Date: 22/08/2016

Corrigendum/Addendum

With reference to tender no: AIIMS/Pat/Tender/2016/Pharmacology/Equipment1/452 B dated 01/08/2016 a pre-bid meeting was held on 09/08/2016 in committee hall, medical college building, AIIMS Patna. The issue raised by the firms were discussed and the committee recommended for the following corrigendum to be issued.

S NO.	Items	Original Specification	Amended Specifications
1.	Electroconvulsiometer (with ear and corneal electrodes)	**1. Description of Function** 1.1 To the study of Anti-Convulsion and Anti-Epileptic drugs, whether for education, screening or manufacturing of drugs **2. Technical Specifications** 2.1 Should provide 50Hz Stimulus Current variable from 0.25mA to 360 mA through three controls for producing minimal and Supra-maximal seizure in small animals 2.2 The duration of Stimulus current is variable from 0.1 second to 1 second in steps of 0.1 second 2.3 Power Supply 230V 50Hz 2.4 Should be supplied with corneal electrode pair (different cup size) and eye clip pair. **3. Standards, Safety and Training** 3.1 Manufacturer should have ISO certification 3.2 Product should be CE/BIS approved **4. Documentation** 4.1 User/Technical manual should be supplied	**1. Description of Function** 1.1 To the study of Anti-Convulsion and Anti-Epileptic drugs, whether for education, screening or manufacturing of drugs **2. Technical Specifications** 2.1 Should provide 50Hz Stimulus Current variable from 0.25mA to 360 mA through three controls for producing minimal and Supra-maximal seizure in small animals 2.2 The duration of Stimulus current is variable from 0.1 second to 1 second in steps of 0.1 second 2.3 Power Supply 230V 50Hz 2.4 Should be supplied with corneal electrode pair (different cup size) and eye clip pair. **3. Standards, Safety and Training** 3.1 Manufacturer should have ISO certification 3.2 Product should be CE approved **4. Documentation** 4.1 User/Technical manual should be supplied
2.	Cook's Pole Climbing Apparatus	**1. Description of Function** 1.1 For studying cognitive function, mainly response to conditioned stimulus during	**1. Description of Function** 1.1 For studying cognitive function, mainly response to conditioned stimulus during learning & its

		learning & its retention **2. Technical Specifications** 2.1 Digital Voltmeter: 16 - 200 V DC. 2.2 Digital Timer: 0.1 - 999 sec. 2.3 Digital Delay Timer: 0.1 - 999 sec (cyclic). 2.4 Complete Chamber and Tray made of thick imported Acrylic Sheets. 2.5 Climbing Pole of Bakelite. 2.6 The experimental chamber has a grid floor sliding door with a clear perplex front. Electric buzzer and chamber light. Stimulator with built in timer to provide shock of 440 v 0.2 mA at a frequency of 5 per second. The duration also controlled manually. 2.7 It should be a compact model **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	retention **2. Technical Specifications** 2.1 Digital Voltmeter: 16 - 200 V DC. 2.2 Digital Timer: 0.1 - 999 sec. 2.3 Digital Delay Timer: 0.1 - 999 sec (cyclic). 2.4 Complete Chamber and Tray made of thick imported Acrylic Sheets. 2.5 Climbing Pole of Bakelite. 2.6 The experimental chamber has a grid floor sliding door with a clear perplex front. Electric buzzer and chamber light. Stimulator with built in timer to provide shock of 440 v 0.2 mA at a frequency of 5 per second. The duration also controlled manually. 2.7 It should be a compact model **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product . 3.2 Vendor having CE certification will be preferred 3.3 Calibration/Acceptance test certificate from the factory required. 3.4 Manufacturer should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original

			catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.
3.	Rotarod (6 compartments)-Computerized	**1. Description of Function** 1.1 The "Rota-Rod" treadmill technique has proved to be of great value in research involving screening of drugs which are potentially active on motor coordination. **2. Operational Requirements** 2.1 Microprocessor / microcontroller treadmill is required for rats/mice. 2.2 Technical Specifications 2.3 Rota-Rod treadmill should consist of a computer-controlled stepper motor-driven drum with constant speed or accelerating speed modes of operation or Variable speed via belt / gear 2.4 Provision of recording 5 animals simultaneously in five test zones with independent trip counter. 2.5 Plexiglas front panels for viewing during test. 2.6 Adjustable test length(at least upto 900 sec, start speed (0-20,25,30 variation of +/- 3 RPM),top end speed(Max speed 30 RPM),ramp speed, Forward and reverse rotation mode 2.7 PC connectivity as well as suitable PC of Latest configuration should be supplied. 2.8 Printer connectivity as well as Printer should be supplied. 2.9 Should have a digital display shows all test results for each animal position The results should include Stopping RPM, length of test and distance travelled. 2.10 Should be able to determine neuro-pixicity, muscle tone, balance and motor	**1. Description of Function** 1.1 The "Rota-Rod" treadmill technique has proved to be of great value in research involving screening of drugs which are potentially active on motor coordination. **2. Operational Requirements** 2.1 Microprocessor / microcontroller treadmill is required for rats and mice. 2.2 Technical Specifications 2.3 Rota-Rod treadmill should consist of a computer-controlled stepper motor-driven drum with constant speed or accelerating speed modes of operation or Variable speed via belt / gear 2.4 Provision of recording min. 4 animals in 4 test zones with independent trip counter. 2.5 Plexiglas/ Acrylic front panels for viewing during test. 2.6 Adjustable test length(at least upto 900 sec, start speed to end speed- 0 upto 99 r.p.m, ramp speed, Forward and reverse rotation mode 2.7 PC connectivity as well as suitable PC of Latest configuration should be supplied. 2.8 Printer connectivity as well as Printer should be supplied. 2.9 Should have a digital display

		coordination in rats and mice **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	shows all test results for each animal position The results should include Stopping RPM, length of test and distance travelled. 2.10 Should be able to determine neuro-pixicity, muscle tone, balance and motor coordination in rats and mice 2.11 Back of the instrument should be covered to prevent escape of the animal. 2.12 Fall off of the animal should be detected by IR detection attached perpendicular to the beam. 2.13 Appropriate software for analysing data should be provided . **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered
4.	Photoactometer	**1. Technical Specifications** 1.1 Solid State instrument for monitoring	**1. Technical Specifications** 1.1 Solid State instrument for

		spontaneous & induced Ambulatory activity of laboratory animals. 1.2 Should produce electric shock of up to 100 volts for activating rats. 1.3 The stimulus is variable from 0 to 100v & indicating on meter. 2. Standards, Safety and Training 2.1 Manufacturer should have ISO certification 2.2 Product should be CE/BIS approved **3. Documentation** 3.1 User/Technical/Service manual should be provided	monitoring spontaneous & induced Ambulatory activity of laboratory animals – rats and mice. 1.2 3 animals should be able to be analysed simultaneously. 2. Standards, Safety and Training 2.1 Manufacturer should have ISO certification 2.2 Product should be CE/BIS approved 2.3 Appropriate software for detection through IR photocell to be provided **3. Documentation** 3.1 User/Technical/Service manual should be provided
5.	Elevated Plus Maze	**1. Description of Function** 1.1 This Elevated Plus-Maze a sturdy apparatus frequently used to measure anxiety levels in rodents and to screen potential anxiolytic drugs **2. Technical Specifications** 2.1 Should have an elevated 4 arm maze in which 2 arms are open and 2 are closed with glass opening on top. (H×L×W : 40-45 cm×50-60 cm×10-12 cm) 2.2 Should have closed arm walls are held solidly in slotted base 2.3 Grey non reflective base plate 2.4 Grey Walls Height: 500 mm 2.5 Transparent Walls Height: 100 mm 2.6 Made by: Wood / stainless steel 2.7 Should Tracks time spent and distance travelled, speed and resting time in each zone	**1. Description of Function** 1.1 This Elevated Plus-Maze a sturdy apparatus frequently used to measure anxiety levels in rodents and to screen potential anxiolytic drugs **2. Technical Specifications** 2.1 Should have an elevated 4 arm maze in which 2 arms are open and 2 are closed with glass opening on top. (H×L×W : 40-45 cm×50-60 cm×10-12 cm) 2.2 Should have closed arm walls are held solidly in slotted base 2.3 Grey non reflective base plate 2.4 Grey Walls Height: 500 mm 2.5 Transparent Walls Height: 100 mm 2.6 Made by: Wood / stainless steel

		3. Standards, Safety and Training 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	2.7 Should Tracks time spent and distance travelled, speed and resting time in each zone. 2.8 Mazes fabricated locally may be provided. 2.9 Camera and software should fulfil international standards **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.
6.	Tissue Homogenizer	**1. Description of Function** 1.1 Used for tissue homogenization of organs from mice and guinea pigs **2. Technical Specifications** 2.1 It should be either handheld or stand mount 2.2 Processing range: 0.03 ml to 2L 2.3 Motor should be 800 watt	No Amendment

		2.4 Should have Speed up to 30000 rpm 2.5 It should have quiet operation, Noise level should be **3. Standards, Safety and Training** 3.1 Should be CE / BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer/Supplier should have ISO certification for quality standards. **4. Documentation** 4.1 User/Service Manual in English 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
7.	Portable Autoclave (25L)	1. Suitable of general laboratory use as well as for field sterilization of instruments and dressings etc. 2. It should be portable with capacity 20-25 L 3. The sterilizer should be made up of S.S. Sheet deep drawn to cylindrical shape. 4. Dome shaped S.S. lid is to be provided which will seal the autoclave with neoprene joint less gasket. 5. The lid should be tightened to the body when closed. 6. The working pressure is 1.1 to 1.2 Kg. /cm2 (15-18PSI). 7. It should have seamless construction which will not allow bacterial residue and contamination. 8. It is equipped with dial pressure gauge 0-60 PSI, spring loaded safety valve, dead weight type safety valve and steam	No Amendment

		release valve. 9. The load is held in dressing drums (optional), which is supported on a stand (tripod) the autoclave is hydraulically tested at twice the working pressure as per ISI requirement. 10. Should be with plug & cord. 11. Suitable to work on 220/230 Volt, single phase, 50 Hz, AC supply. 12. Size: 350 × 300-325 mm 13. Accessories: Dressing Drum 14. Should be ISI marked	
8.	Digital Spirometer	**1. Description of Function** 1.1 Used for measuring lung function. **2. Operational Requirements** 2.1 Complete with all hardware and software is required **3. Technical Specifications** 3.1 The system should be able to measure spirometry and flow volume parameters and sub divisions, Maximum Ventilation Volume(MVV),Lung Volume including TLC,RV& FRC by multi-breath closed circuit Helium Dilution. 3.2 Should be able to perform diffusion studies. 3.3 Broncho Provocation/ Histamine Challenge Test Software 3.4 System should incorporate Precision Dry Rolling Seal Spirometer (11-13 Litres)/ heated Pneumotech for highest accuracy and reproducibility and Flow Volume Differentiator (Resistance less than 1 cm of H2O / Litre/Sec 3.5 Volume resolution < 8ml 3.6 Accuracy < 0.5%	No Amendment

		3.7 Flow Range+/- 15 Litre / Sec. 3.8 Should have linear analyzers for 3.9 Helium Analyzer: Range 0-15% Helium Accuracy+/- 0.1 % 3.10 Carbon Monoxide Analyzer: Range0-0.350%CO, Accuracy+/- 0.1% 3.11 Oxygen Analyzer: Range: Range 0-100% Accuracy +/- 0.1% 3.12 Gas Control Module with Automatic Filling circuit. 3.13 System should have automated O2 compensation during FRC test. 3.14 System should also have fully automated Calibration/Test procedure with computer. 3.15 Computer specification :CPU corei5 2GB RAM;150 GB Hard Disk Drive; High Speed DVD/CD Rom , Serial and parallel ports ;Keyboard, Mouse and Mouse Pad, Monitor size **4. Accessories , Spares and Consumables** 4.1 System as specified 4.2 Should be supplied complete with Gas mixture cylinders(at least 2 cubic metres) a) Helium Cylinder-01 b) Cylinders Diffusion Mixtures-02 5. Standards, Safety and Training 5.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid. 5.2 The quoted model should have US FDA/ European CE/BIS certificate and copy of the same should be enclosed along with the technical bid. 5.3 Should have local service facility .The service provider should have the	

		necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual **6. Documentation** 6.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English. 6.2 Certificate of calibration and inspection from factory. 6.3 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
9.	Bicycle ergometer with digital display	1. Should have LCD display 2. Should provide feedback for speed, time, distance calories and pulse 3. Tension control: Manual 8 level resistance with adjustable wheel 4. Fly wheel: Approximately 6 kg magnetic wheels 5. Handle bar: adjustable 6. Belt transmission: Bearing one way, flat belt, 3 PCS crank 7. Transportation: 2 front end cap 8. Seat: adjustable height front and back 9. Maximum user weight: Approximately 100 kg 10. Dimensions: Approximately 96 X 49 X 138 cm 11. Weight: Approximately 27 kg 12. Gross weight: 29.5 kg	No Amendment
10.	Digital Reaction Time apparatus	**1. Description of Function** 1.1 Reaction Time System is a multi- **2. Technical Specifications** 2.1 Should perform a wide range of tests including reaction time, choice reaction time, reaction/movement time, and tapping tests. 2.2 Should have state-of-the-art touch	No Amendment

		sensitive keypads for ultra-accurate reaction time 2.3 System should have Reaction/Movement Time Panel. Control Unit for Psychomotor Devices, 2.4 Should have Psychomotor Experiment Software, Single Touch Key with Stimulus, Foot Switch and Push Button Remote. 2.5 Low Tone should be 200Hz 2.6 High Tone should be 1kHz 2.7 Tone Volume should be 75-85 dB max 2.8 Headphone should be 90-105 dB max depending on style 2.9 Stimulus should be 9 tri-colour lights, high or low tone 2.10 Keys should be Touch sensitive with dual accuracy zones 2.11 Cue should be Tri-colour light, high or low tone 2.12 Cue Time should be Fixed, random or none 2.13 Cue Time Range should be 0-25.5 seconds, 0.1 second resolution 2.14 Response Timeout should be 0-25.5 seconds, 0.1 second resolution 2.15 Tapping Duration should be 0-120 seconds, 1.0 second resolution 2.16 Timing Resolution should be 0.001 seconds +/- 0.005% **3. Standards, Safety and Training** 3.1 Should have the ISO certification and the copy of the same should be enclosed along with the technical bid. 3.2 The quoted model should have US FDA/European CE/BIS certificate and copy of the same should be enclosed along	

		with the technical bid. **4. Documentation** 4.1 Two numbers of Complete User/Technical/Maintenance manuals to be supplied in English (Soft copy & Hard copy). 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
11.	Multiple Choice Apparatus (with digital display)	**1. Description of Function** 1.1 Multiple choice Apparatus are used to test the visual perception and motor performance in humans. **2. Technical Specifications** 2.1 Should provide four different types of stimulus -- four different colour glowing indicator. 2.2 Should be micro-processor based circuitry. 2.3 Should have individual controls for each stimuli. 2 .4 Should have 4 digit display of time, maximum counting 99.99 second with resolution of 0.01 second. 2.5 Should have power ON-OFF Switch & Indicators. 2.6 Should have reset to Zero Switch. 2.7 Should have removable Screen partition. 2.8 Should be supplied with a Chronoscope **3. Standards, Safety and Training** 3.1 Manufacturer should have ISO certification	No Amendment

		3.2 Product should be US FDA/European CE/BIS approved **4. Documentation** 4.1 User/Technical/Service manual should be provided 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
12.	Critical flicker fusion apparatus	**1. Description of Function** 1.1 The Flicker Fusion System provides the user with a variety of versatile controls to perform accurate and timely measurements of Critical Flicker Frequency (CFF). **2. Technical Specifications** 2.1 Frequency: 1.0 - 100.0Hz in 0.1Hz increments with an error of .05% 2.2 Analog Input: 3.5mm mono phone plug with voltage range from 0.1 - 10 V for 1.0 - 100.0Hz flicker rate 2.3 Absolute Maximum Input: 14V 2.4 Typical Luminance: 58Cd/m2 2.5 Viewing Angle: 1.9° 2.6 Light/Dark Ratio: 1:1 2.7 Stimulus Colour: White 2.8 Should have minimum five modes of operation 2.9 Should have a control over the stimulus luminance, sweep rates, and stimulus selection. 2.10 Should have RS-232 interface **3. Standards, Safety and Training**	No Amendment

		3.1 Manufacturer should have ISO certification 3.2 Product should be US FDA/European CE/BIS approved **4. Documentation** 4.1 User/Technical/Service manual should be provided 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page / para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
13.	Student Electric Kymograph with drum	**1. Technical Specifications** 1.1 The drive mechanism should have a constant speed electric motor and an accurate gear-box contained in the base together with robust plate clutch. 1.2 Should have an engagement facility for various gear ratios by sliding the lever into the slot marked with surface speed or by a knob. 1.3 The main cylinder (drum) should have 6" dia. (approx.) 1.4 Stainless steel spindle should be standardized to make the same universal and interchangeable. 1.5 The double electric contact arms should be clamped on the main spindle and a stout double-contact block should be fitted on top of the base. 1.6 Should have gear ratios of 640 mm, 320 mm, 25 mm, 12.5 mm, 2.5 mm, 1.2 mm, 0.25 mm, and 0.12 mm per 1.7 Power input to be 220-240VAC, 50Hz **2. System Configuration Accessories, spares and consumables**	No Amendment

		2.1 Kymograph Paper 2.2 Electrode with Copper wire 2.3 Drum Paper Clip 2.4 Adjustable Stand **3. Standards, Safety and Training** 3.1 Should be CE or BIS approved product 3.2 Calibration/Acceptance test certificate from the factory required. 3.3 Manufacturer / Supplier should have ISO certification for quality standards. 3.4 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual. **4. Documentation** 4.1 User/Service Manual in English must be provided : 2 Nos 4.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	
14.	Isolated Organ bath	**1. Technical Specifications** 1.1 The isolated organ bath should provide accurate recording of isometric or isotonic tissue contraction / release 1.2 The complete compartment should be transparent for easy visualization 1.3 It should have easy and quick attachment of tissues 1.4 Diffusion between chambers and temperature equilibrating coils should be	**1. Technical Specifications** 1.1 The isolated dual organ bath should provide accurate recording of isometric or isotonic tissue contraction / release 1.2 The complete compartment should be transparent for easy visualization 1.3 It should have easy and quick attachment of tissues

		prevented by syringe valves 1.5 System should have precision water temperature control 1.6 The tissue washing should be achieved by without exposing tissue to the air 1.7 The water jet bath stirring should be provided by a noiseless vibration free centrifugal pump 1.8 A precise thermostat should maintain the temperature with an accuracy of +/- 0.1 deg 1.9 The system should be supplied with all essential accessories like one muscle chamber, temperature equilibrating coil, holder, supporting rod, isometric and isotonic transducers. 1.10 Should be supplied with a suitable data acquisition system & software 1.11 System should work with 230 V, 50 Hz power supply. 2. Standards, Safety and Training 2.1 Should be CE / BIS approved product 2.2 Calibration/Acceptance test certificate from the factory required. 2.3 Manufacturer/Supplier should have ISO certification for quality standards. 3. Documentation 3.1 User/Technical/Service manual should be provided 3.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.	1.4 Diffusion between chambers and temperature equilibrating coils should be prevented by syringe valves 1.5 System should have precision water temperature control 1.6 The tissue washing should be achieved by minimally exposing tissue to the air . 1.7 The water jet bath stirring should be provided by a noiseless vibration free centrifugal pump 1.8 A precise thermostat should maintain the temperature with an accuracy of +/-0.1 deg 1.9 The system should be supplied with all essential accessories like one muscle chamber, temperature equilibrating coil, holder, supporting rod, isometric and isotonic transducers. 1.10 Should be supplied with a suitable data acquisition system & software 1.11 System should work with 230 V, 50 Hz power supply. 2. Standards, Safety and Training 2.1 Should be CE / BIS approved product 2.2 Calibration/Acceptance test certificate from the factory required. 2.3 Manufacturer/Supplier should have ISO certification for quality standards. 3. Documentation 3.1 User/Technical/Service manual should be provided

			3.2 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.
15.	Lab. Centrifuge Machine (Digital)	**1 Description of Function** 1.1 Centrifuges are required in the Laboratory to separate various components of Blood and any other liquid sample for analysis **2 Operational Requirements** 2.1 Aerodynamic compact construction for vibration free performance 2.2 Table top version **3 Technical Specifications** 3.1 Tube Capacity :No. 24 36 :Size 5 15 ml 3.2 Should have a digital timer 3.3 Body should be made of strong fabricated & corrosion resistant steel 3.4 Control panel for start/stop switch, dynamic brakes, step less speed regulator with zero start switch & speed indicator with timer and protective fuses. 3.5 Door interlock 3.6 Maintenance-free brushless drive motor with exact speed pre-selection and display. Speed range 100 to 6000 rpm and above, accuracy 1 rpm. 3.7 RPM : Maximum 15,000 **4 System Configuration Accessories, spares and consumables** 4.1 Centrifuge complete with Swig and basic rotors and four buckets- 01 set.	No Amendment

		4.2 Tube Holders as appropriate **5 Environmental factors** 5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. 5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40degC and relative humidity of 15-90% 5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90% **6 Power Supply '** 6.1 Power input to be 220-240VAC, 50Hz as appropriate fitted with Indian plug 6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160- 260 V and output 220-240 V and 50 Hz) **7 Standards, Safety and Training** 7.1 The supplier should be ISO certified for quality standards. 7.2 Should be FDA , CE,UL or BIS approved product 7.3 Should comply with IEC/TR 61010-3-020 :Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 3-020: Conformity verification report for IEC 61010-2-020:1992 Particular requirements for laboratory centrifuges" 7.4 Comprehensive warranty for 2 years and 5 years AMC after warranty **8 Documentation** 8.1 User manual in English	

		8.2 Service manual in English 8.3 Certificate of calibration and inspection. 8.4 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual. 8.5 List of important spare parts and accessories with their part number and costing. 8.6 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.	
16.	Vortex Mixer	1. Should be lightweight and portable 2. Should have speed range of 200-3000 rpm with provision of speed change of at least 50 rpm 3. Orbit: 2-4 mm 4. Should operate in pulse mode and continuous mode/auto mode 5. Should have display to show speed and time remaining 6. Should have timer (0-9999 min) with increment/decrement of 1 sec 7. Should have provision to be adopted for single or multiple tubes (1-100) of varying sizes (microtubes 25 ml tubes) 8. Should have auto-cut off function 9. Should operate at 220-265 V and 50 60 Hz 10. Manufacturer/Supplier should have ISO certification for quality standards	No Amendment

2. The last date of the submission of the tender is being extended up to **06/09/2016 14:00 hrs.**

sd/-
Faculty In-charge
Procurement Cell
AIIMS, Patna