

APPENDIX - 6 C

**REQUIRED BLOOD/FLUID COLLECTION TUBES FOR CLINICAL CHEMISTRY TESTS**

Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA) On Reagent Rental Basis  
**TENDER NO. DUHS/DP/2019-78**

| S.NO           | NAME AND DESCRIPTION OF GOODS  | PACK SIZE | QUANTITY REQUIRED FOR 6 MONTH | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|----------------|--|-----------|-------------------------------|-----------------------------|--------------------|--|
| 1              | <b>Green Top:</b> Vacuette Tube 4ml Lithium Heparin, 75 USP Units              | 01 Nos    | 75,000                        | Available                   | Available          | Available                                |
| 2              | <b>Red Top:</b> Vacuette Tube 4ml Serum Gel Clot Activator                     | 01 Nos    | 75,000                        | Available                   | Available          | Available                                |
| 3              | <b>CBC, Purple Top:</b> Vacuette Tube 2ml EDTA non Rigid                       | 01 Nos    | 1,000,000                     | Available                   | Available          | Available                                |
| 4              | <b>Blue Top:</b> Vacutainer Buff. Na Citrate 0.109M, 3.2% 1.8ml                | 01 Nos    | 75,000                        | Available                   | Available          | Available                                |
| 5              | <b>Sugar, Grey Top:</b> Vacuette Tube 2ml Sodium Fluoride / K                  | 01 Nos    | 600,000                       | Available                   | Available          | Available                                |
| 6              | <b>Gold / Yellow Top:</b> Vacutainer SST II 3.5ml Advance                      | 01 Nos    | 300,000                       | Available                   | Available          | Available                                |
| 7              | <b>Gold / Yellow Top:</b> Vacutainer SST II 5ml Advance                        | 01 Nos    | 1,200,000                     | Available                   | Available          | Available                                |
| 8              | <b>Black Top:</b> Vacuette Tube 2ml non Rigid . Na Citrate 0.109M, 3.2% 1.6 ml | 01 Nos    | 50,000                        | Available                   | Available          | Available                                |
| 9              | <b>Multi-Sample Needle</b> 21 G 1 - 1 ½ (0.8 x 38mm)                           | 01 Nos    | 1,000,000                     | Available                   | Available          | Available                                |
| 10             | <b>Vacutainer Holder</b>   | 01 Nos    | 20,000                        | Available                   | Available          | Available                                |
|                |  |           |                               | <b>Complied</b>             | <b>Complied</b>    | <b>Complied</b>                          |
| <b>Remarks</b> |  |           |                               |                             |                    |  |

**DR. FAZLA ZORRADI**  
 Add: Medical Superintendent  
 (Civil Hospital Karachi)

**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojhri  
 Dow University of Health Sciences

**Prof. Dr. KATAR DAWANI**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

**Prof. Dr. Shaheen Sharafat**  
 M.B.S. (Dow), M.Phil. Ph.D  
 Director  
 Dow Reference Laboratory (DRRL)  
 Dow University of Health Sciences

APPENDIX - 6 D

REQUIRED CALIBRATORS FOR TLA SYSTEM

Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA) On Reagent Rental Basis

TENDER NO. DUHS/DP/2019-78


TECHNICAL OPENED ON 17th September, 2019

| S.no           | CALIBRATORS  | Pack Size               | QUANTITY REQUIRED FOR 6 MONTH | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|----------------|--|-------------------------|-------------------------------|-----------------------------|--------------------|--|
| 1              | Clinical routine chemistry (as per attached test list annexure-A1) | 3 Sets of Vials of 5 ml | 6 Box Multi calibrators       | Available                   | Available          | Available                                |
| 2              | Immunoassay (as per attached test list annexure-A1)                | 3 Sets of Vials of 5 ml | 6 Box Multi calibrators       | Available                   | Available          | Available                                |
| 3              | Therapeutic Drug monitoring  | 3 Sets of Vial of 3 ml  | 1 Box                         | Available                   | Available          | Available                                |
| 4              | Immunosuppressant  | 3 Sets of Vial of 3 ml  | 1 Box                         | Available                   | Available          | Available                                |
| <b>Remarks</b> |  |                         |                               | <b>Complied</b>             | <b>Complied</b>    | <b>Complied</b>                          |

  
**DR. AFAZA ZUBEDI**  
 Add: Medical Superintendent  
 Dr. Raik M. Patel Civil Hospital Karachi

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Otha  
 Dow University of Health Sciences  
 Karachi

  
**PROF. DR. KARTAR DAWANI**  
 Pro Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.S., (Dow), M.Phil., Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

APPENDIX - 6 D

REQUIRED CONTROLS FOR TLA SYSTEM

| S.no            | CONTROLS   | Pack Size     | QUANTITY REQUIRED FOR 6 MONTH | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-----------------|--|---------------|-------------------------------|-----------------------------|--------------------|--|
| 1               | Ready to use / Clinical Routine Chemistry / level 1, 2, 3 (4 Box for each level) | 20 vials/ box | 12 Box                        | Available                   | Available          | Available                                |
| 2               | Ready to use / Immunoassay / Level 1, 2,3 (3 Box for each level)                 | 12 vials/ box | 09 Box                        | Available                   | Available          | Available                                |
| 3               | Proficiency testing support (CAP/ RIQAS / EQAS)                                  | 06 vials/ box | 01 box                        | Available                   | Available          | Available                                |
| <b>Remarks</b>  |  |               |                               |                             |                    |  |
| <b>Complied</b> |  |               |                               |                             |                    |  |

  
**DR. ATIQA ZUBEDI**  
 Add: Medical Superintendent  
 Dr. P.M.K. Pahl Cwll Hospital Karachi

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Olha  
 Dow University of Health Sciences  
 Karachi

  
**PROF. DR. KARTAR DAIWANI**  
 Pro Vice Chancellor  
 Dow University of Health Sciences  
 Karachi



**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D

Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

**TECHNICAL WIGHTAGE CRITERIA**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)  
On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Description   | Marks Assigned | Criteria for Marks Obtained  | M/s. Roche       | M/s. Hoorra  | M/s. Abbott                  |
|---|----------------|--|------------------|--------------|------------------------------|
|   |                |  | Pakistan Limited | Pharma       | Laboratories (Pakistan) Ltd. |
|   |                |  | Scored Marks     | Scored Marks | Scored Marks                 |
| Conformity to the Procuring Agency's Specifications   | 15             | Full marks will be given if Quoted Equipment and Ancillaries are Fully compliant with the required specifications of Bidding Document.   | 15               | 15           | 15                           |
|   |                | The bid will be <b>DISQUALIFY</b> and not considered for further evaluation, if offered specifications are non-complaint with the required specifications                            |                  |              |                              |
| Manufacturer / designated supplier / authorized distributor(s) of the business                | 10             | Full marks if Manufacturer   |                  |              |                              |
|   |                | 05 marks if designated supplier / authorized distributor(s) of the business<br>If not manufacturer of goods or authorized by the manufacturer of goods bid will be <b>DISQUALIFY</b> | 10               | 5            | 10                           |
| Financial Capability  | 10             | Full marks if 'A' is PKR 1,000 Million (1 Billion) or above.   |                  |              |                              |
|   |                | For 'A' less than 1,000 million PKR, marks will be awarded as:   |                  |              |                              |
|   |                | {A/1,000 (in million PKR)} *10   | 10               | 7            | 10                           |
| A=Average Annual Turnover of the Applicant for the Last three financial years in million PKR. |                | No Marks will be given if 'A' is less than 500 million PKR.  |                  |              |                              |
|   |                | <b>Required documents</b><br>No marks shall be given if audited financial statements/annual returns / ITR / STR (FBR) of last three fiscal years are not attached                    |                  |              |                              |

**DR. HAFIZ A. ZUBERI**  
Acad. Medical Sciences  
Dr. Faizal K. M. Farid Hospital, Karachi

**Muhammad Hanif**  
Additional Director Finance (BPS 19)  
Finance Directorate Camp Office, Ojha  
Dow University of Health Sciences  
Karachi

**PROF. DR. KANTAR DAWANI**  
Pro. Vice Chancellor  
Dow University of Health Sciences  
Karachi

*[Signature]*

**Prof. Dr. Shaheen Sharafat**  
M.B.B.S. (Dow), M.Phil, Ph.D  
Director  
Dow Diagnostic Research and Reference Laboratory (DDRR) of 4  
University of Health Sciences

**TECHNICAL WIGHTAGE CRITERIA**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)  
On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Description   | Marks Assigned | Criteria for Marks Obtained  | M/s. Roche       | M/s. Hooraa  | M/s. Abbott                  |
|---|----------------|--|------------------|--------------|------------------------------|
|   |                |  | Pakistan Limited | Pharma       | Laboratories (Pakistan) Ltd. |
| Experience Record   | 20             |  | Scored Marks     | Scored Marks | Scored Marks                 |
| Supply & Installation Experience in last 05 years of Equipment meeting the technical specifications given at Annexure-A or Better Equipment     | 10             | Full marks will be given if the Firm has Completed / Ongoing 03 Projects of TLA, in Pakistan.  |                  |              |                              |
|   |                | For Projects less than 03, Marks shall be awarded as:<br>{No of Projects / 03} * 10<br>No marks will be given if completed / ongoing projects is less than 01.   | 10               | 10           | 10                           |
| Satisfactory Performance Certificate of Equipment meeting the technical specifications given at Annexure-A or Better Equipment in last 5 years. | 10             | <b>Required documents:</b><br>Proof of Supply / Installation / Purchase order and Agreement duly signed by the competent authority of Client.  |                  |              |                              |
|   |                | Full marks will be given if the Firm has 03 Satisfactory Performance Certificates (completed / ongoing) from the medical institution in Pakistan with 95% uptime.<br>For certificates, less than 03, Marks shall be awarded as: {No of Projects / 03} * 10<br>No marks will be given if completed / ongoing projects certificate is less than 01<br>No marks will be given if the Satisfactory Performance certificates duly signed by the competent authority of the Client is not attached | 10               | 10           | 10                           |
| The bidder shall provide specific Certificates.   |                |  |                  |              |                              |

**Dr. Raza M. Pervaiz**  
Admin (Medical Superintendent)  
Dr. Raza M. Pervaiz Civil Hospital Karachi

**Muhammad Hafif**  
Additional Director Finance (BPS 19)  
Finance Directorate Camp Office, Ojha  
Dow University of Health Sciences  
Karachi

**Prof. Dr. Kaktar Dairani**  
Pro Vice Chancellor  
University of Health Sciences  
Karachi

**Prof. Dr. Shaheen Sharafat**  
M.B.B.S. (Dow), M.Phil, Ph.D  
Director  
Dow Diagnostic Research and Reference Laboratory (DDRL)  
Dow University of Health Sciences of 4

**TECHNICAL WIGHTAGE CRITERIA**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)  
On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Description  | Marks Assigned | Criteria for Marks Obtained  | M/s. Roche       | M/s. Hoorra  | M/s. Abbott                  |
|--|----------------|--|------------------|--------------|------------------------------|
|  |                |  | Pakistan Limited | Pharma       | Laboratories (Pakistan) Ltd. |
| Staff Capabilities   | Scored Marks   | Scored Marks   | Scored Marks     | Scored Marks | Scored Marks                 |
| Engineer (05)<br>BIO-MEDICAL ENGINEER HAVING 03 YEARS OF EXPERIENCE OF TLA IN SAME COMPANY / SAME STATION WHO QUOTED BID FOR TLA | 20             | Full marks will be given if 05 Graduate Bio-medical Engineer<br>For engineers, Less than 05 Marks shall be awarded as:<br>{No of engineer /05} *10<br>No marks will be given if Graduate Bio-medical Engineers are less than 03. | 10               | 10           | 10                           |
| Trainings (05)<br>Trainings taken by the staff at sr. 5A from the OEM in the Field of Biomedical on TLA.                         | 10             | Full marks will be given if 05 Trainings<br>For Trainings, Less than 05 Marks shall be awarded as:<br>{No of engineer /05} *10<br>No marks will be given if OEM trained staff are less than 3                                    | 10               | 10           | 10                           |
| <b>Equipment Capabilities</b>  | 5              |  |                  |              |                              |
| Lux Meter  |                |  |                  |              |                              |
| Biomedical Service Tool Kit (01)   |                |  |                  |              |                              |
| Image Quality Lead Phantom & Imaging Equipment Tools   |                |  |                  |              |                              |
| Electrical Safety Analyzer (01)  |                |  |                  |              |                              |
| Oscilloscope 1MHz or more (01)   |                |  |                  |              |                              |
| DC Variable Power Supply (30V, 3A) or more (01)  |                |  |                  |              |                              |
| Signal Generator 1MHz or more (01)   |                |  |                  |              |                              |
| Frequency Counter 10MHz or more (01)   |                |  |                  |              |                              |
| KVP Meter (200KV) (01)   |                |  |                  |              |                              |
| Pressure and Sound Meter   |                |  |                  |              |                              |
| Temp and humidity Meter  |                |  |                  |              |                              |
| If the available quantity of equipment is equivalent or more than the given minimum requirement, full marks will be awarded      |                |  | 5                | 5            | 5                            |

**Muhammad Hanif**  
Additional Director Finance (BPS 19)  
Finance Directorate Camp Office, Chhina  
Dow University of Health Sciences  
(Karachi)

**PROF. DR. KARTAR DAWANI**  
Pro Vice Chancellor  
Dow University of Health Sciences  
(Karachi)

**Dr. Shateen Sharafat**  
M.B.B.S. (Dow), M.Phil, Ph.D  
Director  
New Diagnostic Research and Reference Laboratory (DARRL)  
3 of 4 RFL  
New Diagnostic Research and Reference Laboratory (DARRL)  
Karachi

**TECHNICAL WIGHTATGE CRITERIA**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)  
On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Description   | Marks Assigned | Criteria for Marks Obtained   | M/s. Roche       | M/s. Hoorra      | M/s. Abbott                  |
|---|----------------|---|------------------|------------------|------------------------------|
|   |                |   | Pakistan Limited | Pharma           | Laboratories (Pakistan) Ltd. |
|   |                |   | Scored Marks     | Scored Marks     | Scored Marks                 |
| Local stock availability and storage capacity of Kits, consumables and Spare Parts in controlled environment. | 20             | If more than 25% quantity of each quoted item / reagent available = 20 marks      |                  |                  |                              |
|   |                | If between 15% to 20% quantity of each quoted item available = 15 marks           | 20               | 20               | 20                           |
|   |                | If less than 15% quantity of each quoted item available = 00 marks                |                  |                  |                              |
|   |                | Documentary proof required (Inventory DATA & Item ledger) covering on letter head |                  |                  |                              |
| <b>TOTAL</b>  | <b>100</b>     |   | <b>100</b>       | <b>92</b>        | <b>100</b>                   |
|   |                |   | <b>Qualified</b> | <b>Qualified</b> | <b>Qualified</b>             |
| <b>Remarks</b>  |                |   |                  |                  |                              |

**DR. KALYAN ZUBEDI**  
Add: Medical Superintendent  
Dr. Raftik M. Paeer Hospital Karachi

**Muhammad Hanif**  
Additional Director Finance (BPS 19)  
Finance Directorate Camp Office, Ojha  
Dow University of Health Sciences  
Karachi

**Prof. Dr. Kartar Daryani**  
Pro. Vice Chancellor  
Dow University of Health Sciences  
Karachi

**Prof. Dr. Shaheen Sharafat**  
M.B.B.S. (Dow), M.Phil, Ph.D  
Director  
Dow Diagnostic Research and Reference Laboratory (DDRRL)  
Dow University of Health Sciences

TEST LIST FOR TLA

**Procurement for Supply, Installation And Commissioning, Maintenance Of  
Total Laboratory Automation System (TLA) On Reagent Rental Basis  
TENDER NO. DUHS/DP/2019-78**

| S.No. | Adverstised Specification for Total Laboratory Automation | M/s. Roche Pakistan Limited | M/s. Hoora Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-------|---|-----------------------------|-------------------|--|
| 1     | ACTH  | Quoted                      | Quoted            | Not Quoted                               |
| 2     | ALBUMIN   | Quoted                      | Quoted            | Quoted                                   |
| 3     | ALKALINE PHOSPHATASE                                      | Quoted                      | Quoted            | Quoted                                   |
| 4     | ALPHA-1 ANTITRYPSIN                                       | Quoted                      | Quoted            | Quoted                                   |
| 5     | ALPHA-FETO PROTEIN  | Quoted                      | Quoted            | Quoted                                   |
| 6     | AMYLASE   | Quoted                      | Quoted            | Quoted                                   |
| 7     | ANTI CCP  | Quoted                      | Quoted            | Quoted                                   |
| 8     | ANTI THYROGLOBULIN (ANTI TG)                              | Quoted                      | Quoted            | Quoted                                   |
| 9     | ANTI THYROID PEROXIDASE (ANTI TPO)                        | Quoted                      | Quoted            | Quoted                                   |
| 10    | AMMONIA   | Quoted                      | Quoted            | Quoted                                   |
| 11    | B12 (VITAMIN B-12)  | Quoted                      | Quoted            | Quoted                                   |
| 12    | BICARBONATE   | Quoted                      | Quoted            | Quoted                                   |
| 13    | BILIRUBIN TOTAL AND DIRECT                                | Quoted                      | Quoted            | Quoted                                   |
| 14    | BLOOD GLUCOSE FASTING                                     | Quoted                      | Quoted            | Quoted                                   |
| 15    | BLOOD GLUCOSE RANDOM                                      | Quoted                      | Quoted            | Quoted                                   |
| 16    | BETA 2 MICRO GLOBULIN                                     | Quoted                      | Quoted            | Quoted                                   |
| 17    | BLOOD UREA NITROGEN (BUN)                                 | Quoted                      | Quoted            | Quoted                                   |
| 18    | COMPLENENT C3   | Quoted                      | Quoted            | Quoted                                   |
| 19    | COMPLEMENENT C4   | Quoted                      | Quoted            | Quoted                                   |
| 20    | CA 15-3   | Quoted                      | Quoted            | Quoted                                   |
| 21    | C-PEPTIDE   | Quoted                      | Quoted            | Quoted                                   |
| 22    | CA-125  | Quoted                      | Quoted            | Quoted                                   |
| 23    | CALCIUM   | Quoted                      | Quoted            | Quoted                                   |
| 24    | CARCINOEMBRYONIC ANTIGEN (CEA)                            | Quoted                      | Quoted            | Quoted                                   |
| 25    | CHLORIDE  | Quoted                      | Quoted            | Quoted                                   |
| 26    | CHOLESTROL  | Quoted                      | Quoted            | Quoted                                   |
| 27    | CK-MB   | Quoted                      | Quoted            | Quoted                                   |
| 28    | CORTISOL  | Quoted                      | Quoted            | Quoted                                   |
| 29    | CPK   | Quoted                      | Quoted            | Quoted                                   |
| 30    | C-REACTIVE PROTEIN  | Quoted                      | Quoted            | Quoted                                   |
| 31    | CREATININE  | Quoted                      | Quoted            | Quoted                                   |
| 32    | CA 19-9   | Quoted                      | Quoted            | Quoted                                   |
| 33    | CARBAMAZEPINE/ TEGRETOL                                   | Quoted                      | Quoted            | Quoted                                   |
| 34    | CERULOPLASMIN   | Quoted                      | Quoted            | Quoted                                   |
| 35    | COPPER  | Not Quoted                  | Not Quoted        | Quoted                                   |
| 36    | CYCLOSPORINE  | Quoted                      | Quoted            | Quoted                                   |
| 37    | DIGOXIN   | Quoted                      | Quoted            | Quoted                                   |

*A. M. A.*  
**AZA, ZUBED**  
 Admin  
 Civil Hospital Karachi

*Handwritten signature*

**PROF. DR. FAR DAWANI**  
 Pro. Vice Chancellor

*Handwritten signature*  
**Shaheen Sharaf**  
 M.Phil, Ph.D



TEST LIST FOR TLA

**Procurement for Supply, Installation And Commissioning, Maintenance Of  
Total Laboratory Automation System (TLA) On Reagent Rental Basis  
TENDER NO. DUHS/DP/2019-78**

| S.No. | Adverstised Specification for Total Laboratory Automation | M/s. Roche Pakistan Limited | M/s. Hoora Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-------|---|-----------------------------|-------------------|--|
| 38    | ESTRADIOL   | Quoted                      | Quoted            | Quoted                                   |
| 39    | EVEROLIMUS  | Quoted                      | Not Quoted        | Not Quoted                               |
| 40    | FERRITIN  | Quoted                      | Quoted            | Quoted                                   |
| 41    | FOLIC ACID  | Quoted                      | Quoted            | Quoted                                   |
| 42    | FREE T3   | Quoted                      | Quoted            | Quoted                                   |
| 43    | FREE T4   | Quoted                      | Quoted            | Quoted                                   |
| 44    | GAMMA GT  | Quoted                      | Quoted            | Quoted                                   |
| 45    | GCT (GESTATIONAL)   | Quoted                      | Quoted            | Quoted                                   |
| 46    | GCT (NON GESTATIONAL)                                     | Quoted                      | Quoted            | Quoted                                   |
| 47    | GROWTH HORMON   | Quoted                      | Quoted            | Not Quoted                               |
| 48    | HDL   | Quoted                      | Quoted            | Quoted                                   |
| 49    | HAPTOGLOBIN   | Quoted                      | Quoted            | Quoted                                   |
| 50    | HBsAG   | Quoted                      | Quoted            | Quoted                                   |
| 51    | HCV ANTIBODY  | Quoted                      | Quoted            | Quoted                                   |
| 52    | HBAIC   | Quoted                      | Quoted            | Quoted                                   |
| 53    | HOMOCYSTEIN   | Quoted                      | Quoted            | Quoted                                   |
| 54    | HELICOBACTER PYLORI ANTIBODY                              | Not Quoted                  | Quoted            | Quoted                                   |
| 55    | HSCRIP  | Quoted                      | Quoted            | Quoted                                   |
| 56    | IGA   | Quoted                      | Quoted            | Quoted                                   |
| 57    | IGE   | Quoted                      | Quoted            | Quoted                                   |
| 58    | IGG   | Quoted                      | Quoted            | Quoted                                   |
| 59    | IGM   | Quoted                      | Quoted            | Quoted                                   |
| 60    | INSULIN   | Quoted                      | Quoted            | Quoted                                   |
| 61    | KAPPA LIGHT CHAIN   | Quoted                      | Quoted            | Quoted                                   |
| 62    | LACTIC ACID   | Quoted                      | Quoted            | Quoted                                   |
| 63    | LDH   | Quoted                      | Quoted            | Quoted                                   |
| 64    | LDL   | Quoted                      | Quoted            | Quoted                                   |
| 65    | LH  | Quoted                      | Quoted            | Quoted                                   |
| 66    | LIPASE  | Quoted                      | Quoted            | Quoted                                   |
| 67    | LAMBDA LIGHT CHAIN  | Quoted                      | Quoted            | Quoted                                   |
| 68    | LITHIUM   | Quoted                      | Quoted            | Quoted                                   |
| 69    | METHOTREXATE  | Not Quoted                  | Quoted            | Quoted                                   |
| 70    | MAGNESIUM   | Quoted                      | Quoted            | Quoted                                   |
| 71    | NT-PROBNP   | Quoted                      | Quoted            | Quoted                                   |
| 72    | PHENOBARBITAL   | Quoted                      | Quoted            | Quoted                                   |
| 73    | PHENYTOIN/DILANTIN  | Quoted                      | Quoted            | Quoted                                   |
| 74    | PHOSPHORUS  | Quoted                      | Quoted            | Quoted                                   |

*JAZA A. ZUBEDI*  
Civil Hospital Karachi

*Mohammed*

*Ysgmi*  
PROF. DR. KARTAR DAWANI

*Abdullah*  
Sheheen Sharif  
Ph.D

TEST LIST FOR TLA

**Procurement for Supply, Installation And Commissioning, Maintenance Of  
Total Laboratory Automation System (TLA) On Reagent Rental Basis  
TENDER NO. DUHS/DP/2019-78**

| S.No. | Adverstised Specification for Total Laboratory Automation | M/s. Roche Pakistan Limited | M/s. Hoora Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-------|---|-----------------------------|-------------------|--|
| 75    | POTASSIUM   | Quoted                      | Quoted            | Quoted                                   |
| 76    | PRO-BNP   | Quoted                      | Quoted            | Quoted                                   |
| 77    | PROGESTERONE  | Quoted                      | Quoted            | Quoted                                   |
| 78    | PROLACTIN   | Quoted                      | Quoted            | Quoted                                   |
| 79    | PROTEIN   | Quoted                      | Quoted            | Quoted                                   |
| 80    | PROSTATE SPECIFIC ANTIGEN (PSA)                           | Quoted                      | Quoted            | Quoted                                   |
| 81    | PARATHYROID HORMONE (PTH)                                 | Quoted                      | Quoted            | Quoted                                   |
| 82    | RBC FOLATE  | Quoted                      | Quoted            | Quoted                                   |
| 83    | RHEUMATOID FACTOR   | Quoted                      | Quoted            | Quoted                                   |
| 84    | BHCG  | Quoted                      | Quoted            | Quoted                                   |
| 85    | BHCG (STAT)   | Quoted                      | Quoted            | Quoted                                   |
| 86    | FSH   | Quoted                      | Quoted            | Quoted                                   |
| 87    | IRON  | Quoted                      | Quoted            | Quoted                                   |
| 88    | SHBG  | Quoted                      | Quoted            | Quoted                                   |
| 89    | SIROLIMUS   | Quoted                      | <b>Not Quoted</b> | Quoted                                   |
| 90    | SODIUM  | Quoted                      | Quoted            | Quoted                                   |
| 91    | T3  | Quoted                      | Quoted            | Quoted                                   |
| 92    | T4  | Quoted                      | Quoted            | Quoted                                   |
| 93    | TACROLIMUS  | Quoted                      | Quoted            | Quoted                                   |
| 94    | TESTOSTERONE  | Quoted                      | Quoted            | Quoted                                   |
| 95    | TSH   | Quoted                      | Quoted            | Quoted                                   |
| 96    | TOTAL IRON BINDING CAPACITY(TIBC)                         | Quoted                      | Quoted            | Quoted                                   |
| 97    | TRIGLYCERIDE  | Quoted                      | Quoted            | Quoted                                   |
| 98    | TROP I  | Quoted                      | Quoted            | Quoted                                   |
| 99    | URIC ACID   | Quoted                      | Quoted            | Quoted                                   |
| 100   | VALPORIC ACID   | Quoted                      | Quoted            | Quoted                                   |
| 101   | VANCOMYCIN  | Quoted                      | Quoted            | Quoted                                   |
| 102   | VITAMIN D   | Quoted                      | Quoted            | Quoted                                   |
| 103   | PROCALCITONIAN  | Quoted                      | Quoted            | Quoted                                   |
| 104   | ASCITIC FLUID FOR PROTEIN                                 | Quoted                      | Quoted            | Quoted                                   |
| 105   | ASCITIC FLUID FOR TRIGLYCERIDES                           | Quoted                      | Quoted            | Quoted                                   |
| 106   | CSF FOR PROTEIN   | Quoted                      | Quoted            | Quoted                                   |
| 107   | FLUID FOR ALBUMIN   | Quoted                      | Quoted            | Quoted                                   |
| 108   | FLUID FOR AMYLASE   | Quoted                      | Quoted            | Quoted                                   |
| 109   | FLUID FOR CREATININE                                      | Quoted                      | Quoted            | Quoted                                   |
| 110   | FLUID FOR LIPASE  | Quoted                      | Quoted            | Quoted                                   |
| 111   | FLUID FOR TRIGLYCERIDES                                   | Quoted                      | Quoted            | Quoted                                   |

*M. A. Zubair*  
Superintendent  
Hospital Karachi

*M. A. Zubair*

*Kegumi*  
PROF DR KARTAR DAWANI

*Abbees*  
Shahen Sharaf

TEST LIST FOR TLA


**Procurement for Supply, Installation And Commissioning, Maintenance Of  
Total Laboratory Automation System (TLA) On Reagent Rental Basis  
TENDER NO. DUHS/DP/2019-78**

| S.No. | Adverstised Specification for Total Laboratory Automation | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-------|---|-----------------------------|--------------------|--|
| 112   | FLUID FOR URIC ACID                                       | Quoted                      | Quoted             | Quoted                                   |
| 113   | PLEURAL FLUID FOR PROTEIN                                 | Quoted                      | Quoted             | Quoted                                   |
| 114   | PLEURAL FLUID FOR CHOLESTROL                              | Quoted                      | Quoted             | Quoted                                   |
| 115   | PLEURAL FLUID FOR TRIGLYCERIDES                           | Quoted                      | Quoted             | Quoted                                   |
| 116   | SPOT URINE FOR AMYLASE                                    | Quoted                      | Quoted             | Quoted                                   |
| 117   | SPOT URINE CALCIUM  | Quoted                      | Quoted             | Quoted                                   |
| 118   | SPOT URINE CREATININE                                     | Quoted                      | Quoted             | Quoted                                   |
| 119   | SPOT URINE FOR MICROALBUMIN                               | Quoted                      | Quoted             | Quoted                                   |
| 120   | SPOT URINE FOR PHOSPHORUS                                 | Quoted                      | Quoted             | Quoted                                   |
| 121   | SPOT URINE FOR PROTEIN                                    | Quoted                      | Quoted             | Quoted                                   |
| 122   | SPOT URINE FOR URIC ACID                                  | Quoted                      | Quoted             | Quoted                                   |
| 123   | 24 HRS URINE FOR CALCIUM                                  | Quoted                      | Quoted             | Quoted                                   |
| 124   | 24 HRS URINE FOR CREATININE                               | Quoted                      | Quoted             | Quoted                                   |
| 125   | 24 HRS URINE FOR CR CLEARANCE                             | Quoted                      | Quoted             | Quoted                                   |
| 126   | 24 HRS URINE FOR MAGNESIUM                                | Quoted                      | Quoted             | Quoted                                   |
| 127   | 24 HRS URINE FOR MICROALBUMIN                             | Quoted                      | Quoted             | Quoted                                   |
| 128   | 24 HRS URINE FOR PHOSPHORUS                               | Quoted                      | Quoted             | Quoted                                   |
| 129   | 24 HRS URINE FOR PROTEIN                                  | Quoted                      | Quoted             | Quoted                                   |
| 130   | 24 HRS URINE FOR UREA                                     | Quoted                      | Quoted             | Quoted                                   |
| 131   | 24 HRS URINE FOR URIC ACID                                | Quoted                      | Quoted             | Quoted                                   |

  
**DR. ALJAZ A. ZUBEDI**  
Add: Medical Superintendent  
(Admin)  
Dr. Ruth K.M. Khan Civil Hospital Karachi

  
**Muhammad Hanif**  
Additional Director Finance (BPS 19)  
Finance Directorate Camp Office, Ojha  
Dow University of Health Sciences  
Karachi

  
**PROF. DR. KARTAR DAWANI**  
Pro Vice Chancellor  
Dow University of Health Sciences  
Karachi

  
**Prof. Dr. Shaheen Sharafat**  
M.B.B.S. (Dow), M.Phil, Ph.D  
Director  
Dow Diagnostic Research and Reference Laboratory (DDRRL)  
Dow University of Health Sciences

**TECHNICAL EVALUATION OF THE EQUIPMENT / INSTRUMENTS**

**urement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)**

**On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78**

**TECHNICAL OPENED ON 17th September, 2019**

| Advertised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma   | M/s. Abbott Laboratories (Pakistan) Ltd. |
|---|-----------------------------|--|--|
| Make  | Roche                       | Siemens  | Abbott                                   |
| Quoted Instruments  | Cobas C-500 & E-601         | Attellica IM 1600<br>Attellica CH 930<br>Immolute 2000 XPI | Alinity I & C<br>Architect 4100          |
| <b>PREANALYTICAL SPECIFICATIONS:</b>  |                             |  |  |
| <b>Sample sorter</b>  |                             |  |  |
| To sort tubes for different analyzers   | Yes                         | Yes  | Yes                                      |
| <b>Rack Input Module</b>  |                             |  |  |
| 36 racks capacity or IOM  | Yes                         | Yes  | Yes                                      |
| Walk-away capacity of up to 08 racks with 48 tubes each.  | 600                         | 288  | 288                                      |
| Throughput of at least 900-1200 tubes per hour  | 1400                        | 800  | 800                                      |
| <b>Input / Output Module</b>  |                             |  |  |
| Provide Routine/Concurrent sample loading & unloading in racks.                                   | Yes                         | Yes  | Yes                                      |
| Maximum Sample Capacity: up to 800 tube/module  | 150                         | 60   | 60                                       |
| Maximum Throughput: up to 800 tube/ hr  | Yes                         | Yes  | Yes                                      |
| Provide STAT sample loading/Priority Sample unloading: up to 8 racks of 12 positions each/module. | Yes                         | Yes  | Yes                                      |
| Provide User configurable sample output sorting with Archiving/Mapping                            | Yes                         | Yes  | Yes                                      |
| Handles multiple sample tube types and sizes  | Yes                         | Yes  | Yes                                      |
| Exception samples Management software   |                             | Yes  | Yes                                      |


  
**Prof. Dr. Kartar Dawani**
  
 Pro. Vice Chancellor
   
 Dow University of Health Sciences
   
 Karachi
   

  
**Muhammad Hanif**
  
 Additional Director Finance (BPS 19)
   
 Finance Directorate Camp Office, Ojha
   
 Dow University of Health Sciences
   

  
**Prof. Dr. Shaheen Sharafat**
  
 M.B.S. (Dow), M.Phil., Ph.D.
   
 Director
   
 Director Laboratory (DDRRU)
   
 Dow Diagnostic Research and Reference Sciences
   
 Dow University of Health Sciences
   
 Karachi

|  | Advertised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|---|-----------------------------|--------------------|--|
|  | <b>Refrigerated Centrifuge Module</b>   |                             |                    |  |
|  | 3 centrifuges with 350-400 tubes/hour/each capacity   | Yes                         | Yes                | Yes                                      |
|  | Maximum capacity: 80 tubes/batch (4 batches/hour at max 4000 rpm).  | 9900                        | 900                | 900                                      |
|  | Programmable spin times, speed & temperature  | 495 Tubes 4500 RPM          | 80 Tubes 4500 RPM  | 300 Tubes 4500 RPM                       |
|  | STAT/ Priority loading and unloading of samples   | Yes                         | Yes                | Yes                                      |
|  | Optimized processing with Additional centrifuge option  | Yes                         | Yes                | Yes                                      |
|  | Equipped with Staging area for sample batches   | Yes                         | Yes                | Yes                                      |
|  | Sartorius scale for weighing and balance  | Yes                         | Yes                | Yes                                      |
|  |   |                             |                    |  |
|  | <b>De-capper Module Specification:</b>  |                             |                    |  |
|  | Maximum throughput: Up to 900 tubes/hour  | 1400                        | 800                | 800                                      |
|  | Waste pin maximum capacity: not less than 2000 cap.   | Yes                         | Yes                | Yes                                      |
|  | Support both <b>Screw Top</b> and <b>Stopper Top</b> Type Caps  | Yes                         | Yes                | Yes                                      |
|  | Support multiple tube sizes (12 common types).  | Yes                         | Yes                | Yes                                      |
|  | Waste pin empty on the fly. (unloading without cessation of processing)   | Yes                         | Yes                | Yes                                      |
|  |   |                             |                    |  |
|  | <b>Sample Quality Inspection</b>  |                             |                    |  |
|  | Pre-analytic camera should be capable of identifying the sample quality i.e. Early identification of Hemolytic, Icteric, Lipemic samples. | Yes                         | Yes                | Yes                                      |
|  |   |                             |                    |  |
|  | <b>Spin Status Detection</b>  |                             |                    |  |
|  | Pre-analytic system should be able to detect the Spin Status of the sample.   | Yes                         | Yes                | Yes                                      |
|  |   |                             |                    |  |
|  | <b>Bulk Loader Module</b>   |                             |                    |  |
|  | Bulk loader should be connected with pre-analytics  | Yes                         | Yes                | Yes                                      |
|  | Loading of closed tubes in Bulk   | Yes                         | Yes                | Yes                                      |
|  | Tubes separation & re-orientation   | Yes                         | Yes                | Yes                                      |
|  | Automatic transportation for further processing   | Yes                         | Yes                | Yes                                      |
|  | Throughput up to 980/ tubes per hour  | Yes                         | Yes                | Yes                                      |


  
**Prof. Dr. KARTAR DAWANI**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Karachi


  
**Muhammad Hafif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences


  
**Prof. Dr. Shaheer Yesharataf**  
 M.B.B.S. (Dow), M.P.H. (Dow)  
 Director  
 Diagnostic Research and Reference Laboratories  
 Dow University of Health Sciences

| M/s. Abbott Laboratories (Pakistan) Ltd. | M/s. Hoorra Pharma   | M/s. Roche Pakistan Limited | Advertised Specification for Total Laboratory Automation   |
|--|----------------------|-----------------------------|--|
|  |                      |                             | <b>ANALYTICAL SPECIFICATIONS:</b>  |
|  |                      |                             | <b>IMMUNOASSAY ANALYZER</b>  |
|  |                      |                             | <b>Analyzer</b>  |
|  |                      | Yes                         | STAT prioritization on the track   |
|  | Yes                  | Yes                         | Connect to the track in <b>straight</b> or <b>L - turn</b> to minimize footprint in the lab                                |
|  | Yes                  | Yes                         | Unique connections that allow the operator to front load sample tubes while simultaneously allowing for track loaded tubes |
|  | Yes                  | Yes                         | Open automation for 3 <sup>rd</sup> party analyzers  |
|  |                      |                             | <b>SYSTEM Throughput</b>   |
|  | 03 Instruments (500) | 05 Instrument (170-340)     | Not less than 800-1000 test/hr   |
|  |                      |                             | <b>Methodology</b>   |
|  | Yes                  | Yes                         | Chemiluminescence / Electrochemiluminesce  |
|  |                      |                             | <b>Specimen Handling</b>   |
|  | Yes                  | Yes                         | <b>Sample loading Capacity: 150 samples.</b>   |
|  | Yes                  | Yes                         | Random and continuous access of samples loading.   |
|  | Yes                  | Yes                         | Analyzer flagging of Low volume Samples.   |
|  | Yes                  | Yes                         | Analyzer performs Sample Clot and Bubble Detection by pressure differential technology.                                    |
|  | Yes                  | Yes                         | Automatic Dilution of samples  |
|  | Yes                  | Yes                         | Sample probe Carry Over: < or equal to 0.1 parts per million.  |
|  | Yes                  | Yes                         | Analyzer should not use disposable tips to minimize consumables  |

**Dr. Atiqul Karim**  
 Add: Medical Superintendent  
 Dr. Faruk M. Faruk, Ghalib Road, Karachi

**PROF. DR. KARTAR DAWANI**  
 Pro. Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

**Muhammad Hamid**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

**Dr. Shahen Sharafat**  
 M.B.B.S, (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRLL),  
 Dow University of Health Sciences  
 Karachi

| Advertised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|---|-----------------------------|--------------------|--|
| <b>Sample Volume</b>  |                             |                    |  |
| Minimum sample volume (10 – 150 µL, Average: 50 µL)   | Yes                         | Yes                | Yes                                      |
| <b>Sample Type</b>  |                             |                    |  |
| Serum, Plasma, Whole Blood, Urine and body fluid  | Yes                         | Yes                | Yes                                      |
| <b>Analyzer Reagents</b>  |                             |                    |  |
| At least 45-50 refrigerated positions.  | Yes                         | Yes                | Yes                                      |
| Reagent Type: 100% Liquid ready-to-use  | Yes                         | Yes                | Yes                                      |
| Reagent Onboard Stability must be at least 30 days after opening.   | Yes                         | Yes                | Yes                                      |
| Calibration Frequency: ONLY with new lot number and if control out of range   | Yes                         | Yes                | Yes                                      |
| On board storage of controls for use at determined frequencies  | Yes                         | Yes                | Yes                                      |
| Auto level sensing of reagents low volume/empty (Reagent Pressure Monitoring).  | Yes                         | Yes                | Yes                                      |
| <b>Software and data Management</b>   |                             |                    |  |
| Host interface: Bidirectional, serial RS-232 interface, host query through ASTM or HL7 to connect analyzer to LIS/HIS/middleware. | Yes                         | Yes                | Yes                                      |
| Software recognize Different Sample Barcode types   | Yes                         | Yes                | Yes                                      |
| <b>Calibration and QC review and analysis (LJ charts and Westgard Rules).</b>   |                             |                    |  |
| Result storage Capacity- At least 50,000  | Unlimited                   | 100,000            | 200,000                                  |
| System control center, with color touch screen monitor, keyboard, and mouse.  | Yes                         | Yes                | Yes                                      |
| Software track Stability of reagents and onboard solutions.   | No                          | No                 | No                                       |
| Multiple calibrations could be stored for the same assay.   | Yes                         | Yes                | Yes                                      |

*Shameer*  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil., Ph.D.  
 Director  
 Director Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

*Yasmin*  
**Prof. Dr. Kartar Dawani**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

*Muhammad Hanif*  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

*Dr. Fatima Zubedi*  
**Dr. Fatima Zubedi**  
 Addl. Medical Superintendent  
 Addl. Medical Superintendent  
 Dow University of Health Sciences  
 Karachi

| Service  | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|-----------------------------|--------------------|--|
| All preventive, corrective and active services   | Yes                         | Yes                | Yes                                      |
| <b>CHEMISTRY ANALYZER</b>  |                             |                    |  |
| <b>Analyser</b>  |                             |                    |  |
| STAT prioritization on the track   | Yes                         | Yes                | Yes                                      |
| Connect to the track in <b>straight</b> or <b>L turn</b> to minimize footprint in the lab  | Yes                         | Yes                | Yes                                      |
| Unique connections that allow the operator to front load sample tubes while simultaneously allowing for track loaded tubes                               | Yes                         | Yes                | Yes                                      |
| Open automation for 3 <sup>rd</sup> party analyzers  | Yes                         | Yes                | Yes                                      |
| Modular and scalable analyzer connections  | Yes                         | Yes                | Yes                                      |
| Use washable cuvettes made of quartz glass, which can be changed as a single cuvette not the whole segment, with a minimum life of not less than 1 year. | Semi Disposables            | Plastic Cuvettes   | Quartz                                   |
| <b>SYSTEM Throughput</b>   |                             |                    |  |
| UPTO 5,500 tests/hr  | Yes                         | Yes                | Yes                                      |
| <b>Methodology</b>   |                             |                    |  |
| Photometry for General Parameters  | Yes                         | Yes                | Yes                                      |
| Turbidimetry for Specific Proteins   | Yes                         | Yes                | Yes                                      |
| Direct Potentiometry/ ISE for Electrolytes   | Yes                         | Yes                | Yes                                      |

*Shahreen*  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

*Muhammad Hanif*  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

*DR. HAZARA ZUREEDI*  
**DR. HAZARA ZUREEDI**  
 Add: Medical Superintendent  
 Dr. Faizal Khan Civil Hospital Karachi



|   | Advertised Specification for Total Laboratory Automation | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|---|--|-----------------------------|--------------------|--|
| <b>Specimen Handling</b>  |  |                             |                    |  |
| <b>Sample loading Capacity: 150 samples.</b>  |  |                             |                    |  |
| Random and continuous access of samples loading   |  | Yes                         | Yes                | Yes                                      |
| STAT samples prioritization   |  | Yes                         | Yes                | Yes                                      |
| Analyzer flagging of Low volume Samples   |  | Yes                         | Yes                | Yes                                      |
| Analyzer performs Sample Clot and Bubble Detection  |  | Yes                         | Yes                | Yes                                      |
| Perform Sample Interference Measurement for Hemolysis, Lipemic and Icterus. (result not exceed 2 min) |  | Yes                         | Yes                | Yes                                      |
| Intact HIL system WITH QUANTITATIVE MEASUREMENT   |  | Yes                         | Yes                | Yes                                      |
| Performs Automatic Dilution and reflex testing of samples.  |  | Yes                         | Yes                | Yes                                      |
| Sample probe Carry Over: < 0.1 parts per million.   |  | Yes                         | Yes                | Yes                                      |
| Probe utilize smart wash feature to avoid carry over (customizable washing steps).                    |  | Yes                         | Yes                | Yes                                      |
| <b>Sample Volume</b>  |  |                             |                    |  |
| Minimum sample volume (1.5 – 35 µL, Average: 7 µL)  |  | Yes                         | Yes                | Yes                                      |
| <b>Sample Type</b>  |  |                             |                    |  |
| Serum, Plasma, Urine, body fluid, Hemolysate and Whole Blood  |  | Yes                         | Yes                | Yes                                      |
| <b>Analyser Reagents</b>  |  |                             |                    |  |
| Reagent capacity not less than 60 refrigerated positions  |  | 63                          | 70                 | 70                                       |
| Reagent   |  |                             |                    |  |
| Onboard Stability guaranteed for a min of 5 days, Avg. 40 days  |  | 180 Days                    | 60 Days            | 60 Days                                  |
| Calibration Frequency for a minimum of 1 days, Average: 25 days                                       |  | Yes                         | Yes                | Yes                                      |
| Calibrators and controls can be stored onboard and automatically run at chosen intervals              |  | Yes                         | Yes                | Yes                                      |
| Auto level sensing of reagents low volume/empty (Reagent Pressure Monitoring).                        |  | Yes                         | Yes                | Yes                                      |

**DR. FARAZ A. SUBEDI**  
 Add. Acad. Medical Superintendent  
 Dr. Faraz Ak. Shah Gilani Hospital Karachi  
 Karachi


**Muhammad Hafif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

**PROF. DR. KAFAR DAWANI**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

*Shahen*

**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil., Ph.D  
 Director  
 Director Laboratory (DDRL)  
 Dow Diagnostic Research and Reference Laboratory  
 Dow University of Health Sciences  
 Karachi

|  | Advertised Specification for Total Laboratory Automation   | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|--|-----------------------------|--------------------|--|
|  | <b>Software and data Management</b>  |                             |                    |  |
|  | Host interface : Bidirectional, serial RS-232 interface, host query through ASTM or HL7 to connect analyzer to LIS/HIS/middleware. | Yes                         | Yes                | Yes                                      |
|  | Software recognize Different Sample Barcode types (Code 39, Codabar, Interleaved 2 of 5, Code 128)                                 | Yes                         | Yes                | Yes                                      |
|  | Calibration and QC review and analysis (LJ charts and Westgard Rules).   | Yes                         | Yes                | Yes                                      |
|  | Result storage Capacity- At least 50,000   | Yes                         | Yes                | Yes                                      |
|  | System control center, with color touchscreen monitor, keyboard, and mouse.  | Yes                         | Yes                | Yes                                      |
|  | Software track Stability of reagents and onboard Solutions.  | Yes                         | Yes                | Yes                                      |
|  | <b>Service, Support and Maintenance</b>  |                             |                    |  |
|  | Online Service, User Operation Manual and Troubleshooting Guide.   | Yes                         | Yes                | Yes                                      |
|  | Remote diagnostic software for online system monitoring.   | Yes                         | Yes                | Yes                                      |
|  | Onboard automatic maintenance program and Records.   | Yes                         | Yes                | Yes                                      |
|  | <b>POSTANALYTICAL SPECIFICATIONS:</b>  |                             |                    |  |
|  | <b>Sealer Module</b>   |                             |                    |  |
|  | 2 re-sealers required  | Yes                         | Yes                | Yes                                      |
|  | Utilize <u>aluminum foil seal</u> .  | Yes                         | Yes                | Yes                                      |
|  | Thermo-soldering, <u>Air tight tube seal</u> .   | Yes                         | Yes                | Yes                                      |
|  | Maximum throughput: Up to <b>900</b> tubes/hour.   | 800                         | 800                | 800                                      |
|  | Maximum Capacity/aluminum cartridges: <b>18,000 seals</b> .  | Yes                         | Yes                | Yes                                      |
|  | Support multiple tube sizes.   | Yes                         | Yes                | Yes                                      |

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

  
**Prof. Dr. KATAR DAWANI**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Kuwait

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Doha  
 Dow University of Health Sciences  
 Karachi

  
**DR. ALMAS A. ZUBEDI**  
 (Academy) Superintendent  
 Dr. Fatima M. Farid Hospital Karachi

| M/s. Abbott Laboratories (Pakistan) Ltd. | M/s. Hoorra Pharma | M/s. Roche Pakistan Limited | Advertised Specification for Total Laboratory Automation  |
|--|--------------------|-----------------------------|---|
|  |                    |                             | <b>Storage and Retrieval Module</b>   |
|  |                    |                             | Refrigerated Storage (2 to 8°C)   |
| Yes                                      | Yes                | Yes                         | Must be Calibrated  |
| Yes                                      | Yes                | Yes                         | Minimum tube capacity: 25,000-30,000 tubes  |
| 15,360                                   | 15,360             | 27,000                      | Automatic tube storage and retrieval system   |
| Yes                                      | Yes                | Yes                         | Automatic, user programmable sample discard.  |
| Yes                                      | Yes                | Yes                         | <b>Provided with an open door to address any inside trouble should, (racks alignment and maintenance)</b>                 |
| No                                       | No                 | Yes                         | <b>Proper Disposal containers for discarded tube, to send directly for incineration when filled up to 3/4rth.</b>         |
| Yes                                      | Yes                | Yes                         |   |
|  |                    |                             | <b>De-sealer Module</b>   |
|  |                    |                             | Maximum throughput: Up to <b>300</b> tubes/hour   |
| 200                                      | 200                | 150                         | Support multiple tube sizes   |
| Yes                                      | Yes                | Yes                         |   |
|  |                    |                             | <b>Transport System Module</b>  |
|  |                    |                             | Straight, L, U or T shaped segments on track  |
| Yes                                      | Yes                | Yes                         | Dual Lane track transport system.   |
| Yes                                      | Yes                | Yes                         | Connects pre/post Analytics components and analyzers to fit the available space and future expansion                      |
| Yes                                      | Yes                | Yes                         | Sample transport speed: not less than 0.15m/sec.  |
| Yes                                      | Yes                | Yes                         | Use Transport Pucks for Primary and Secondary Samples of transport within the Automation System                           |
| Yes                                      | Yes                | Yes                         | Sample tracking through wireless RFID technology chip embedded in transport pucks. (ID and routing throughout the system) |
| Yes                                      | Yes                | Yes                         |   |


*Signature*  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D.  
 Director  
 Diagnostic Research and Reference Laboratory (DDRRLL)  
 Dow University of Health Sciences

*Signature*  
**Prof. Dr. Sartar Dawani**  
 Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

*Signature*  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

*Signature*  
**Dr. Aizaz Zubedi**  
 Medical Superintendent  
 Dow University of Health Sciences  
 Karachi

| M/s. Abbott Laboratories (Pakistan) Ltd. | M/s. Hoorra Pharma | M/s. Roche Pakistan Limited | Advertised Specification for Total Laboratory Automation  |
|--|--------------------|-----------------------------|---|
|  |                    |                             | <b>INVENTORY MANAGEMENT SOLUTION (IMS) SPECIFICATIONS</b>   |
|  |                    |                             | <b>Inventory Solution must use radio-frequency identification (RFID)/(Barcode Readable) technology to receive, track and monitor inventory.</b>                                       |
| Yes                                      | Yes                | Yes                         | It should Provide Real-time Tracking and Improve operational efficiency by automating inventory receiving and tracking without the need for direct line-of-sight and manual scanning. |
| Yes                                      | Yes                | Yes                         | Differentiate at item (List Number) level.  |
| Yes                                      | Yes                | Yes                         | Manage inventory from multiple sites.   |
| Yes                                      | Yes                | Yes                         | Manage items from different vendors.  |
| Yes                                      | Yes                | Yes                         | Software capabilities to track inventory from reception to consumption  |
| Yes                                      | Yes                | Yes                         | Monitor-on-hand stock levels and expiration dates with critical alerts.   |
| Yes                                      | Yes                | Yes                         | Triggers auto-replenishment suggestion for ordering   |
| Yes                                      | Yes                | Yes                         | Based on the historical order patterns, IMS should provide min/max threshold for automated order suggestions.   |
| Yes                                      | Yes                | Yes                         | Separate new lots or shipments that require quality control before consumption and provides warnings if misused.  |
| Yes                                      | Yes                | Yes                         | Ability to configure roles and approval levels from specific inventory actions  |
| Yes                                      | Yes                | Yes                         | Provide product expiration guidance for the managed inventory.  |
| Yes                                      | Yes                | Yes                         | Display inventory level and expiration warnings and usage suggestions.  |
| Yes                                      | Yes                | Yes                         | Have the capabilities to integrate with existing ERP solution.  |
| Yes                                      | Selected ERP       | Yes                         | Improve traceability and supports laboratory inventory compliance activities with user friendly reports.  |
| Yes                                      | Yes                | Yes                         | EASY-TO-USE interface.  |

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences  
 Karachi

  
**Prof. Dr. Kartar Dawani**  
 Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi


  
**DR. ATIF AZAM**  
 Addl. Medical Sciences Superintendent  
 Dr. Bahkri Ali Khan Civil Hospital & Referral

| M/s. Abbott Laboratories (Pakistan) Ltd. | M/s. Hooraa Pharma | M/s. Roche Pakistan Limited | Advertised Specification for Total Laboratory Automation  |
|--|--------------------|-----------------------------|---|
| <b>MIDDLEWARE SPECIFICATIONS</b>         |                    |                             |   |
| <b>Interfacing</b>                       |                    |                             |   |
|  |                    |                             | Should interface to the LIS specification   |
|  | Yes                | Yes                         | Concurrent analysis of individual analyte from all analyzers linked to system from both sites should be available.  |
|  | Yes                | Yes                         | Capable of suspending transfer to the LIS by holding individual, profile or request results based on QC, trend or running mean alert rules; or by user intervention. State buffering capacity which should be at least 3 days work. |
|  | Yes                | Yes                         | capable of interfacing with 3rd party analyzers   |
|  | Yes                | Yes                         | transfer results and flags to LIS.  |
|  | Yes                | Yes                         | should be up to date and specific for the automation or LIS. Generic drivers which do not enable full functionality should not be used.   |
|  | Yes                | Yes                         | There must be rapid and reliable connection to the middleware for existing sites and new sites in future.   |
|  | Yes                | Yes                         | The system should allow the input of manual differential and coded comments.  |
|  | Yes                | Yes                         | Unlimited user connections should be available.   |

**DR. ADAR ZUREDI**  
 Add: Medical Superintendent  
 Dr. Faruk M. Peer Coll. Hospital - Karachi

  
**Muhammad Hanif**  
 Additional Director Finance (BFS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

  
**PROF. DR. KARTAR DAWANI**  
 Prof. Vice-Chancellor  
 Dow University of Health Sciences  
 Malakindi

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil., Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRRL)  
 Dow University of Health Sciences

| Advertised Specification for Total Laboratory Automation   | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|-----------------------------|--------------------|--|
| <b>Quality control</b>   |                             |                    |  |
| Westgard rule analysis (user choice of which rules to apply by individual assay)   | Yes                         | Yes                | Yes                                      |
| Audit Trail for QC/Reagent/Diluent/Consumable fluid lot number changes from individual analysers should be available.                      | Yes                         | Yes                | Yes                                      |
| Results should be capable of being held (both specific analyte and/or the whole request) if QC falls outside pre-determined ranges.        | Yes                         | Yes                | Yes                                      |
| Patient means and truncated means should be determinable and available for all analytes.   | Yes                         | Yes                | Yes                                      |
| Alert the user if there are QC failures.   | Yes                         | Yes                | Yes                                      |
| Have good graphical interface with print facility available for  | Yes                         | Yes                | Yes                                      |
| Levey Jenning's plot   | Yes                         | Yes                | Yes                                      |
| Radar plot (for accuracy and precision)  | Yes                         | Yes                | Yes                                      |
| SDI plot (for comparison of 2 or more levels)  | Yes                         | Yes                | Yes                                      |
| Youden plots   | Yes                         | Yes                | Yes                                      |
| Analyte concordance between analysers  | Yes                         | Yes                | Yes                                      |
| There should be a choice (which can be user determinable) for QC for all different fluid types   | Yes                         | Yes                | Yes                                      |
| Third party instruments should be able to connect to and utilise the QC facility of the middleware   | Yes                         | Yes                | Yes                                      |
| QC results from multiple analysers should be displayed. If moving averages are out of range all results from that analyser should be held. | Yes                         | Yes                | Yes                                      |
| Seamless, cross-site display of results, QC data etc. should be possible.  | Yes                         | Yes                | Yes                                      |
| QC element of the middleware package should have hierarchical log on/password entry allowing validation audit of QC data.                  | Yes                         | Yes                | Yes                                      |
| The system should support moving averages  | Yes                         | Yes                | Yes                                      |

DR. KHAZ A. ZUREDDI  
 Add. Director (Special Incentive)  
 Dr. Akhtar M. Peer (Chief Medical Officer)


*Muhammad Hafif*  
**Muhammad Hafif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, OJH:  
 Dow University of Health Sciences  
 Karachi

*Yasmin*  
**PROF. DR. KARTAR DAWANI**  
 Pro. Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

*Shahreen*

**Prof. Dr. Shaheen Sharafat**  
 M.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

|  | Advertised Specification for Total Laboratory Automation   | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|--|-----------------------------|--------------------|--|
|  | <b>Verification /Validation</b>  |                             |                    |  |
|  | System should be networked across site and provide seamless management of Results and Quality Control regardless of location.  | Yes                         | Yes                | Yes                                      |
|  | IT system must be able to display results, graphics and flags from multiple analyzers on a single screen to permit technical validation.   | Yes                         | Yes                | Yes                                      |
|  | Auto verification of normal results must be configurable, based on results and flags.  | Yes                         | Yes                | Yes                                      |
|  | Results and graphics must be visible on the film bench, preferably electronically  | Yes                         | Yes                | Yes                                      |
|  | There should be the ability to create rule sets that can be applicable to individual analyzers and/or specific connections.  | Yes                         | Yes                | Yes                                      |
|  | All error codes or result flags that the analyzers generate must be identified by the middleware to allow rule based interrogation.  | Yes                         | Yes                | Yes                                      |
|  | The system should be capable of holding sufficient data to allow delta checking of patient results (with subsequent additional test requests if appropriate) for a period of time. State Capacity. | Yes                         | Yes                | Yes                                      |
|  | Should allow an unlimited number of user defined result/comment codes to be generated which should then be capable of being sent to and received by Lab-Centre.                                    | Yes                         | Yes                | Yes                                      |
|  | QC based auto verification of results should be available  | Yes                         | Yes                | Yes                                      |
|  | Capable of on screen notification of rule based events as and when they occur.   | Yes                         | Yes                | Yes                                      |
|  | Able to display patient identification, clinical data, reference ranges and analyzer identity at the point of validation.  | Yes                         | Yes                | Yes                                      |
|  | Results, graphics and clinical data from previous analyses should be readily accessible.   | Yes                         | Yes                | Yes                                      |

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

  
**Prof. Dr. Kartar Dawani**  
 Pro. Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Muhammad Harif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Offc  
 Dow University of Health Sciences  
 Karachi

  
**DR. ALI AZAM**  
 Addl. Medical Superintendent  
 Dr. Fakir Ali Sher Chaudhry Hospital Karachi

|    | Advertised Specification for Total Laboratory Automation   | M/s. Roche Pakistan Limited | M/s. Hoorā Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|----|--|-----------------------------|-------------------|--|
| o. | <b>Operational</b>   |                             |                   |  |
|    | It would be desirable to connect POC analyzers and monitor their QC and validate results remotely from the laboratory.   | Yes                         | Yes               | Yes                                      |
|    | There should be the capability to print results, graphics and QC data for training and support purposes on a color printer                                     | Yes                         | Yes               | Yes                                      |
|    | The system must be able to audit the sample route and identify each analyzer that the sample is routed to.   | Yes                         | Yes               | Yes                                      |
|    | If a tracking system is implemented the middleware should be able to identify the exact location of a sample at any particular time.                           | Yes                         | Yes               | Yes                                      |
|    | The middleware should be capable of archiving/storage tracking   | Yes                         | Yes               | Yes                                      |
|    | The system must have the ability to work offline if required, with subsequent matching of request to result once the system is back on-line                    | Yes                         | Yes               | Yes                                      |
|    | <b>System must allow reflex testing and dilution capabilities without user intervention.</b>   | Yes                         | Yes               | Yes                                      |
|    | For Tracked systems test based load balancing should be available but real time user prioritization/re-configuration must also be accessible.                  | Yes                         | Yes               | Yes                                      |
|    | PCs displaying middleware should also be capable of, and permitted to, run other applications such as Lab-Centre.  | Yes                         | Yes               | Yes                                      |
|    | Middleware solution must have UPS protection supporting continuity of use for 12 hours.  | Yes                         | Yes               | Yes                                      |
|    | Provide extremely high "up time" .Supplier should state the minimum expected % uptime  | Yes                         | Yes               | Yes                                      |
|    | Legacy arrangements for the QC and Calibration data should be in place and financial consequences for maintenance of access to legacy data must be identified. | Yes                         | Yes               | Yes                                      |
|    | Test results should be linked to Instrument, QC status, Calibration data and time.   | Yes                         | Yes               | Yes                                      |

**DR. FATMA K. AZEEDI**  
 Add. Medical Superintendent  
 Dr. Fatma K. Patel Hospital Research  
 (Admn) (M)

**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

**PROF. DR. KARTAR DAWANI**  
 Pro. Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S. (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences



|  | Advertised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--|---|-----------------------------|--------------------|--|
|  | Analyzer identification should be available at the point of both technical and clinical validation.   | Yes                         | Yes                | Yes                                      |
|  | Trend analysis over a user determinable time period should be available   | Yes                         | Yes                | Yes                                      |
|  | Calibration data should be able to be linked to test results, describe how this is achieved.  | Yes                         | Yes                | Yes                                      |
|  | Concordance of analytical results across platforms and sites is highly desirable to satisfy UKAS/ CPA requirements. Dose the middleware support delivery of the concordance requirements. | Yes                         | Yes                | Yes                                      |
|  | The system must comply with Trust IT security policies  | Yes                         | Yes                | Yes                                      |
|  | Archive and legacy arrangements must be described in terms of cost and specification and storage capacity.  | Yes                         | Yes                | Yes                                      |
|  | <b>Remarks</b>  | Complied                    | Complied           | Complied                                 |

*[Signature]*

**DR. KARTAR DAWANI**  
 Pro. Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

*[Signature]*

**Muhammad Hanif**  
 Additional Director Finance (BFS-19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

*[Signature]*  
**DR. SAJJAD A. ZUREGDI**  
 Add. Medical Superintendent  
 Dow University of Health Sciences  
 Karachi

*[Signature]*

**Prof. Dr. Shaheen Sharafat**  
 M.B.S.S. (Dow), M.Phil, Ph.D

Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRRL)  
 Dow University of Health Sciences

**EVALUATION OF GENERAL REQUIREMENTS**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA) On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| S.No. | Adverstised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited | M/s. Hoora Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|-------|--|-----------------------------|-------------------|--|
| 1     | Brand new - latest model - fully automated system connecting pre-analytical, analytical and post analytical processing through a track system.   | Responsive                  | Responsive        | Responsive                               |
| 2     | DUHS reserves the right to inspect the authentic shipment documents of the delivered equipment.  | Responsive                  | Responsive        | Responsive                               |
| 3     | During the term of contract bidder shall guarantees the 95% uptime for the system.   | Responsive                  | Responsive        | Responsive                               |
| 4     | A functional barcode system integrated all blood collection units within and outside campus (including all collection areas) with analytical area at section of Chemical pathology                             | Responsive                  | Responsive        | Responsive                               |
| 5     | A bidirectional middleware dully connected with ILMS and HIMS  | Responsive                  | Responsive        | Responsive                               |
| 6     | Contractor will provide the UPS with minimum 2 hours backup for offered TLA System. Bidder will be responsible for maintenance, parts, batteries and operation of the UPS during the contract period.          | Responsive                  | Responsive        | Responsive                               |
| 7     | Contractor will provide the equipment and its accessories and consumables and filters required for RO WATER SUPPORT as per the requirement of offered TLA System during the contract period.                   | Responsive                  | Responsive        | Responsive                               |
| 8     | A continuous air flow system with required pressure on the track   | Responsive                  | Responsive        | Responsive                               |
| 9     | A continuous grade 1 water supply for analysis   | Responsive                  | Responsive        | Responsive                               |
| 10    | Calculated heat generating instrument to match the required temperature and humidity in the facility   | Responsive                  | Responsive        | Responsive                               |
| 11    | Barcode scanners at every point throughout the process from sample collection units, dispatched areas, section receiving, sample sorter, input module, track system, centrifuges, analyzer and storage module. | Responsive                  | Responsive        | Responsive                               |
| 12    | A sample sorter, input and output module, track transporter, inbuilt centrifuges, de-capper, re- Sealer, refrigerated storage/archival/retrieval module and de-sealer on a single belt.                        | Responsive                  | Responsive        | Responsive                               |
| 13    | Immunoassay and clinical chemistry analyzer connection on a SINGLE automated track   | Responsive                  | Responsive        | Responsive                               |
| 14    | Open track to third party analyzer connectivity  | Responsive                  | Responsive        | Responsive                               |
| 15    | Handles multiple tube sizes and types simultaneously with single sample transport management system  | Responsive                  | Responsive        | Responsive                               |
| 16    | Track Throughput 3600 – 5000 samples/hour  | Responsive                  | Responsive        | Responsive                               |
| 17    | Clinical chemistry analyzers throughput should be 5000 – 5,500 per hour and 800-1000 per hour for immunoassays   | Responsive                  | Responsive        | Responsive                               |

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences

  
**PROF. DR. KARTAR DAWANI**  
 Pro Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Prof. Dr. Shaheen Sharafat**  
 M.Phil. Ph.D.

**EVALUATION OF GENERAL REQUIREMENTS**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory  
Automation System (TLA) On Reagent Rental Basis  
TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| S.No.                                     | Adverstised Specification for Total Laboratory Automation  | M/s. Roche Pakistan Limited     | M/s. Hoora Pharma                        | M/s. Abbott Laboratories (Pakistan) Ltd. |
|---|--|---------------------------------|--|--|
| 18  | An adaptability for changes in configuration and adjustment for future demand  | Responsive                      | Responsive                               | Responsive                               |
| 19  | Connections of different testing modalities and availability of 3rd party available connections, having open middleware with a high number of LIS drivers and instrument connections   | Responsive                      | Responsive                               | Responsive                               |
| 20  | Availability of 2 standalone clinical chemistry and immunoassay integrated analyzers (without track integration) to place at automation area (one for clinical service track downtime period and another for research on animals samples)                                  | Responsive                      | Responsive                               | Responsive                               |
| 21  | Stat facility on priority for ER, OT, Transplant and hospital units  | Responsive                      | Responsive                               | Responsive                               |
| 22  | 2 Standalone HIGH SPEED centrifugation up to 15000 RPM for highly turbid samples   | Responsive                      | Responsive                               | Responsive                               |
| 23  | Samples standing racks for transferring of samples within the facility   | Responsive                      | Responsive                               | Responsive                               |
| 24  | Availability of at least 01 onsite engineer 24/7 to address trouble shoots   | Responsive                      | Responsive                               | Responsive                               |
| 25  | Dedicated application specialist for the automated system to resolve assay or QC issue on time   | Responsive                      | Responsive                               | Responsive                               |
| 26  | All routine chemistry and immunoassay tests must be available on TLA system list is attached, broader menu will be preferred <b>(Annexure- A1).</b>  | Chem 110<br>Immuno Assay<br>105 | Chem 100<br>Immuno 64 &<br>Assay 32 = 96 | Chem 97<br>Immuno Assays 90              |
| 27  | Specimen tubes compatible with the offered equipment for analysis (blood/urine) must be provided by total laboratory automation (TLA) vendor <b>(Annexure-A2).</b>   | Responsive                      | Responsive                               | Responsive                               |
| 28  | This is preferable if the TLA system facility already established at any clinical laboratory center within the purchaser's country.  | Responsive                      | Responsive                               | Responsive                               |
| 29  | Calibrators and controls must be provided by TLA vendor free of cost <b>(Annexure-A3).</b>   | Responsive                      | Responsive                               | Responsive                               |
| 30  | All prerequisites required for installation of Data management system including hardware will be the responsibility of the vender.   | Responsive                      | Responsive                               | Responsive                               |
| 31  | All prerequisites required for installation of TLA including (Electrical wiring, Electrical sockets, UPS, (online), WRO for TLA and Assays) and Mechanical / Plumbing), Hepa filter, to control heat dissipation in the TLA room will be the responsibility of the vender. | Responsive                      | Responsive                               | Responsive                               |
| <b>Remarks (Complied / Not Complied )</b> |  | <b>Complied</b>                 | <b>Complied</b>                          | <b>Complied</b>                          |

  
**Muhammad Hanif**  
Additional Director Finance (BPS 19)

  
**PROF. DR. KARTAR DAWANI**  
Pro Vice Chancellor  
Dow University of Health Sciences  
Karachi

  
**Prof. Dr. Chahreen Sharafat**

  
**Prof. Dr. Chahreen Sharafat**  
Superintendent  
(Admin)  
C-11/12-13/14/15/16/17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

**EVALUATION OF MANDATORY REQUIREMENTS**

**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)**


**On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Sr. No | Qualification Requirements/Knock Down Criteria  | MANDATORY | M/s. Roche Pakistan Limited | M/s. Hooraa Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--------|---|-----------|-----------------------------|--------------------|--|
| 1      | Certificate of Company/Firm Registration/Incorporation under the laws of Pakistan   | Mandatory | Complied                    | Complied           | Complied                                 |
| 2      | Applicant(s) must be the manufacturer or designated supplier / authorized distributor(s) of the business  | Mandatory | Complied                    | Complied           | Complied                                 |
| 3      | Relevant Business should be active for at least 3 years   | Mandatory | Complied                    | Complied           | Complied                                 |
| 4      | Proof of Sales Tax Registration, NTN Certificate  | Mandatory | Complied                    | Complied           | Complied                                 |
| 5      | Average Annual Turnover during the last 3 financial years at least PKR 500 Million. Supported with Original Bank certificate not over 6 months old / Verified Audit Reports / Income Tax Return Form. | Mandatory | Complied                    | Complied           | Complied                                 |
| 6      | FDA / CE / JIS / JQAO approved.   | Mandatory | Complied                    | Complied           | Complied                                 |
| 7      | Manufacturer's authorization certificate and agreement with manufacturer in favour of bidder should be provided with the bid  | Mandatory | Complied                    | Complied           | Complied                                 |

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

  
**PROF. DR. KARTAR DAWANI**  
 Pro. Vice Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S, (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRL)  
 Dow University of Health Sciences

  
 DR. ALI ALI KHAN  
 Add: Medical Superintendent  
 The A (Nursing) Department  
 Dr. Rehmatullah Chughtai Hospital, Karachi

**EVALUATION OF MANDATORY REQUIREMENTS**


**Procurement for Supply, Installation And Commissioning, Maintenance Of Total Laboratory Automation System (TLA)  
On Reagent Rental Basis**

**TENDER NO. DUHS/DP/2019-78 TECHNICAL OPENED ON 17th September, 2019**

| Sr. No | Qualification Requirements/Knock Down Criteria   | MANDATORY | M/s. Roche Pakistan Limited | M/s. Hoorra Pharma | M/s. Abbott Laboratories (Pakistan) Ltd. |
|--------|--|-----------|-----------------------------|--------------------|--|
| 8      | An undertaking (as per attached format) must be provided on 100 Rupees Judicial Stamp paper that the participating company is not black listed in any Government / Semi Government Organization. Through this Supplier / Vendor shall also certify that they have no case/litigation pending in any court of law in Pakistan | Mandatory | Complied                    | Complied           | Complied                                 |
| 9      | The bidder must have local certified / authorized repair and maintenance set-up  | Mandatory | Complied                    | Complied           | Complied                                 |
| 10     | Compliance to the technical specifications of Goods/services and related Test / Kits to be procured mentioned vide Annexure-A of this document.  | Mandatory | Complied                    | Complied           | Complied                                 |
|        | <b>Remarks</b>   |           | <b>Responsive</b>           | <b>Responsive</b>  | <b>Responsive</b>                        |

  
**Muhammad Hanif**  
 Additional Director Finance (BPS 19)  
 Finance Directorate Camp Office, Ojha  
 Dow University of Health Sciences  
 Karachi

  
**PROF. DR. KAFTAR DAWANI**  
 Pro Vice-Chancellor  
 Dow University of Health Sciences  
 Karachi

  
**Prof. Dr. Shaheen Sharafat**  
 M.B.B.S, (Dow), M.Phil, Ph.D  
 Director  
 Dow Diagnostic Research and Reference Laboratory (DDRRLL)  
 Dow University of Health Sciences