



OFFICE OF THE DIRECTOR PROCUREMENT
DOW UNIVERSITY OF HEALTH SCIENCES

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No. DUHS/DP/2019/(Corr-1)/-75

Dated 17 May 2019

CORRIGENDUM

Reference to the Notice Inviting Tender (N.I.T) No. DUHS/DP/2019/-75 Dated 08 May 2019 appeared in Daily The News, Daily Jang and Daily Ibrat on 11 May, 2019 and uploaded on Dow University of Health Sciences (DUHS) and Sindh Public Procurement Regulatory Authority (SPPRA) website at PPMS Sr. No. T00582-18-0012 for the **Procurement of Lab. Equipment / Instruments for Establishment of Department of Serobiology and providing Power Generation by Gas along with Heat Recovery System at Ojha Campus of Dow University of Health Sciences:**

Following changes have been made in the above-referred tender:

1. In Section G: Technical Specifications and quantities of following items / equipment have been corrected / modified, which may also be downloaded from the websites of SPPRA (<http://e.pprasindh.gov.pk/>) and DUHS (www.duhs.edu.pk). All the interested eligible bidders are requested to please furnish their bid in accordance with the corrected / modified specifications.

G: Technical Specifications

(SECTION – A)

FOR LABORATORY ANIMAL SCIENCES (LAS)

Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
2	Open cages for mice Polycarbonate Cage Body – mm 425x266x155 h Stainless Steel Inner fitting lid with hinged divider Polycarbonate Water Bottle with silicon ring- ml 500 Stainless Steel Bottle Cap - mm 25 nozzle - hole mm 1.8	48 Nos.
3	Racks (trolleys) for open cages of mice Each trolley must have 4 shelves and each shelf can accommodated 6 cages, so the total of 24 cages can be accommodated in single trolley. Dimensions (L x W x H): 1214 x 515 x 1873 Material: Stainless steel	02 Nos.
17	Racks (trolleys) for open cages of Rats Each trolley must have 4 shelves and each shelf can accommodated 6 cages, so the total of 20 cages can be accommodated in single trolley. Dimensions (L x W x H): 1650x600x1790 Material: Stainless steel	02 Nos.



Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
29	Open cages for housing of rats Polycarbonate Cage Body – mm 480x375x210h Stainless Steel Inner fitting lid with hinged divider Polycarbonate Water Bottle with silicon ring- ml 700 Stainless Steel Bottle Cap - mm 25 nozzle - hole mm 1.8	40 Nos.

SECTION (B)

SEROBIOLOGY R&D AND EQUINE PLASMA/ BIOLOGICAL RAW MATERIAL LAB (QUALITY CONTROL CELL)

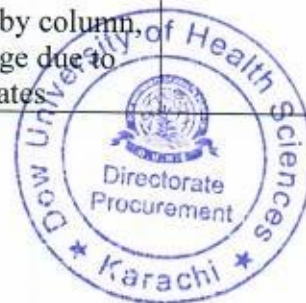
Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
85	U.V MONITORS UV wavelength range 190–700 nm in steps of 1 nm, 3 wavelengths simultaneously. UV absorbance -6 to +6 AU. Linearity ± 2 nm. Cell Path length: 2 mm or 5 mm	01 No.
86	Peristaltic pump with Column Solvent compatibility All commonly used chromatographic solvents Flow rate Operating flow rate: 0.1 ml to 1200 mL/min (viscosity: 0.7 to 5 cP) Gradient function: 0% to 100%B (100% to 0% A) within flow rate of 4 to 600 mL/min Pressure Pressure rating: Up to 20 bar (0.2 MPa) Flow rate accuracy $\pm 2\%$ Viscosity Max. 5 cP Column Connections: 5/6" female Foot print: 352x352 mm (foot), 350x360 mm (stand) Inlet dimension id: 1.7 mm Material column tube: Borosilicate glass Material distributor: Polypropylene Material lid: 316 L Stainless steel (SS) Material stand: PolyOxyMethylene (POM-C), Stainless steel 316 (SS) Operating pressure max: 10 bar (145.03 psi) Operating temperature: 2 – 30 C. Packing pressure max: 20 bar (290 psi) Porosity: 20 um.	01 No.



Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
	<p>Surface finish, stainless steel internal wetted: Ra electropolished < 0.5 um</p> <p>Parameters Adapter movement: Internal hydraulic Autoclavable: 121 C for 30 minute except for the bed support (and distributor for 100-200 mm) Bed height: 100-300 mm Bed support: 20 um polyethylene and 10 um UHMWPE. Bed volume max: 0.59 l Bed volume min : 0.20 l Column cross section area: 19.6 cm² Surface finish stainless steel non-wetted parts: Ra electropolished < 3 um Bed height max: 300 mm Column I.d: 50 mm Material (bed support): Polyethylene and UHMWPE</p>	
87	<p>Gradient mixture with software: pH range: 0-14 Gradient range: 0 to 100 % B Conductivity range: 0.01 to 999.99 mS/cm Conductivity acceptance range: 0.3 to 300 mS/cm</p>	01 No.
88	<p>Chromatographic Columns of various sizes with fittings (Large)</p> <ul style="list-style-type: none"> • High-speed analysis with ultra-high inertness and high durability. • High retentivity, lower column back pressure. • Columns packed with newly developed high-purity porous spherical silica. • Should be capable of tolerating a wider pH (1-10) situation, and various allowable particle size ranges. <ul style="list-style-type: none"> • 2.0 ml/min - 6.0 ml/min flow rate • Bed volume 8 mL column I.D. 10 mm matrix monodisperse porous polystyrene/divinyl benzene beads avg. part. size 10 µm 	01 No.
89	<p>Columns of various sizes with fittings (Medium)</p> <ul style="list-style-type: none"> • High-speed analysis with ultra-high inertness and high durability. • High retentivity, lower column back pressure. • Columns packed with newly developed high-purity porous spherical silica. • Should be capable of tolerating a wider pH (1-10) situation, and various allowable particle size ranges. <ul style="list-style-type: none"> • <10 mL/min flow rate • Bed size 16 mm × 100 mm bed volume 20 mL column I.D. 16 mm matrix monodisperse porous polystyrene/divinyl benzene beads matrix active group ammonium ion, quaternary phase avg. part. size 10 µm 	01 No.
90	<p>Columns of various sizes with fittings (small)</p> <ul style="list-style-type: none"> • High-speed analysis with ultra-high inertness and high durability. 	01 No.



Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
	<ul style="list-style-type: none"> • High retentivity, lower column back pressure. • Columns packed with newly developed high-purity porous spherical silica. • Should be capable of tolerating a wider pH (1-10) situation, and various allowable particle size ranges. <ul style="list-style-type: none"> • 0.5 ml/min - 3.0 ml/min flow rate • 580 psi • bed volume 1 mL • column I.D. 5.7 mm • Matrix monodisperse porous polystyrene/divinyl benzene beads matrix active group ammonium ion, quaternary phase avg. part. size 10 µm 	
91	<p>Programmable Immune Globulin Operating System Fully computerized system with software and touch screen having following features:</p> <ul style="list-style-type: none"> • low working volume and wide range of consideration • Dual separation with fiber filtration and without fiber filtration for dual ultra and micro application. • End point alarm control. • To control pre mature fouling used Permanent flow control method. • Software should be control all function but not limited to automation pressure sensors, permeate control pump, fluid transfer recirculation reservoir. • All computerized valves. • Variable feed pump up to 3.5 bar • Pump outlet pressure 0.99 bar. • Solvent temperature up to 39.9 °C • System should be capable having solvent line 3.9 bar. • Maximum solvent lines should be 9.4 to 9.6mm. • Feed range 21 to 340 ml per minute. • TFR range 1.1 to 49 per minute • TMP range 0.31 to 2.4 bar. • Holdup solvent 16 to 18 ml with work volume 19 to 22ml. • Variable pore size. • Suitable hemoglobin concentration range 5100 to 9500 • Red blood cell washing 0.46 to 0.63 • Stroma removal of red cell 450,000 to 495,000 	01 No.
92	<p>Fraction Collectors Complete with tube rack for 120 x 18mm tubes and 8x 30mm tubes, provide selectable moving pattern (row-by-row, column-by-column, or serpentine), colour coded racks, no spillage during tube change due to drop synchronisation and accumulator function at higher flow rates.</p>	01 Nos



Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
	suitable for microplates, vials and large vessels. RACK for 4x 96-well Microplates and 8x30ml tubes MICROPLATE 96-well (100 pc)	
93	HPLC Analytical scale, Flow rate 0.1-10ml/min, UV range 190nm-1100nm, Control and logging software along with computer, autosampler, thermostated column compartment	01 No.
112	Sterilizing setup (Autoclave) Type: Double Door (pulse vacuum) Capacity: 200 Liters Inner chamber: SS 316L Outer jacket: SS304 Welding: organ welding HMI and touch panel for parameter display Pressure gauges and temperature gauges (analog and digital display) Safety devices including: Pressure safety valve Stream exhaust valve Pressure switch Vacuum breakoff valve Stream exhaust manual valve Temperature range: 140°C, 4 bar (pressure) Touch screen control Sterilization program Access rights with code security	01 No.

SECTION (C)

EQUIPMENT FOR QUALITY CONTROL CELL FOR BIOLOGICAL RAW MATERIAL LAB – LABORATORY ANIMAL SCIENCES (LAS)

Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
142	Autoclave Type: Double Door (pulse vacuum) Capacity: 250 Liters Inner chamber: SS 316L Outer jacket: SS304 Welding: organ welding HMI and touch panel for parameter display Pressure gauges and temperature gauges (analog and digital display) Safety devices including: Pressure safety valve Stream exhaust valve	01 No.



Tender Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required
	Pressure switch Vacuum breakoff valve Steam exhaust manual valve Temperature range: 140°C, 4bar (pressure) Touch screen control Sterilization program Access rights with code security	

NOTE: *All other terms and conditions of the tender shall remain unchanged.*


17/05/19

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