open, double paned sliding glass doors preventing ultraviolet and heat rays from affecting contents or temperature in the chamber.

- Rigid polyurethane foam insulation construction acts to keep cold air inside the unit and effectively protects against the intrusion of warm air.
- Chemical resistant stainless steel interior surfaces of the cabinet ensures long lasting service for many years of use.

**Door Open Alarm**

When the door opens the 'Door Open' lamp lights automatically. After 30 seconds, a buzzer alarm will sound if the door has not been closed. If door openings longer than 30 seconds are desired, the alarm can be deactivated.

**Abnormal Temperature Alarm and Safety Devices**

If the inside temperature of the MPR-311D(H) descends below 0°C or rises above 15°C the buzzer alarm will sound and the digital temperature display will flash. If the internal temperature reaches below -2°C or above 20°C, the low and high temperature safety devices prevent the contents of the refrigerator from freezing or the temperature from rising abnormally while the visible and audible alarms are activated.

**Technical Specifications:**

External dimensions: 31.4"(W) x 70.8"(H) x 17.7"(D) (800 x 1,800 x 450mm)

Internal dimensions: 23.3"(W) x 56.4" (H) x 13.7"(D) (720 x 1,435 x 350mm)

Effective capacity: 12.01 cu.ft. (340L)

Cabinet: Painted steel

Interior: Stainless steel

Insulation: Polyurethane foam

Doors: Sliding glass doors, double-paned glass with heat-reflective film

Shelves: Rigid wire with zinc-plated finish

Access Port: 30mm on back wall

Lighting/Casters: 20W fluorescent lamp (1)/ 2 casters

Amps/Breaker: 2.5 / 15 A Breaker

Compressor: Hermetic type, 160W

Refrigerant: HFC

Evaporator: Fin & tube, forced air circulation

Condenser: Wire & tube

Defrosting: Cyclical defrosting & evaporator temp. detection system

Defrosting heaters: 114W

Temp. Control: Electronic temp. control [range: 2°-14°C (35.6-57.2°F)]

Temp. Display: Digital [display range: 0°-15°C (32-59°F)]

High temp. alarm system: Flashing digital indicator [above 15°C (59°F)], Buzzer [above 15°C (59°F)] High-temp. indicator lamp [above approx. 20°C (68°F)]

Low temp. alarm system: Flashing digital indicator [below 0°C], Buzzer [below 0°C]

Defrost indicator lamp [below approx. -2°C (28°F)]

Door ajar alarm: Buzzer/door ajar lamp

9	<p><b>Analytical Balance Digital.</b></p> <p>Electronic analytical balance with built-in, motorized calibration weight, dynamic temperature compensation, backlit 8 segment display, two large tare keys, stability indicator, 4 user selectable filter levels, plus</p>		\$1,844.66	\$1,844.66	\$1,844.66
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	<p>optimized display update rate.</p> <p>Capacity 320 g</p> <p>Readability 0.1 mg</p> <p>Tare range (subtractiv) 320 g</p> <p>Response time (avg.) 3 s</p> <p>Repeatability &lt;math&gt;\leq \pm 0.2 \text{ mg}&lt;/math&gt;</p> <p>Linearity &lt;math&gt;\leq \pm 0.3 \text{ mg}&lt;/math&gt;</p> <p>Pan (inner diameter)* 80 mm</p> <p>Weighing chamber (WxDxH) 174x181x240 mm</p> <p>Balance housing (WxDxH) 213x342x340 mm</p> <p>Net weight approx. 6.5 kg</p> <p>Triangular weighing pan shape. <math>\square</math> = diameter of the inner circle</p> <p>Standard features/Equipment supplied - Motorized calibration weight - Bidirectional RS-232 data interface port - ISP/GLP-compliant printing/recording of weighing and calibration data when a printer or computer is connected to the balance - Hanger for below-balance weighing - Overload protection - Lug for anti-theft locking device - Leveling feet; level indicator - AC adapter - Integrated application programs (net total, weighing in percent, counting, animal weighing, mass unit conversion by toggling) - Dust cover</p>				
10	<p><b>Advanced Laboratory PH Meter</b></p> <p><b>Ph/mV/Temp (Custom LCD) Features</b></p> <p>Wide &amp; clear Backlit custom LCD display fast, accurate and easy to use, RS 232C communication simultaneous display of pH (mV, ISE) temp and current time auto (Manual) calibration eit5h choice of buffer (3 points) Automatic compensation for temperature available measuring by using latest calibration date self diagnostics, Auto-hold, data-log up to 100 points certified CE mark, ISO 9001</p> <p>Specification</p> <p>pH</p> <p>Range: -2.00 to 19.99</p> <p>Resolution: 0.01</p> <p>Rel- Accuracy: <math>\pm 0.02</math></p> <p>Auto-buffer-Recognition: 4.00,7.00,10.00</p> <p><b>Millivolts</b></p> <p>Range: <math>\pm 1999.3 \text{ mV}</math></p> <p>Resolution: 0.1mV</p> <p>Rel- Accuracy: <math>\pm 0.1 \text{ mV}</math></p> <p>Temperature</p> <p>Range: <math>\pm 10</math> to 100 C</p> <p>Resolution: 0.1C</p> <p>Rel- Accuracy: <math>\pm 0.4 \text{ C}</math></p> <p>Calibration points: Auto/Manual (3point)</p> <p>Data-Log: 100 points</p> <p>Temperature: Auto</p> <p>temperature Compensation</p> <p>Slope (%): 80% to 120%</p> <p>Display: Custom LCD</p> <p>Channel: one</p> <p>Input: BNC,ATC,</p> <p>Power RS232C</p> <p>Output: RS232C</p> <p>(Computer / Printer)</p> <p>Power: AC/DC</p> <p>power Adaptor</p> <p>Dimension (mm): 200(L)X 260 (W),</p> <p>Weight: 0.95Kg.</p> <p>Standard Accessories</p> <p>Combination pH Electrode</p> <p>ATC probe</p> <p>Buffer Sol. (pH 4, 7, 10) each 125ml</p> <p>AC/DC power Adapter</p> <p>Instruction Manual</p>		\$1178.64	\$1178.64	\$1178.64
11	<p><b>Digital Hotplate Stirrer Ceramic Coated Plate</b></p> <p><b>With Digital Feedback Control</b></p> <p><b>Applications &amp; Features:</b></p> <p>CE-Certified. Digital feedback control by high performance microprocessor. Superior temperature uniformity: 10% less on the plate at current temperature. Accurate temp. Control of the sample in the vessel using optional PT100 sensor. User's self-compensation function: to control difference between real temp. and indicate temp. (<math>\pm 10.0 \text{ }^\circ\text{C}</math>). Digital LCD with back light function. Aluminum die-casting, Ceramic coated plate</p>		\$1,436.89	\$2873.78	\$2873.78

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	<p>chemical/acid resistance. Storage function, timer, alarm.  Locking mode supported for experimental safety (input to jog-shuttle can be disabled).  <b>Technical Specification:</b>  Plate Size (mm): 180 x 180  Stirring Capacity (H<sub>2</sub>O): Max. 20Lit  Motor Rating (W): 9/4  Speed Range (rpm): 80 ~ 1,500  Speed Control Resolution: (rpm): 5  Temp. Range (°C): Max. 380  Temp. Accuracy: ±0.3 °C at set temperature  Temp. Display Resolution (°C): 0.1  Temp. Control Resolution (°C): 0.5  Heating Power (W): 600  Heating Plate: Specially Designed Heating Module (High Uniformity: Temp. Difference 10% Less)  Controller: Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)  Display: Digital LCD with back light function.  Timer: 99hr 59 min, (Continuous function included)  Material Plate: Ceramic Coated Aluminum (Chemical/Acid Resistance)  Material Body: Powder Coated Aluminum  Dimension (w x h x d mm): 206 x 307 x 99  Weight (kg): 3.3  Others: Storage Function (Temp., RPM, Timer)  Locking Mode (Jog-Shuttle Input disabled)  User self compensation function  Alarm (Error Status and Timer end)  Power Consumption: 600 W  Power Supply: 220 volt, 50/60 Hz</p>	2 Nos.			
14	<p><b>Digital Orbital Shaker With Programmable Digital Feedback Control System</b>  <b>Applications &amp; Features:</b>  PI (Product Liability) Insurance.  CE-Certified.  Ideal for culturing cells to hybridization, staining and destaining gels and combinatorial chemistry.  Optimal platform rotation for intensive mixing.  Brushless DC motor. (Low Noise &amp; Long Life Cycle) High precision digital rotation speed control. Programmable operation modes supported. Digital LCD with back light function. Convenient setting of timer and speed using jog shuttle switch. Smooth start and change of the shaking speed. Universal platform for easy and fast fixation of any kind flasks and bottles (Option), overload protection. Storage function, Alarm and over-load protection. Locking mode supported for experimental safety. (Input to Jog-Shuttle can be disabled)  Varieties of optional accessories are available.  <b>Technical Specifications:</b>  Motor: Brushless DC Motor  Dimension (w x d x h mm): 400 x 480 x 160  Base Platform Size (mm): 350 x 350  Max. Load (kg): 10  Amplitude of Rotation (mm): 20, 30, 40 Available. (30 as Factory default)  Speed Range (rpm): 10 ~ 300  Controller: Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)  Program Function: 10 Steps, 6 Programs  Display: Digital LCD with back light function.  Platform: Universal Platform for various Shapes &amp; Size of Flask  Capacity of Flask Holder FH100: 20 ea  Capacity of Flask Holder FH250: 16 ea  Capacity of Flask Holder FH500: 9 ea  Holder: Durable &amp; Flexible Plastic Flask holder  Safety Device: Over Load Protector for motor  Weight (kg): 20  Others: Smooth Start and Change of the Stirring Speed for stable running  Storage Function (Program, RPM, Timer)  Locking Mode (Jog-Shuttle Input disabled)  Alarm (Error Status and Timer-end)  Power Supply: 220Volt, 50/60 Hz</p>	2 Nos.	\$873.79	\$873.79	\$873.79
16	<p><b>Biochemistry kit.</b>  PTK18 Biochemistry Kit  Is compatible with data acquisition system to study buffering, ion dissociation as well as conduct titration and cellular respiration experiments. The Kit includes a pH Pod, pH Electrode, Galvanic Oxygen Electrode, T-</p>	1 Nos.	\$10,740.74	\$10,740.74	\$10,740.74

*Resalk*  
5/11/16

	type Pod, General Purpose T-type Thermocouple and Reflective Drop Counter.				
20	Electrophoresis	01	\$3,120.67	\$3,120.67	\$3,120.67
<b>Four Lac Twenty Nine Thousand Seventy Six only</b>					<b>\$4,29,076.48</b>

In words: (Four Lac Twenty Nine Thousand Seventy Six only)

A. Special Conditions:

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten Signature]*  
5/1/16





Purchase & Store Section

# LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH  
Telephone: + 9213350, Exch 77240, Ext. + 122  
Email: storesactionlums@yahoo.com  
Web Site: www.lums.edu.pk

Doc# LUMHS/PSS/- 357  
ISSUE DATE: 05-01-2016

SUBJECT: LETTER OF INTENT.

Reference: **Tender through Three Leading News Papers (Express, Daily Dawn, Daily Kawish) Technical Tender Opened On: 17<sup>th</sup> September 2015 & Financial Tender opened on: 22<sup>nd</sup> October 2015.**

1} Purchase Order.

With reference to the above correspondence & subsequent financial approval No. LUMHS/PSS/330 Dated: 28-12-2015 the competent authority under his office letter No. 8021, Dated: 30-12-2015 is pleased to place this Purchase Order on **M/S Unibrand International**, (the supplier) for the supply of Equipment / Models for newly established Bilawal Medical College at LUMHS, Jamshoro, demanded by Prof. Ashraf Ali Khaskheli, Dean Faculty of Basic medical Sciences, LUMHS, Jamshoro, the rates & Quantity mentioned below on following Terms & Conditions.

## A. Details of Items.

- Note: submit contract performance Bond & Articles of Agreement, 0.03% stamp duty paid by supplier of this purchase order.

M/S Unibrand international.					
S. N	Name of Equipment/Models	Qty	Unit Rate in Pak	Unit Rate Pak Rupees	Total Amount
<b>Department of Physiology</b>					
7.	Haemo cytometer	20	PKR 2,539.00	Rs. 2,539.00	
9.	Heamoglobinometers	15	PKR 1,239.00	Rs. 1,239.00	Rs. 50,780.00
18	Staining trays	10	PKR 1,600.00	Rs. 1,600.00	Rs. 18,585.00
20	Slide Boxes	12	PKR 250.00	Rs. 250.00	Rs. 16,000.00
<b>Total Amount Of Physiology Dept</b>					<b>Rs. 3000.00</b>
<b>Department of Pathology</b>					
05	Wash bottle (500ml)	4	Rs. 290	Rs. 290.00	Rs. 1,160.00
47	Rota Mixer	1	Rs. 26,829	Rs. 26,829.00	Rs. 26,829.00
48	Magnetic mixer/stirrer	1	Rs. 4,800	Rs. 4,800.00	Rs. 4,800.00
73	Staining jars	20	Rs 1,800	Rs. 1,800.00	Rs. 36,000.00
<b>Total Amount Of Pathology Dept</b>					<b>Rs. 68,789.00</b>
<b>Grand Total Amount: One Lac Fifty Seven Thousand One Hundred Fifty Four Rupees</b>					<b>Rs. 1,57,154.00</b>

## A. Special Conditions:

- a) The above cited price including sales tax is firm & final and shall not be escalated for any reason what so ever the payment of sales tax @ 17% shall be made on production of sales tax invoice. In case the supplier pays lump sum sales tax for multi goods production. The supplier will also submit an affidavit on non judicial paper that the challan includes an amount equal to 17% sales tax for supply of the quantities of material to LUMHS, against this purchase order.

*[Handwritten signature]*  
5/1/16



Purchase & Store Section

## LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES JAMSHORO, SINDH

Telephone: + 9213350, Exch.771240, Ext. + 122

Email: [storesectionlumhs@yahoo.com](mailto:storesectionlumhs@yahoo.com)

Web Site: [www.lumhs.edu.pk](http://www.lumhs.edu.pk)

No. LUMHS/PSS/-24433  
Dated: 21-08-2015

To,

Most Immediate  
Time limit Case

The Chairman / Chairperson / Incharge,  
Department of Anatomy / Department of Physiology  
Department of Biochemistry / Department of Pharmacology  
Department of Pathology/ Department of Forensic Medicine  
Department of Community Medicine / Central Library,  
LUMHS, Jamshoro.

**SUBJECT:** list of Laboratory Equipment / Models & Library Books for newly established Bilawal Medical College at Liaquat University of Medical & Health Sciences, Jamshoro.

Reference: Admin Approval No. LUMHS/PSS/-24433, Dated: 12-08-2015.

Respected Sir / Madam,

Please find enclosed herewith the list of **Laboratory Equipment / Models & Library Books** for newly established Bilawal Medical College at Liaquat University of Medical & Health Sciences, Jamshoro for Department of Anatomy / Department of Physiology / Department of Biochemistry / Department of Pharmacology / Department of Pathology/ Department of Forensic Medicine / Department of Community Medicine and Central Library, received from Dean, Faculty of Basic Medical Sciences, LUMHS, Jamshoro under his office No. Doc#LUMHS/DEAN/392/, Dated: 07-08-2015 for establishment of Bilawal Medical College (BMC) at LUMHS, Jamshoro for your perusal, guidance and views.

It would be appreciated if you kindly look at it and finalize list (Hard / Soft Copy) of Laboratory Equipment / Models and Library Books with Quantity of each item as per requirement of Anatomy , Physiology, Biochemistry , Pharmacology, Pathology, Forensic Medicine, Community Medicine and Central Library, Departments to be procured for proposed Medical College at LUMHS, Jamshoro. It is further informed that about 100 (one hundred ) students would be admitted in the said college.

It would be further appreciated that the Requisite list (Hard and Soft copies) be furnished to us by 24<sup>th</sup> August, 2015 **MORNING** positively for further process.

With best Regards,

**Prof. Muhammad Yousuf Memon,**  
Director Academics / Chairman,  
Central Purchase Committee, LUMHS, Jamshoro.

C.C for information to the:

1. P.S to Vice Chancellor, LUMHS, Jamshoro.
2. P.A to Registrar, LUMHS, Jamshoro.
3. P.A to Dean Basic Medical Sciences, LUMHS, Jamshoro.
4. Office Copy.

## List of Equipments for Biochemistry Department

Sr#	Name Of Equipment	Qty	Unit Price	Total Amount
1	<p><b>Spectrophotometer</b>  <b>Features:</b>                      Microprocessor control, 16x2 LCD display. Auto zero and auto 100%T adjustment provided. Calibration curve can be set up by either measuring or entering up to 10 standards or entering K and B factors directly via the keyboard. Parameters can be saved for later use.                      Up to 10 calibration curves can be stored and edited for user's convenience.                      Data can be printed on an optional desktop printer and can be downloaded to a PC through RS-232.                      PC control provided for more accurate and flexible measurement requirements (optional).                      Auto wavelength control (optional).</p> <p><b>Specifications:</b>                      Wavelength: 320~1100nm                      Wavelength Accuracy: <math>\leq 1 \pm 2.0</math>nm                      Wavelength Reproducibility: <math>\leq 1</math>nm                      Monochromator: Single-beam C-T type, grating 1200L/mm                      Photometric Accuracy: <math>\leq \pm 0.5\%</math>T                      Photometer Reproducibility: <math>\leq 0.3\%</math>T                      Stray Light: <math>\leq 0.1\%</math>T (NaNO<sub>2</sub> at 340nm)                      Spectral Bandwidth: 5nm (1, 2, 4nm optional)                      0%T Stability: <math>\leq 0.2\%</math>T (30min)                      100%T Stability: 0.001A/30min (at 500nm, after warning up)                      Operation Mode: T, A, C, E                      Photometric Range: -0.3~3A                      Display: 16x2 LCD                      Detector: Silicone Photodiode                      Light Source: Tungsten halogen lamp,                      Power Requirement: 220/110V<math>\pm 10\%</math>, 50/60Hz                      Power Consumption: 100W                      Dimension: 530x410x210mm                      Net weight: 15kg                      Complete with 16 glass cells, 4 quartz cells.</p>	2		
2	<b>Centrifuge Machine</b>	2		
3	<p><b>WATERBATH</b>                      Digital Precise Water Bath with Digital Fuzzy Control System  <b>Applications &amp; Features:</b>                      Ideal for biotechnology, clinical, environmental, medical petroleum, pharmaceutical or Industrial application                      Digital fuzzy controller implementing maximum temp. accuracy</p>	4		

*Prof. Dr. ...*

M.B.S.  
**CHAIRMAN**  
 Department of Biochemistry  
 ...

..piest control by jog-shuttle switch and LCD display  
 User's self-compensation function to control difference between real temperature and Indicated temperature ( $\pm 10.0^{\circ}\text{C}$ )  
 Stainless steel bath for superior durability & high thermal efficiency  
 Stainless steel lid prevents evaporation and keeps constant temperature  
 Over temperature & over current protection, sensor error detection  
 Digital timer function (99 hr 59min): delay time and operation time can be controlled  
 Storage function for the set values of temperature and timer  
 Alarm function: error status and timer-end  
 Locking mode supported for experimental safety (input to jog-shuttle can be disabled)

**Technical Specifications:**

Dimension (w x d x h): bath (mm): 500 x 295 x 150  
 Heater: 2 kW  
 Capacity: 22 Lit  
 Temp. Range: Ambient +  $5^{\circ}\text{C}$  ~  $100^{\circ}\text{C}$   
 Temp. Accuracy:  $\pm 0.1^{\circ}\text{C}$   
 Temp. Uniformity:  $\pm 1.0^{\circ}\text{C}$   
 Temp. Sensor: PT100  
 Controller: Digital fuzzy controller with jog-shuttle switch (Turn + Push)  
 Display: Digital LCD display (Temp + Timer)  
 Timer: 99 hr 59 min (Delay & Continues function included)  
 Safety Devices: Over temp, and over current protection, sensor error detector  
 Material internal: Stainless steel (#304)  
 Material external: Powder coated steel  
 Lid: Including stainless steel flat lid  
 Drain valve: Available  
 Others: Storage function (Temp., Timer)  
 Locking for mode (Jog-Shuttle input disabled)  
 User self-compensation function  
 Alarm (Error Status and Timer-end)  
 Power Supply: 220VAC. 50/60Hz

✓4 **OVEN Horizontal Flow Ovens, Forced-Air type With Digital Fuzzy Control & Digital Back Light LCD**  
**Applications & Features:**  
 PL (Product Liability) Insurance.  
 CE Certificate.  
 Suitable for drying, baking, conditioning, curing, pre-heating aging.  
 Digital fuzzy control system implementing superior temperature accuracy.  
 High quality LCD with back light function used.  
 Simplest control by Jog-shuttle switch.

2



... accuracy.  
 Simplest control by jog-shuttle switch (Patent Pending).  
 High-quality LCD with Backlight function used.  
 RS232C interface for monitoring and controlling with PC.  
 Ambient to 70 °C range, accuracy of  $\pm 0.1$  °C.  
 Compact design of body.  
 Optimized air circulation by natural convection preventing cross contamination of samples.  
 Stainless steel chamber and chrome-coated shelves - corrosion resistance.  
 Over temperature & over current protection, sensor error detection.  
 Storage function, alarm, timer.  
 Locking mode supported for experimental safety. (Input to jog-shuttle can be disabled).  
 PL (Product Liability) Insurance  
 CE Certificate

**Technical Specifications:**

Dimension (w x d x h) Internal (mm): 485 x 410 x 535  
 Capacity: 105 Lit.  
 Heater: 300 W  
 Temp. Range: Ambient + 5 °C ~ 70 °C  
 Temp. Accuracy:  $\pm 0.1$  °C  
 Temp. Uniformity:  $\pm 1$  °C  
 Controller: Digital fuzzy controller with jog-shuttle switch (Turn + Push)  
 Display: Digital LCD display with back-light function  
 Timer: 99hr 59min, (Delay & Continuous Function Included)  
 Material Internal: Stainless steel (# 304)  
 Material External: Powder coated steel  
 Material Insulation: None  
 Shelves: 2 or 3 Teflon coated steel shelves of adjustable position  
 Door Gasket: High temperature grade foamed silicone rubber  
 Viewing Window: Inner Tempered Glass Door  
 Ventilation: Stainless steel cap, Dia. 40mm x 1ea  
 Sensor: PT100  
 Circulation: Natural convection  
 Safety Device: Over temp. and over current protector, sensor error detector.  
 Others: RS232C interface for monitoring and controlling with PC  
 Storage Function (Temp., Timer),  
 Locking Mode (Jog-Shuttle Input disabled)  
 Alarm (Error Status and Timer-end)  
 Power Supply: 220 volt, 50 / 60 Hz

6

**Binocular Microscope**  
 Stand: sturdy stand with antirust antibacterial

5

*APR 2011*  
 Prof. Dr. Kishore Kumar Chaitin  
 M.B.B.S; M.Phil.(Ph.D)  
 CHAIRMAN  
 Department of Biotechnology  
 L.U.M.S, Jammu.



The sensor accurately monitors chamber temperature for precise control. Fans ensure gentle air circulation to provide top to bottom temperature control after frequent door openings.

#### **Effective Temperature Control**

**Electronic Temperature Control System:** A thermistor sensor monitors temperature inside the chamber, and microprocessor and electronic temperature controls ensure that the set temperature is maintained. Even with frequent door openings, the circulation fan provides rapid temperature adjustment for a highly reliable, stable preservation environment unaffected by ambient temperature.

**Cycle Defrost System:** Defrosting is performed automatically during compressor 'off' cycles and by sensing frost levels. This method of defrosting is performed only when required, further protecting the contents against unnecessary temperature rise.

**Equipped with Digital Temperature Display**  
Easy to read digital display. Temperature readings are displayed in gradients of 1°C for settable temperatures ranging from 2° to 14°C.

#### **Cabinet Construction**

Space Saving Design - less installation space is required with the use of two easy to open, double paned sliding glass doors preventing ultraviolet and heat rays from affecting contents or temperature in the chamber.

- Rigid polyurethane foam insulation construction acts to keep cold air inside the unit and effectively protects against the intrusion of warm air.
- Chemical resistant stainless steel interior surfaces of the cabinet ensures long lasting service for many years of use.

#### **Door Open Alarm**

When the door opens the 'Door Open' lamp lights automatically. After 30 seconds, a buzzer alarm will sound if the door has not been closed. If door openings longer than 30 seconds are desired, the alarm can be deactivated.

#### **Abnormal Temperature Alarm and Safety Devices**

If the inside temperature of the MPR-311D(H) descends below 0°C or rises above 15°C the buzzer alarm will sound and the digital temperature display will flash. If the internal temperature reaches below -2°C or above 20°C, the low and high temperature safety devices prevent the contents of the refrigerator from freezing or the temperature from rising abnormally while the visible and audible alarms are activated.

#### **Technical Specifications:**

External dimensions: 31.4"(W) x 70.8"(H) x




500 x 1,800 x 450mm)  
 Internal dimensions: 23.3"(W) x 56.4" (H) x  
 13.7"(D) (720 x 1,435 x 350mm)  
 Effective capacity: 12.01 cu. ft. (340L)  
 Cabinet: Painted steel  
 Interior: Stainless steel  
 Insulation: Polyurethane foam  
 Doors: Sliding glass doors, double-paned glass with  
 heat-reflective film  
 Shelves: Rigid wire with zinc-plated finish  
 Access Port: 30mm on back wall  
 Lighting/Casters: 20W fluorescent lamp (1)/ 2 casters  
 Amps/Breaker: 2.5 / 15 A Breaker  
 Compressor: Hermetic type, 160W  
 Refrigerant: HFC  
 Evaporator: Fin & tube, forced air circulation  
 Condenser: Wire & tube  
 Defrosting: Cyclical defrosting & evaporator temp.  
 detection system  
 Defrosting heaters: 114W  
 Temp. Control: Electronic temp. control [range: 2°-  
 14°C (35.6-57.2°F)]  
 Temp. Display: Digital [display range: 0°-15°C (32-  
 59°F)]  
 High temp. alarm system: Flashing digital indicator  
 [above 15°C (59°F)], Buzzer [above 15°C (59°F)]  
 High-temp. indicator lamp [above approx. 20°C  
 (68°F)]  
 Low temp. alarm system: Flashing digital indicator  
 [below 0°C], Buzzer [below 0°C]  
 Defrost indicator lamp [below approx. -2°C (28°F)]  
 Door ajar alarm: Buzzer/door ajar lamp

09 **Analytical Balance Digital.** 3  
 Electronic analytical balance with built-in, motorized  
 calibration weight, dynamic temperature  
 compensation, backlit 8 segment display, two large  
 tare keys, stability indicator, 4 user selectable filter  
 levels, plus optimized  
 display update rate.  
 Capacity 320 g  
 Readability 0.1 mg  
 Tare range (subtractiv) 320 g  
 Response time (avg.) 3 s  
 Repeatability  $\leq \pm 0.2$  mg  
 Linearity  $\leq \pm 0.3$  mg  
 Pan (inner diameter)\* 80 mm  
 Weighing chamber (WxDxH) 174x181x240 mm  
 Balance housing (WxDxH) 213x342x340 mm  
 Net weight approx. 6.5 kg  
 Triangular weighing pan shape. = diameter of the  
 inner circle Standard features/Equipment supplied -  
 Motorized calibration weight - Bidirectional RS-232  
 data interface port - ISP/GLP-compliant  
 printing/recording of weighing and calibration data

*H. D. ...*  
 Prof. Dr. ...  
 M.B.B.S; M.F.S.  
 CHAIRMAN  
 Department of Bio...

	<p>Printer or computer is connected to the  - Hanger for below-balance weighing -  Overload protection - Lug for anti-theft locking  device - Leveling feet; level indicator - AC adapter -  Integrated application programs (net total, weighing  in percent, counting, animal weighing, mass unit  conversion by toggling) - Dust cover</p>			
10	<p><b>Advanced Laboratory PH Meter</b>  <b>Ph/mV/Temp (Custom LCD) Features</b>  Wide &amp; clear Backlit custom LCD display fast,  accurate and easy to use, RS 232C communication  simultaneous display of pH (mV, ISE) temp and  current time auto (Manual) calibration eit5h choice  of buffer (3 points) Automatic compensation for  temperature available measuring by using latest  calibration date self diagnostics, Auto-hold, data-log  up to 100 points certificated CE mark, ISO 9001</p> <p><b>Specification</b></p> <p><b>pH</b>  Range: -2.00 to 19.99  Resolution: 0.01  Rel- Accuracy: <math>\pm 0.02</math>  Auto-buffer-Recognition: 4.00,7.00,10.00</p> <p><b>Millivolts</b>  Range: <math>\pm 1999.3\text{mV}</math>  Resolution: 0.1mV  Rel- Accuracy: <math>\pm 0.1\text{mV}</math></p> <p><b>Temperature</b>  Range: <math>\pm 10</math> to 100 C  Resolution: 0.1C  Rel- Accuracy: <math>\pm 0.4\text{C}</math>  Calibration points: Auto/Manual (3point)  Data-Log: 100 points  Temperature: Auto temperature  Compensation  Slope (%): 80% to 120%  Display: Custom LCD  Channel: one  Input: BNC,ATC, Power  RS232C  Output: RS232C  (Computer / Printer)  Power: AC/DC power Adaptor  Dimension (mm): 200(L)X 260 (W),  Weight: 0.95Kg.</p> <p><b>Standard Accessories</b>  Combination pH Electrode  ATC probe  Buffer Sol. (pH 4, 7, 10) each 125ml  AC/DC power Adapter  Instruction Manual</p>	2		

	<p align="center"><b>Plate Stirrer Ceramic Coated Plate with Digital Feedback Control</b></p> <p><b>Applications &amp; Features:</b>  CE-Certified. Digital feedback control by high performance microprocessor. Superior temperature uniformity: 10% less on the plate at current temperature.  Accurate temp. Control of the sample in the vessel using optional PT100 sensor. User's self-compensation function: to control difference between real temp. and indicate temp. (<math>\pm 10.0^{\circ}\text{C}</math>). Digital LCD with back light function. Aluminum die-casting, Ceramic coated plate chemical/acid resistance. Storage function, timer, alarm.  Locking mode supported for experimental safety (input to jog-shuttle can be disabled).</p> <p><b>Technical Specification:</b>  Plate Size (mm): 180 x 180  Stirring Capacity (<math>\text{H}_2\text{O}</math>): Max. 20Lit  Motor Rating (W): 9/4  Speed Range (rpm): 80 ~ 1,500  Speed Control Resolution: (rpm): 5  Temp. Range (<math>^{\circ}\text{C}</math>): Max. 380  Temp. Accuracy: <math>\pm 0.3^{\circ}\text{C}</math> at set temperature  Temp. Display Resolution (<math>^{\circ}\text{C}</math>): 0.1  Temp. Control Resolution (<math>^{\circ}\text{C}</math>): 0.5  Heating Power (W): 600  Heating Plate: Specially Designed Heating Module (High Uniformity: Temp. Difference 10% Less)  Controller: Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)  Display: Digital LCD with back light function.  Timer: 99hr 59 min, (Continuous function included)  Material Plate: Ceramic Coated Aluminum (Chemical/Acid Resistance)  Material Body: Powder Coated Aluminum  Dimension (w x h x d mm): 206 x 307 x 99  Weight (kg): 3.3  Others: Storage Function (Temp., RPM. Timer)  Locking Mode (Jog-Shuttle Input disabled)  User self compensation function  Alarm (Error Status and Timer end)  Power Consumption: 600 W  Power Supply: 220 volt, 50/60 Hz</p>	2	
12	<p><b>Autoclave-Steam Sterilizer Digital Fuzzy Controlled, With Electronic Door Lock Sensing System</b></p> <p><b>Applications &amp; features:</b>  Top-loading sterilizer for easy loading of large working volume. With casters for excellent mobility. Innovative easy to use digital fuzzy controller. Simplest control by jog-shuttle switch and LCD display.  Digital timer function 'delay time' and 'operation</p>	1	

  
Prof. Dr. M. B. S. M. Prasad  
M.B.B.S. M.Phil (Ph.D.)  
**CHAIRMAN**  
Department of Biochemistry  
L.U.M.S, Jamshoro.

... be controlled. Complete safety pressure mechanism.

Strong and safety screw handle door. Over-temperature/-pressure/-current protection capability, automatic over pressure release valve ensure user safety. Electronic door lock sensing system for user safety. CE (medical device directive) certified. Heat-protective lid cover for user safety.

**Technical Specification:**

Controller: Digital-fuzzy control system (fully automatic)

Dimension (w x d x h) inner (mm):  $\Phi 350 \times h650$

Heater: 3 kW

Capacity: 60 Lit

Temp. Range: Ambient  $5^{\circ}\text{C}$  to  $132^{\circ}\text{C}$

Temp. Accuracy:  $\pm 0.5^{\circ}\text{C}$  at  $121^{\circ}\text{C}$

Display: Digital LCD (PV& SV and sterilizing procedure displayed)

Timer: 99 hr 59 min 59 sec

Pressure:  $1.2 \text{ Kgf/cm}^2$  at  $121^{\circ}\text{C}$ ,  $2.0 \text{ Kgf/cm}^2$  at  $132^{\circ}\text{C}$

Gauge:  $0 \sim 3 \text{ kgf/cm}^2$

Material pressure vessel: Stainless steel (#304)

Material external: Powder coated steel

Door packing: One touch pressure handle type

Safety device: Over temp., over pressure, over current protector and electronic door lock system,

heat protective lid cover. Basket: 2ea of wire basket included

2 polo plug Power Supply: 220VAC. 50/60Hz.

13 **Micropipette Adjustable Individually Calibrate, Fully Autoclaveable** 1

**Features:**

Smart and reliable volume adjustment and very fine volume resolution

Single-handed volume setting

Precision digital display visible at all times

Click stops and rotating plunger cap prevent unwanted volume alteration

Justip adjustable tip ejector fitting most tips

Swift-set user calibration system

Colour coding

**Specifications:**

Volume Range:  $0.1 - 2\mu\text{l}$

Division:  $0.002\mu\text{l}$

Inaccuracy (E%), Min. Vol:  $< \pm 6.0\%$

Inaccuracy (E%), Mid. Vol:  $< \pm 4.0\%$

Inaccuracy (E%), Max. Vol:  $< 2.0\%$

Imprecision (CV%), Min. Vol:  $< 5.0\%$

Imprecision (CV%), Mid. Vol:  $< 3.3\%$

Imprecision (CV%), Max. Vol:  $< 1.5\%$

Volume Range:  $0.5 - 10\mu\text{l}$  Division:  $0.01\mu\text{l}$

Volume Range:  $2 - 20\mu\text{l}$ , Division:  $0.02\mu\text{l}$

Volume Range:  $5 - 50\mu\text{l}$ , Division:  $0.1\mu\text{l}$

*[Handwritten Signature]*

Prof. Dr. Rajendra Chavhan, Ph.D.

M.B.B.S; M.F.  
CHAIRMAN

Department of ...

...can be controlled. Complete safety pressure mechanism.

Strong and safety screw handle door. Over-temperature/-pressure/-current protection capability, automatic over pressure release valve ensure user safety. Electronic door lock sensing system for user safety. CE (medical device directive) certified. Heat-protective lid cover for user safety.

**Technical Specification:**

Controller: Digital-fuzzy control system (fully automatic)

Dimension (w x d x h) inner (mm):  $\Phi 350 \times h 650$

Heater: 3 kW

Capacity: 60 Lit

Temp. Range: Ambient  $5^{\circ}\text{C}$  to  $132^{\circ}\text{C}$

Temp. Accuracy:  $\pm 0.5^{\circ}\text{C}$  at  $121^{\circ}\text{C}$

Display: Digital LCD (PV& SV and sterilizing procedure displayed)

Timer: 99 hr 59 min 59 sec

Pressure:  $1.2 \text{ Kgf/cm}^2$  at  $121^{\circ}\text{C}$ ,  $2.0 \text{ Kgf/cm}^2$  at  $132^{\circ}\text{C}$

Gauge:  $0 \sim 3 \text{ kgf/cm}^2$

Material pressure vessel: Stainless steel (#304)

Material external: Powder coated steel

Door packing: One touch pressure handle type

Safety device: Over temp., over pressure, over current protector and electronic door lock system.

heat protective lid cover. Basket: 2ea of wire basket included

2 polo plug Power Supply: 220VAC. 50/60Hz.

**13 Micropipette Adjustable Individually Calibrate, Fully Autoclaveable**

**Features:**

Smart and reliable volume adjustment and very fine volume resolution

Single-handed volume setting

Precision digital display visible at all times

Click stops and rotating plunger cap prevent unwanted volume alteration

Justip adjustable tip ejector fitting most tips

Swift-set user calibration system

Colour coding

**Specifications:**

Volume Range:  $0.1 - 2\mu\text{l}$

Division:  $0.002\mu\text{l}$

Inaccuracy (E%), Min. Vol:  $< \pm 6.0\%$

Inaccuracy (E%), Mid. Vol:  $< \pm 4.0\%$

Inaccuracy (E%), Max. Vol:  $< 2.0\%$

Imprecision (CV%), Min. Vol:  $< 5.0\%$

Imprecision (CV%), Mid. Vol:  $< 3.3\%$

Imprecision (CV%), Max. Vol:  $< 1.5\%$

Volume Range:  $0.5 - 10\mu\text{l}$  Division:  $0.01\mu\text{l}$

Volume Range:  $2 - 20\mu\text{l}$  . Division:  $0.02\mu\text{l}$

Volume Range:  $5 - 50\mu\text{l}$ , Division:  $0.1\mu\text{l}$


*Prof. Dr. H. H. H. H.*  
Prof. Dr. H. H. H. H.

Range: 10 – 100µl ,Division: 0.1µl

	<p><b>Digital Orbital Shaker With Programmable Digital Feedback Control System</b></p> <p><b>Applications &amp; Features:</b>            PI (Product Liability) Insurance.            CE-Certified.            Ideal for culturing cells to hybridization, staining and distaining gels and combinatorial chemistry.            Optimal platform rotation for intensive mixing.            Brushless DC motor. (Low Noise &amp; Long Life Cycle) High precision digital rotation speed control.            Programmable operation modes supported. Digital LCD with back light function. Convenient setting of timer and speed using jog shuttle switch. Smooth start and change of the shaking speed. Universal platform for easy and fast fixation of any kind flasks and bottles (Option), overload protection. Storage function, Alarm and over-load protection.            Locking mode supported for experimental safety. (Input to Jog-Shuttle can be disabled)            Varieties of optional accessories are available.</p> <p><b>Technical Specifications:</b>            Motor: Brushless DC Motor            Dimension (w x d x h mm): 400 x 480 x 160            Base Platform Size (mm): 350 x 350            Max. Load (kg): 10            Amplitude of Rotation (mm): 20, 30, 40 Available. (30 as Factory default)            Speed Range (rpm): 10 ~ 300            Controller: Programmable Digital Feedback Controller with Jog-Shuttle Switch (Turn + Push)            Program Function: 10 Steps, 6 Programs            Display: Digital LCD with back light function.            Platform: Universal Platform for various Shapes &amp; Size of Flask            Capacity of Flask Holder FH100: 20 ea            Capacity of Flask Holder FH250: 16 ea            Capacity of Flask Holder FH500: 9 ea            Holder: Durable &amp; Flexible Plastic Flask holder            Safety Device: Over Load Protector for motor            Weight (kg): 20            Others: Smooth Start and Change of the Stirring Speed for stable running            Storage Function (Program, RPM, Timer)            Locking Mode (Jog-Shuttle Input disabled)            Alarm (Error Status and Timer-end)            Power Supply: 220Volt, 50/60 Hz</p>	2			
15	<p><b>Digital Ultrasonic Cleaner Set With Lid Heat &amp; Timer Digital Control</b></p> <p><b>Applications &amp; Features: -</b>            PL (Product Liability) Insurance.            Useful for cleaning to remove dirt, grease, waxes and oil from all lab instruments by ultrasonic frequency.</p>	1			

*[Handwritten Signature]*  
 Prof. Dr. Khyasur-Rai...  
 M.B.B.; M.P.  
 CHAIRMAN

	<p>Microprocessor controller: timer, temperature, output control. Multi-frequency sonication body. Temperature range from ambient to 50°C. Convenient preset function: Heating and Timer</p> <p><b>Technical Specifications: -</b></p> <p>Capacity: (Liters): 6L          Tank size inner (mm): 290 x 150 x h150          Heat temp.°C: Ambient to 90°C          Timer (min.): 0 ~ 99          Drain valve: None          HF-peak out (W): 150W          Power: 370W          Weight net (kg): 4.8 kg</p>			
16	<p><b>Biochemistry kit.</b>  <b>PTK18 Biochemistry Kit</b>          Is compatible with data acquisition system to study buffering, ion dissociation as well as conduct titration and cellular respiration experiments. The Kit includes a pH Pod, pH Electrode, Galvanic Oxygen Electrode. T-type Pod, General Purpose T-type Thermocouple and Reflective Drop Counter.</p>	1		

  
 Prof. Dr. K. S. ...  
 M.B.B.S. M.Phil.(Ph.D)  
 CHAIRMAN  
 Department of Biochemistry  
 ... .., Dhanshoro.



**DEPARTMENT OF BIOCHEMISTRY**  
LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO

**LIST OF EQUIPMENTS**

Additional items required for the Biochemistry laboratory

Sr.#	Equipments	Required Quantity
1	Stopwatch	05
2	Thermal cycle	01
3	Glucometer	02
4	Electrophoresis	01

  
**CHAIRMAN**  
DEPARTMENT OF BIOCHEMISTRY  
LUMHS, JAMSHORO



## List of Equipments and Models for Anatomy Department

Sr#	Name Of Equipment	Qty	Unit Price	Total Amount
1	<b>Set of Histology Slides , Neuro-anatomy Slides/CDs</b>	1 2		
2	<p><b>Skele Torso</b></p> <p>✓ Skeleton disarticulates into seven pieces One side of skeleton hand-painted and lettered to show muscle origins and insertions Deluxe medical skull and vertebral column Deluxe brachial plexus, elbow and hand/wrist Deluxe male pelvis hinged and sagittally sectioned so that right hip swings 45° Deluxe hip, knee and foot/ankle Left hip disarticulates with ball and socket joint Organs easily removed for individual study</p>	1		
3	<p><b>Pelvis Male or Female</b></p> <p>✓ <b>Female Pelvis Model</b> Grade 7 to adult. One-half scale, mid-sagittal cross-section shows the anatomy of the female pelvis, including the ovary and fallopian tube. 6-1/4" x 2-3/4" x 5-1/2". Education card included.</p> <p>✓ <b>Male Pelvis Model</b> Grade 7 to adult. One-half scale, mid-sagittal cross-section showing the anatomy of a male pelvis and testis. Normal-size prostate is included with model. The education card shows three prostate stages including normal and benign hypertrophy. 7" x 1" x 4-3/4".</p>	1		
4	<p>✓ <b>Plastination</b> Upper Extremity – Musculature 1 Set</p>	1 Set		
5	<p>✓ <b>Plastination</b> Upper Extremity- Circulatory 1 Set</p>	1 Set		
6	<p>✓ <b>Plastination</b> Lower Extremity-Musculature 1 Set</p>	1 Set		
7	<p>✓ <b>Plastination</b> Lower Extremity-Circulatory 1 Set</p>	1 Set		

	<b>Plastination</b> Knee Joint	✓	1 Set	1 Set
9	<b>Plastination</b> Elbow Joint	✓	1 Set	1 Set
10	<b>Plastination</b> Shoulder Joint	✓	1 Set	1 Set
11	<b>Intrauterine Human Development Models and Fetal Ultrasounds CD-ROM</b> Features eight beautiful, hand-painted, anatomically accurate models from 4 weeks to 7 months (including 5-month twins). This series of models depicts the fetus inside coronally dissected pregnant uteri from the first through the seventh month of pregnancy. Second and third trimester fetuses are removable. The CD-ROM lets you view over 200 digital videos with accompanying text describing normal and abnormal fetal conditions during the first, second, and third trimesters. Fetal images on the CD-ROM range from 12 weeks to near term and were prepared in cooperation with experts at major teaching centers. Models are individually mounted on smoked Lucite® base. Models come with instruction manual and CD-ROM for Windows 98/ME operating systems.			1 ✓
12	<b>Human Reproduction and Development Kit with DVD</b> A thorough multimedia program, this kit presents an in-depth look at embryo and fetus development in humans. The accompanying text and teaching guide provide background information and study questions and include transparencies and blackline masters. The DVD titled <i>The Miracle of Life</i> , along with the transparencies, tells the fascinating story of embryonic and fetal growth. The blackline masters highlight important study points for students. The dramatic reproductions show the stages of human development in a unique, innovative way: plastic models and replicas each student can examine and study. The kit offers a direct and complete approach to an understanding of human reproduction from fertilization to birth.			1 ?
13	<b>Skeleton with hand-Painted and labeled Muscle Attachments.</b> All the bones on the right half of the skeleton have been enhanced with hand-painted muscle origins (red) and insertions navy with have their names hand-lettered in place. Where space limitations prevent spelling out muscle names, alphanumeric coding is used. Additional colors differentiate the components of the Erector spinae muscle complex from other muscle complex from other muscle origins and insertions of The neck and back			1 ✓

	<p>Regions – iliocostalis; origins (orange), insertions (yellow) longissimus: origins (dark green) insertions (light green) On the left half of the skeleton, all bones and osteological Features of anatomical and clinical significance have been Number coded for identification. Comprehensive Key to all coded structures is furnished.</p>			
14	<p><b>4th and 5th Lumbar Model</b> These 4th and 5th lumbar sets show four stages of degeneration: normal, herniated, and two arthritic. Mounted on a solid walnut base</p>	1	X	
15	<p><b>Anatomage Table Virtual Dissection</b> Both the accuracy of the real human anatomy and the quantity of pathological examples are unique aspects of the Anatomage Table. Combined with powerful hardware and software, the product offers unprecedented technology for medical education. Students are motivated and can easily digest complicated 3D shapes of human anatomy which makes the Table very effective for anatomy education. Pathological and Procedural Training Pre or Post Lab Review The Anatomage Table is sufficient to cover the full anatomy class. High accuracy and rich contents offer an excellent replacement to traditional cadaver based dissection. Since the data preserves the real life patient color and shape, the Table is more effective than embalmed cadavers.</p> <p><b><u>True Human Anatomy in a Life-Size Scale</u></b> The data are from real patient scans or cadavers, and thus highly accurate. The Anatomage Table is the only system that can display true human gross anatomy in real life size. It makes for an excellent advanced education tool as well as a technical showpiece. With powerful radiology workstation features, it can be used for radiology, surgery case review, patient consultation, and research purposes as well as anatomy education.</p> <p>The Anatomage Table opens any medical imaging data and provides high quality interactive 3D renderings. Whether it is your own scan or one of the Digital Anatomy Library cases, the Table shows full 3D anatomy that can be intuitively controlled. Anatomy and radiology can now be seamlessly introduced and integrated in the same course.</p> <p><b><u>Clean, Safe, Reusable Technology</u></b> The Anatomage Table is simple to operate and over time will save customers money. There are no recurring costs or disposal concerns like traditional cadaver labs. Likewise, costly chemicals or ventilation requirements are not required and the virtual cadavers can be used repeatedly for safe and consistent performance year after year.</p>	1	✓	✓

Module:  
 Digital Anatomy Library Module  
 Invivio5 Imaging Software  
 Medical Design Studio Module

16	<p><b>Special Edition Premier skull looks just like real bone.</b>          Special Edition premier skull has been hand-rubbed with A custom formulated stain, highlighting every suture, Fissure, fossa and pore, and creating a convincing Natural bone appearance. A magnificent specimen For study and display. For study and display.</p>	1	✓
17	<p><b>Lumbar Spine with Musculature, Nerves, Pelvis, and Femur Heads</b>          Natural cast from the bones of an adult male, this Flexibly articulated specimen has been fitted with Synthetic muscles of resilient plastic attached with Elastic bungee cord. Skeletal components included are: all five Lumbar vertebrae (L4 and L5 are colored blue and Exhibit facet syndrome and arthritic bone degeneration.          * Complete pelvis with sacrum and coccyx          * movable femur heads. The following muscles are included; quadrates Lumborum * Piriformis * Psoas major * Iliacus * lumbar and sacral sections of multifidus * gemellus superior and inferior * gluteus medius and minimus * and obturator internus. Other features included are: paired spinal Nerves * sciatic nerve complex * sacrospinal ligament * and a herniated disc between L4 and L5. Complete with suspension stand.</p>	3	✓
18	<p><b>Three part model fleshes out the Structural Anatomy of the hand and Wrist.</b>          Complete with fingerprints, this exceptionally Detailed full-scale model of the left hand presents a Superficial dissection of its dorsal surface which Exposes the veins, nerves, tendons, and the extensor Retinaculum, while the palmar surface features three Dissections at progressively deeper levels; 1<sup>st</sup> layer – palmar aponeurosis * 2<sup>nd</sup> layer – exposes the flexor retinaculum, superficial palmar arch, and tendons of the flexor digitorum and lumbricales muscles * 3<sup>rd</sup> layer – reveals the deep palmar arch, and deep layer of muscles, nerves, tendons and ligaments. 48 anatomical structures are coded for identification in the accompanying key.</p>	3	✓

	<p><b>Auditory Ossicles.</b>  Life size replicas of the three tiny bones of the Middle ear, the malleus (hammer), incus (anvil) and Stapes (stirrup) cast from actual human specimens. Ossicles are labeled and embedded in plastic for Protection.</p>	1	✓		
20	<p><b>Lifting manikin distinguishes right from wrong.</b>  Ingeniously engineered and executed, this functional Figure dramatically contrasts correct and incorrect Lifting techniques, and exhibits the stress and distortion Of the lumbar spine resulting from improper Lifting posture. The manikin will raise a weight from either of  Two clearly marked positions on its base. Illustrations on the base detail the effects of right and wrong technique on lumbar vertebral alignment.No assembly required. Complete with booklet providing background information</p>	2			
21	<p><b>Nine Part muscular Anatomy o the leg and Hip.</b>  Nine Part Muscular Anatomy of the leg and Hip. dissectible into a total of nine parts, this ¾ scale reproduction depicts the muscles, nerves, bones, tendons and blood vessels of the left leg, foot and hip. eight superficial muscles detach individually to expose the deeper muscle layer. Key features are numbered for identification in the accompanying Key card. Mounted vertically in an inverted position On a pedestal base the leg stands 30 inches (77 cm) tall</p>	1	✓		
22	<p><b>Functional Shoulder Joint</b>  Model is articulated with flexible ligaments. this cast replica includes the proximal half of the Humerus, clavicle and scapula, fitted with flexible Synthetic ligaments, which demonstrate motions of the shoulder joint. The model is mounted on a Display stand. 6x5x8 inches overall (16x12x20cm)</p>	1	✓		
23	<p><b>Right Half of Head and Neck Musculature.</b>  Sagittally sectioned, unbreakable vinyl replica Represents the human head and neck down to the Level of the clavicle. Surface muscles and blood Vessels are depicted on one side, while the other Shows the median section through the interior. 119 Features are numbered and identified in the corresponding Key. Overall dimensions: 13x8x7 inches.</p>	1	✓		
24	<p><b>Human Sinuses Model</b>  4 times life size, in hand painted vinyl, this model that exposes all the human sinuses. Perfect as a surgical trainer, key anatomical landmark Such as</p>	1	✓		

	<p>the internal carotid artery and optic nerve are Portrayed. The middle turbinate is detachable, Exposing the partially dissected unciate, infundibulum, and ethmoid bulla. The model pivots on a hardwood base and Measures; 14x12x4 inches.</p>			
25	<p><b>Giant Regional Brain</b>          Besides exhibiting some 120 numbered neurostructures, this giant brain replica incorporates nine vibrant Colors to differentiate the front, parietal, Occipital and temporal lobes, as well as the cerebellum,          Brain stem and the motor, somato sensory and Limbic cortices. In addition, each of the lobes, the Limbic cortex, pre and post central gyri is identified With hand lettering. Complete with key to numbered Structures and reproducible copy masters, the model Measures 8x8x10 inches (2x20x25cm) overall.</p>	2	✓	
26	<p><b>Human Brain Ventricles.</b>          Three times life size this plastic reproduction Illustrates the intricate ventricular system of the fluid filled cavities within the human brain, including the anterior, inferior and Posterior horns of the two lateral ventricles, the third and fourth ventricle, and the cerebral aqueduct connecting them. the model rest upright on a display base and comes with an illustrated key.Overall dimension: 12x10x8 inches (30x26x20cm)</p>	3	X	
27	<p><b>Cerebrospinal Fluid Circulation Model.</b>          Sectioned through the right side of the brain and base of the skull, this enlarged double sided Section shows the cut meningeal edges. Color Coding illustrates the regions within and Surrounding the brain that contain cerebrospinal Fluid flows.Hand painted in contrasting colors, the model Sits on a detachable stand and includes key card.Overall dimensions: 10x7x5 inches (25x18x12cm)</p>	3	X	
28	<p><b>Sagittal Brain Section</b>          Sectioned through the right side of the brain and Base of the skull, this enlarged section is also double sided. One surface conforms to the median plane and includes a section of the falx cerebri.The reverse surface depicts a sagittal cut which Exposes the lateral ventricle.49 color coded features of the brain and meninges are identified in the accompanying key.The model rests on a detachable stand.Overall dimensions;10x7x5 inches (25x18x12cm)</p>	3	✓	

	<p><b>Motor Neuron Diorama.</b> Magnified more than 2500 times and fully three dimensional, a neuron model is depicted in its natural setting. With the membranous envelope cut away, the cytological Ultra structure, organelles and inclusions within the cell Body are depicted in contrasting colors. A section of the axon lifts off to expose the enveloping myelin sheath and neurolemma, as well as the Schwann cell that formed them. 54 features are identified in an illustrated key. Mounted on a hardwood base, its overall dimension are: 17x18x11 inches overall.</p>	1	X	
30	<p><b>Deluxe Spinal Cord.</b> 6 times life size, this vinyl plastic model replicates a segment of the upper thoracic spinal cord. Sectioned both longitudinally and in cross section, a portion of white matter of the right half has been cut away to expose the anterior and posterior nerve roots. 30 numbered features are identified in a corresponding key. Overall dimensions: 12x8x5 inches.</p>	1	✓	
31	<p><b>Deluxe Human brain Stem model</b> Representing the human brain stem dissected Free of over-lying cerebral tissue, this free-standing plastic model is mounted vertically, permitting access from all aspects. furnished with an illustrated guide which Identifies the brain stem stands 9 inches. 23 cm high on a hardwood base.</p>	1	✓	
32	<p><b>Human Skin Series – Plus burn Pathologies.</b> Three dimensional and magnified 75 times, this Series is really six models in one. The front face of the model compares and contrasts normal healthy skin from three different body regions: * The palm or sole (totally hairless)* The axilla or armpit (sparsely endowed with hair) * The scalp (completely hirsute) The epidermis, dermis, and hypodermis, as well as the glands, hair follicles , nerves and receptors are all Sculpted in full relief with contrasting colors. 46 features are identified in the accompanying key. Measuring 16x3x10 inches LWH (41X8X25 CM), the Model is mounted on a 6x18 inches hardwood base.</p>	1	X	
33	<p><b>Giant Eye in Bony orbit.</b> 6 times life size (twice the size of 'competitors' models) and dissectible into eight parts, this unbreakable vinyl eyeball sits in its bony socket to provide a better understanding of its relationship with major blood vessels, muscles and nerves ,77</p>	1	✓	

	<p>and numbered features are identified in the accompanying key. Also included is a reproducible black line copy master with numbered parts that correspond to the model, making it easy to print illustrated study sheets. Answer key is on reverse. overall dimensions; 12x10x9 inches.</p>		
34	<p><b>Deluxe Eight part Ear.</b> 5 times life size in unbreakable vinyl, our most detailed ear model provides a more complete perspective of the middle and inner ear structures within the temporal bone. all the skin has been peeled off the detachable Auricle to expose its cartilaginous structure, Muscles, auricular arteries and nerves, as well as the entrance to the auditory canal. The cochlea itself separates into Halves to reveal cochlear, vestibular and tympanic Ducts and the branching of the cochlear nerve. 95 hand numbered features are identified in the corresponding key. Overall dimension 17x11x8inch</p>	1	✓
35	<p><b>Nose and olfactory Organ Set.</b> Two unbreakable plastic models on one hardwood base depict the nose and nasal passages enlarged to 4 times their normal size. The model on the right shows the nasal septum, its arteries and veins, the inner group of olfactory nerve filaments, nasopalatine nerve, soft and hard palate, uvula and the cranial floor. The model on the left depicts the left nostril, olfactory nerve, bulb and filaments. 32 numbered features are identified in the accompanying key. Overall dimensions: 18x4x14 inches.</p>	1	✓
36	<p><b>Giant Functional Larynx.</b> 4 times life size and uniquely American made, this unbreakable vinyl replica is complete with hyoid bone and epiglottis. The right side depicts only the cartilaginous structure, while the left shows the musculature as well. Movable vocal cords, arytenoids cartilages and Epiglottis all accurately demonstrate their functions. Perfect for speech correction and music, as well as anatomy and physiology, 55 hand-coded features are identified in the accompanying key. Overall dimensions: 15x7x6"</p>	2	✓
37	<p><b>Human lungs Reproduction</b> Cast from actual human lungs in soft resilient plastic, this reproduction features five lobes that are color coded and held together elastically for easy viewing of septa, bronchioles, pulmonary</p>	1	✓



es and veins.Key to coded structures and detachable Hardwood display base.

38	<p><b>The Heart of America PLUS</b>          Possessing all the exclusive features of the original Heart of America PLUS.          an accurately scaled branchiocephalic trunk, left Common carotid and left subclavian artery.          Complete with right and left internal thoracic (internal mammary) arteries, PLUS attachable/detachable bypass vessels of flexible tubing in a variety of lengths.Simply attach tubing with build-in quick connects to model to configure single, double, triple, LIMA or bilateral IMA bypass grafts.Overall dimensions on base 7x7x17 inches.</p>	1	✓	
39	<p><b>Free Standing urinary System.</b>          This three dimensional model of the male Urinary system and its blood supply is Freestanding, enabling study from all aspects. Made of unbreakable vinyl Polymer, the larger than life replica Illustrates; 1) the kidneys, adrenals and Blood vessels * 2) a section of the pelvic Bones with pubic symphysis, lower portion Of the bladder and prostate *3) Identification key is printed on the Flip side lets you produce study/quiz sheets with or without answers. Overall dimensions:12x19x8 inches.</p>	1	X	
40	<p><b>Liver and Gallbladder.</b>          1&amp;half times life size, the ventral surface of this replica is dissected to expose major blood vessels and bile ducts in deep relief. Color coding clarifies the complex vascular network, with contrasting colors differentiating the portal vein and its branches, the gallbladder and bile ducts,the hepatic artery and the hepatic veins. 28 hand numbered structures are identified in the accompanying key. Overall dimensions: 13x11x6 inches</p>	2	✓	
41	<p><b>Female Neurovascular Skull with Cervical Spine, on Stand.</b>          Because it doesn't suffer from the visual Limitations of 2 dimensional diagrams Allowing study from all aspects our neurovascular skull eliminates much of the confusion associated with neurocranial studies.          Our adult female medical skull and all seven Cervical vertebrae are situated on a stand.</p>	1	✓	

Free part model fleshes out the Structural Anatomy of the hand and Wrist.

1

Complete with fingerprints, this exceptionally Detailed full-scale model of the left hand presents a Superficial dissection of its dorsal surface which Exposes the veins, nerves, tendons, and the extensor Retinaculum, while the palmar surface features three Dissections at progressively deeper levels; 1<sup>st</sup> layer – palmar aponeurosis \* 2<sup>nd</sup> layer – exposes the flexor retinaculum, superficial palmar arch, and tendons of the flexor digitorum and lumbricales muscles \* 3<sup>rd</sup> layer – reveals the deep palmar arch, and deep layer of muscles, nerves, tendons and ligaments. 48 anatomical structures are coded for identification in the accompanying key.



43 Deluxe KnowBody Teaching Torso with Detachable Head and Hardwood Turntable Base.

1

- \* 23 dissected or dissectible structures
- \* 16 detachable parts
- \* 300 hand numbered anatomical features much more internally detailed than the Basic and advanced KnowBody torsos, with emphasis placed on the brain, cardiopulmonary and digestive Organs, the Deluxe KnowBody has a detachable Head which aids in studies of the brain head and neck. other detachable parts include:
- \* Eyeball with extracular muscles
- \* 4 part brain half with arteries
- \* Left lugn with ribs (with blood vessels and brochioles sectioned open)
- \* Right lung with ribs (with blood vessels and brochioles intact)
- \* Heart (2 halves)
- \* Liver and gallbladder with color coded blood vessels and ducts (includes diaphragm section)
- \* Stomach (2 halves)
- \* large intestine
- \* Small intestine
- \* Torso unit. Stands 38 inches (97 cm) tall on rotating hardwood turntable base.



44 Internal Organ.

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	<b>Fetal Skull</b> Plastic replica reproduce from a natural specimen exhibits the fontanels and the developing bones of the infant.	2	X		
46	<b>Flexible Spine with Movable Femur Heads with Suspension Stand.</b> Full size replica ,life like accuracy in color ,texture and detail including completely flexible articulation to reproduce natural vertebral movements alignments, occipital bone of skull, spinal cord with medulla, vertebral arteries, paired spinal nerves, detachable sacral flap which expose the branching cauda equina, proximal femur segments articulated to duplicate movement at the ball and socket joint of the hip.	1	3		
47	<b>Flexible Thoracic spine.</b> Encompassing the twelve thoracic vertebra,T1-T12 and their intervertebral disc ,complete with resilient spinal cord and paired spinal nerves,mounted on a wooden base.	1	✓		
48	<b>Cervical spine with Musculature and Nerves.</b> Muscle included are rectus capitis posterior major and minor obliquus capitis superior, interspinales, scalenus medius, scalenus posterior, longus capitis,longus colli and multi fidis (cut) with skeletal muscles flashcard set.	1	✓		
49	<b>Lumber Vertebrae with Pelvis Showing Lumber and sacral plexi.</b> 5 lumber vertebrae, together with the pelvis, the spine model illustrate a herniated disc, as well as lumber and sacral plexi	1	✓		
50	<b>Male and Female Bony Pelvis.</b> Each pelvis exhibits four pairs of sacral foramina	2	✓		
51	<b>Life Size axial torso.</b> Depicts human anatomy in cross section. Human internal anatomy as viewed in axial plane. 15 axial sections in full color, Mounted on stand size 51x16x14 inches.	1	✓		
52	<b>Dual Sex Torso with open back, 28 parts</b> Two part heart,two parts lung,two parts stomach,four parts intestinal tract,front half of kidney,liver with gall bladder,7 <sup>th</sup> thoracic vertebrae,female chest wall,three part female genital insert with embryo,four part male genital insert.	1	✓		

55	<p><b>Binocular Microscope</b>  <b>Stand:</b> sturdy stand with antirust antibacterial materials. Heat isolating hand rests  <b>Viewing Bodies:</b> 45° inclined, 360° rotatable dovetail, interpupillary distance 54 -- 74mm  <b>Eyepieces:</b> Wide Field focusable paired eyepieces 10x/18mm with foldable eye guard, lockable, antifungal.  <b>Nosepiece:</b> Quadruple nosepiece (ball bearing type) with rubber grip, click stop for exact position.  <b>Objectives:</b> LP Series DIN Semi-Plan Achromatic objective 4x, 10x, 40x (Spring loaded), 100x (Spring loaded, oil), antifungal  <b>Mechanical stage:</b> Rackless stage, size 135 x 124mm, X/Y travel range 76mm x 50mm. low drive movement controls, single specimen holder.  <b>Condenser:</b> Sub stage abbe condenser NA 1.25 with aspheric lens and Iris diaphragm. With snap-in blue filter. Rack and pinion movements on metal guides.  <b>Focusing:</b> Co-axial coarse and fine focusing on ball drive system for smooth operation, fine drive movement 0.2mm/division, tension adjustment for torque control.  <b>Illumination:</b> Halogen 6V-20W illumination with variable illumination control. Up to 200,000 hours of Halogen lamp life.  <b>Electrical:</b> Universal power supply (100V-240V, 50/60 Hz) Built-in voltage stabilizer</p>	4 10
54	<p><b>Human Histology Slides, Box of 100 ,Carolina</b>  Providing a microscopic look at the anatomy of animal cells and tissues, this comprehensive collection helps students learn to identify different organs and tissues. The high-quality set of 100 representative (human or comparable mammalian tissue) slides has been recommended by medical schools for instruction at the college, graduate, and medical school levels. All major organ systems and tissues are represented.</p>	2Boxes ✓
55	<p><b>Slide Boxes Large (24 Slides)</b>  Including General And Special Histology</p>	5 ✓
56	<p><b>Multimedia Projector</b></p>	1 3
57 X	<p><b>Cold Storage for Dissection Hall Capacity 6-Bodies</b></p>	1
58 X	<p><b>Analytical Balance Digital.</b>  Electronic analytical balance with built-in.</p>	1

	<p>Motorized calibration weight, dynamic temperature compensation, backlit 8 segment display, two large tare keys, stability indicator, 4 user selectable filter levels, plus optimized display update rate</p> <p>Capacity 320 g Readability 0.1 mg Tare range (subtractiv) 320 g Response time (avg.) 3 s Repeatability <math>\leq \pm 0.2</math> mg</p> <p>Linearity <math>\leq \pm 0.3</math> mg Pan (inner diameter)* 80 mm Weighing chamber (WxDxH) 174x181x240 mm Balance housing (WxDxH) 213x342x340 mm Net weight approx. 6.5 kg *) Triangular weighing pan shape. = diameter of the inner circle</p> <p>Standard features/Equipment supplied - Motorized calibration weight</p> <ul style="list-style-type: none"> <li>- Bidirectional RS-232 data interface port</li> <li>- ISP/GLP-compliant printing/recording of weighing and calibration data when a printer or computer is connected to the balance</li> <li>- Hanger for below-balance weighing</li> <li>- Overload protection</li> <li>- Lug for anti-theft locking device</li> <li>- Leveling feet; level indicator</li> <li>- AC adapter</li> <li>- Integrated application programs (net total, weighing in percent,</li> </ul>		
59	<b>Wax bath</b>	1	
60	<p><b>Microscope 5 headed Multi Head Microscope</b> Stable stand with convenient location of focus controls with hand rests and heat resistant Nosepiece Reversed Quintuple revolving nosepiece with rubber grip for traction. Stage Double Layers Mechanical Stage 185x142mm, Moving Range 75x55mm Focussing System Co-axial coarse and fine focusing system with auto focus stop Objectives Infinity Corrected Full Plan Achromatic Objectives Anti Fungus Coated 4x, 10x, 20x &amp; 40x (Spring Loaded), 100x (Spring Loaded, Oil Immersion) Eye Piece Widefield 10x, Inter-pupillary distance and diopter adjustment Illumination Built-in Koehler illumination 12V- 100W, Power supply 220-240V 50/60Hz. Inbuilt transformer and Potentiometer and Power Cord. Condenser Abbe Condenser N.A. 1.25 having Aspheric lens, centrable</p>	1	✓

	Compensation Free Trinocular Head, inclined at 30°, 360° Rotatable, Interpupillary Distance 48-75mm Qty: 1 Nos. Observation Heads Compensation Free Binocular head, inclined at 30°, 360° Rotatable, Interpupillary Distance 48-75mm Qty: 4 Nos. Pointer Green LED Pointer, Brightness Adjustable			
61	<b>Microtome</b>	1		
62	<b>Slide Dryer</b>	1		
63	<b>High frequency Film X-ray Viewer double bank with CCFL Lamp 20,000 hour lamp life</b>	2	✓	
64	<b>Fire Extinguisher</b>	1		
65	<b>TEACH CAM WITH BUILT IN MICROPHONE &amp; ILLUMABASE</b>  Electronic Iris with Flicker les mode 65cm flexible gooseneck ¼" color CCD image sensor Nordic box with complete Accessory package & Microscope adapter kit. S. Video & complete video output, integrated microphone & preamplifier. Illumabase is a built-in LED light based used to view and present specimens. 35mm slides & microscope slides without the use of Over Head / Slide Projectors. Compatible with most monitors TV,S VCRS capture cards, LCD 7 DPL projectors.  <b>Image sensor:</b> ¼" color CCD <b>Gooseneck:</b> 27"/65cm <b>Optics:</b> Custom 8mm lens <b>Focal Length:</b> C- mount <b>Iris:</b> Electronic Iris with flicker less mode <b>Video outputs:</b> S-video/composite <b>Resolution:</b> NTSC & PAL (V)400 (H) 370 <b>Pixel count:</b> 291 K <b>Sensitivity:</b> 1,5 Lux <b>Illumination S/N (min):</b> 46 db <b>Illumabase Light Source</b> White LED <b>Audio:</b> Integrated microphone & Preamplifier. <b>Power supply:</b> 12 vdc	2	~	

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Liaquat  
University  
of Medical  
& Health  
Sciences,

# FACULTY OF BASIC MEDICAL SCIENCES

Jamshoro, Sindh, Pakistan

Prof. ASHRAF ALI KHASKHELI  
Dean

To,

The Vice Chancellor,  
Liaquat University of Medical & Health Sciences  
Jamshoro.

**SUBJECT: REQUIRMENT OF LABORATORY EQUIPMENT/MODELS AND LIBRARY BOOKS FOR NEWLY ESTABLISHED BILAWAL MEDICAL COLLEGE AT LUMHS JAMSHORO**

Submitted that Bilawal Medical College is established at LUMHS Jamshoro for which Laboratory Equipment/Models and Library Books are required. Purchase and store section may kindly be directed for purchase and supply of these items.

The lists of Laboratory Equipment/Models and Library Books received from departments of Anatomy, Physiology, Biochemistry and Central Library are attached herewith.

*Thema Pakistan Committee*  
*R. Khan*  
*10/8/15*  
*officer in store*  
*[Signature]*  
*11/8/15*

*[Signature]* 6.8.15  
(PROF: ASHRAF ALI KHASKHELI)  
Dean Faculty of Basic Medical Sciences  
Liaquat Univeristy of Medical & Health  
Sciences Jamshoro.

*PII Process for  
Administrative approval  
to float tender in  
three national newspapers  
SOPRA & LUMHS websites  
& prepare bidding  
document*  
*[Signature]*  
*12/8/15*