Notice Inviting e-Tender

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Supply and commissioning of 14(fourteen) of different medical equipment for setting up of Skill Lab at Calcutta National Medical College & Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-089/2025	**Dated-31.01.2025**

Amendment-I

REVISED TECHNICAL SPECIFICATION

Item	Technical Specifications	Required Qty.
1. Adult & Pediatric Multi-Venous IV Arm	1. Life-like arm, simulating intravenous injection at antecubital vein & dorsum of hand, latex free with replaceable skin. Accessible veins should median, basilica and cephalic.	5 such
	2. Designed for stimulating injection, peripheral intravenous therapy with feeling of vein penetration & blood flush back. It shall allow for repeated procedure without causing leak.	
	3. Both adult & pediatric IV should be accessorized with 1 Replacement skin and multi-vein system, 1 Blood concentrate, 1 Blood Bag with Tubing and Connector, 1 Clamp and Hook in the Carry case, 5 Syringes, 1 Manikin Lubricant. 1 Carry case, user manual.	

Item	Technical Specifications	Required Qty.
2. Soft tissue injection trainer –for I/M, I/D and S/c injection	1. Shall have tissue layer representing epidermis, dermis fat and muscle layer, simulating for subcutaneous, intra-dermal and intramuscular injection, latex free with replaceable tissue. 2. Epidermis layer should peel back quickly release subcuticular liquid.	5 such
3. Gluteal region IM injection trainer	1. Gluteal region manikin shall tissue layers representing epidermis, dermis, fat & muscle layer, suitable for simulating intramuscular injection, Latex free with replaceable tissue. 2. It shall allow for repeated puncture. 3. Dorsal gluteal, ventral gluteal an thigh IM injections should be possible.	5 such
4. Catherization Trainer	1. Catheterization Trainer Simulator –cum – enema task trainer-life size. 2. Adult perineum with interchangeable male and female generation. 3. Genitalia when attached with urinary connectors and reservoirs shall facilitate the process of catheterizations, irrigation, perineal care including resistance at different urethral folds and sphincters. 4. When get attached with urinary connectors and reservoirs shall facilitate the process of catheterizations, irrigation, perineal care including resistance at different urethral folds and sphincters.	Male and female (3 Each)
5. Making for skin Suturing	1. Tissue layers representing epidermis, dermis, fat and muscle layer, suitable for stimulating basic surgical skill i.e. cutting, suturing, related to instrument handling, knot tying and suturing. The contour shall confirm the region under consideration. It shall be accessorized with replaceable activities It shall be accessorized with replaceable activities. It shall be accessorized with replaceable tissue. Skills to be gained in reef knot technique, instrument tie, surgeons, tie, tying at vertical depth, tying at the angle depth.	6 such
6. Comprehensive IUD Trainer with Surgical tools	1. The manikin should be accompanied with surgical tools. It should provide comprehensive IUD training at all stages. 2. Simplified human anatomical model of a postpartum uterus after birth. It should support training in postpartum intrauterine device insertion, uterine balloon tamponade insertions and other postpartum uterus interventions. 3. Simplified human anatomical model both an interval uterus and a post-abortion uterus .it should support training for a variety of sexual	5 such

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	and reproductive, IOU insertion and removal and for inspecting anteverted and retroverted position of the uterus.	
	4. The making should be supplied with surgical tools - Kelly Forceps, Sponge forceps, Sim Speculum, Sponge forceps, Vullselum Forceps, Cusco Speculum, Uterine sound tool, MVA Cannula Artery Forceps.	
7. Pelvic trainer	1. It should be anatomically similar with realistic representation of human pelvis and perineum for training of hands -on examination as well as diagnosis of gynecological & obstetrical conditions.	4 such
	2. It should have a feeling of Abdominal wall (removable) with fat layer.	
	3. Washable and latex free.	
	4. Normal and abnormal position of uterus shall represent various clinical presentations.	
	5. The cut structure of thighs and perineum region abdomen, pelvis and genitalia, Vagina, cervix, anus and lower bowel, uterus modules should be soft and made of durable material. *The complete system shall be able to train on the following uterus conditions-Normal - Nulliparous Cervix Large Fibroid - Nulliparous Ectropion Cervix, Small Fibroid - Nulliparous Polyp Cervix, Ovarian Cyst- Multiparous Cervix, Retroverted • Multiparous Cervix, Normal and pregnant uterus, 12-12 Weeks Pregnant 14-16 Weeks Pregnant. * The students shall be able to learn and practice the assessment of following Skills - Recognition of perineal and pelvic anatomy including bony landmarks, Digital vaginal examination, Bi-manual examination Cervical smear procedure, Speculum use, Digital rectal examination.	
	6. It should be possible to change Scenarios within seconds.	
	7. It should be supplied with carry case and lubricant.	
8. Advanced Birthing simulator	1. Shall have realistic pelvic floor, Articulating thighs for McRoborts's procedure, Stretchable perineum, Soft, flexible birthing canal.	2 such
	2. Anatomy should have Birth canal and cervix, ischial spines and pubic bone, Gynecoid pelvis Articulating thighs, Fully articulated baby with clavicles, fontanelles, flexible head and detachable umbilical cord and placenta	
	3. Normal, Vaginal breech Shoulder dystocia with force feedback, Vaginal assisted (forceps and vacuum devices), Third stage of labor,	

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	Cord prolapsed, Urinary catheter placement 1M injection	
	4. Should be able to simulate blood loss of up to 2 liters.	
	5. Shoulder dystocia with force feedback.	
	6. Blood flow and control atonic state of the uterus Atonic uterus should simulate contraction on fundal massage.	
	7. Management of post -partum bleeding, fundal massage, Bi-manual compression, Hemostatic balloon insertion and management, communication skills with mother when used with Simulated Patient, intramuscular injection, Estimating blood loss Early labor cervixes effacement, dilation and ripeness in line with Bishop's scoring.	
	8. Wireless manikin with automatic delivery.	
	9. Realistic representation of cervixes, incuding anterior lip, and presenting parts in soft birth canal, with palpable ischial spines.	
	10. The manikin should allow for ultrasound to help improved point -of-care diagnostics training.	
	11. The manikin should cover all stages of labor - from antepartum to postpartum	
	12. It should have Cardiac features with extensive ECG library.	
	13. BP features with auscultation of Korotkoff sounds, Pulse strength variable with BP, Bilateral carotid &brachial pulse, 12 lead ECG display on patient monitor, Seizure should possible.	
	14. It should have patient monitoring with physiological parameters like Sp02, C02, ABP, CVP etc.	
	15. Assessment and Bishop's scoring of; Cervical dilation (1-10 cm], Cervical effacement (0-100%),Cervical ripeness/consistency (soft, medium, hard), Cervical position (anterior, mid, posterior), Fetal station (-3 to +3), Assessment of an artificial rupture of membranes, Assessment of presenting pan flexed deflexed , brow, face, breech.	
	16. Fully articulated baby with clavicles, fontanelles flexible fetal joints, head detachable umbilical cord and placenta.	
	17. The manikin should have Eclampsia & pre-eclampsia, maternal collapse complication.	
	18. Normal delivery, Breech presentation, assisted deliveries Forceps & Vacuum, Shoulder dystocia, Cord prolapsed, Post - Partum Hemorrhage.	

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	19. It should be supplied with carry case and lubricant.	
9. Adult CPR Trainer	1. An adult upper body torso for CPR training	4 such
	2. Latex free	
	3. The manikin should have - a) A soft nose which can be occluded using the nose pinch technique. b) Facility for head tit/chin lift and jaw thrust to open the airway c) Visible chest rise on effective ventilation and wireless feedback d) Feedback on ventilation volume, stomach inflation, clicker for chest compression as well as wrong head position. e) A disposable lower airway with an integral one way vale. f) Wifi connectivity for wireless tablets, smart phones and / or LCD wired feedback providing both student and instructor feedback.	
	4. The manikin should give feedback on Chest compression, Release, Compression Rate Ventilation Volume & wrong hand placement	
	5. Scoring based on compression & flow fraction to measure progress of student.	
	6. Monitoring up to 10 manikins should be possible with the software.	
	7. Accessorized with manikin faces, airway, manikin wipes, LCD compression and ventilation feedback device with user guide, Training -mat	
10. Infant CPR Trainer	1. The 3- month -old Little Baby.	4 such
	2. Head-tilt with open /Iocked airway.	
	3. Feedback on head positioning.	
	4. Visible chest-rise on ventilations.	
	5. See and feel the baby's ribs.	
	6. Landmarks, nipple, breast tip.	
	7. Limbs with realistic movement	
	8. Choking training should be possible.	
	9. It should teach all the parameters of high-quality CPR as defined by the AHA.	
	10. The software should allow instructions to monitor multiple students simultaneously.	
	11. Feedback technology on compression rate, depth, recoil, chest compression fraction, hand placement, and ventilations.	
	12. Audio crying feedback for choking training	
	13. Durable construction with realistic length and weight.	
11. Tracheal Intubation manikin	1. Adult upper torso with month, nostril, teeth, tongue, pharynx, larynx, epiglottis, laryngeal cartilages, vallecula, vocal cords, trachea, esophagus and lungs,	2 such
	2. It must provide realistic head positioning. Neck flexion, extension and rotation, head	

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	lift/ chin lift/ jaw thrust.	
	3. It shall provide complete training in orotracheal and nasotracheal intubation procedures, insertion of laryngeal mass airway, combi-tube, fiberoptic intubation.	
	4. Ventilationn with face shield & bag-valve-mask should be possible.	
	5. It shall be able to teach suctioning technique.	
	6. Oropharyngeal & nasopharayngeal airwaysinsertion and suctioning.	
	7. Vomiting, Esophageal intubation, Bronchscopy, Bronchial intubation, Oxygen delivery procedures should be possible.	
	8. Sellick maneuver should be possible.	
	9. There shall be provision for supervision of students, performance like realistic checking of tube placement, expansion during ventilation. auscultation of breathing sound,	
	10. Should have acoustic audio sensors triggered by excessive pressure on teeth, laryngospasam, vomiting and incorrect tube placement.	
	11. Oral. Nasal & Digital intubation should be possible.	
	12. Should be provided with Airway demonstration model.	
	13. It will be supplied with carrying case, practice board, user manual, lubrication spray, simulated stomach content	
12. Cardiac Manikin	1. The manikin should have Arterial and venous pulses such as Carotid, Jugular, Brachial, Radial, femoral.	4 such
	2. It should have Precordial movements- Pulmonary, right ventricular, left ventricular, displaced left ventricular.	
	3. Cardiac findings of carotids, Aortic radiation, Pulmonary radiation, Mitral radiation, Pulmonary finding of Right & left upper, Right 7 Left inferoposterior, Right & left inferoanterior, abdominal breathing.	
	4. The manikin should realistically simulate cardiac disease by varying blood pressure, pulses, heart sound, murmurs and breath sound.	

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	5. Presence of heart and lung sound at pulmonary area and presence of heart and lung sound at aortic area.	
	6. The manikin should allow for Patients cases at various heart rates such as Cardiomyopathy, Server aortic stenosis, Mild tricuspid regurgitation etc.	
	7. The manikin should have 50 plus patient scenarios with numerous beside findings.	
	8. The manikin should have automatically synchronized movements.	
	9. The manikin should allow korokoff sounds	
13. Breast Examination	1. This shall provide skills to perform clinical Breast examination,	4 such
	2. Latex free, Soft tissue breasts should look and feel realistic.	
	3. It should facilitates training on examination, of different breast pathologies including carcinomas, cysts, aspiration of cyst, fibrocystic diseases and fibro adenoma, Identification of lymph nodes (axillary, supra & infraclavicular).	
	4. Clavicular and axilla pads for accurate lymph node placement.	
	5. Both Simulated Patient and benchtop training should be possible.	
14. Whole body	1. The Manikin should allow for high- quality airway management with supraglottic airway device.	02 such
	2. Oral & Nasal airway insertion.	
	3. Oral and nasal fiberoptic intubation	
	4. Reaslistic airway anatomy including cricoid cartilage (ore- and Nasophyarynreal airway, Sallick maneuver)	
	5. Auscultation of lung sound during ventilation	
	6. Lung sound synchronized with breathing rate	
	7. Individual lung or bilateral sound selection	
	8. Airway complication (instructor controlled)	
	9. Brachial pulses & Radial Pulses: Pulse strengths dependent on blood pressure	
	10. Heart sound, synchronized with	

Item	Technical Specifications	Required Qty.
-	programmable ECG.	
	11. Control physiological responses Scenario event registration & detailed event log.	
	12. Intutive touchscreen interface to run both preprogrammed andcustom scenario us for standardized training.	
	13. Instructors real-time performance indication for compressions, ventilation and hands-off time, as well as event logs for structure and objective debriefing.	
	14. Automatic breating with realistic cheast rise & tall	
	15. Automatically generated carotid pulses synchronized with ECG.	
	16. Live defibrillation and synchronized ECG	
	17. Blood Pressure auscultation (Korotkoff sounds synchronized with ECG)	
	18. 4 leads ECG monitoring	
	19. Pulse monitoring.	
	20. Voice lung (Crackles, Pneumonia, Stridor, Wheeze, Rhonchi) and heart (aotic Stenosis, Friction Rub Austin Flint Murmur ,Diastolic, Murmur) sound for basic sound training	
	21. Detailed information about chest compression and release compression rate, ventilation volume feedback to measure and improve CPR performance.\	
	22. The Manikin should be supplied with simulated patient monitor	
	23. Pulse monitoring	
	24. Voice, lung and heart sound for basic sound training	
	25. Detailed information about chest compression and release, compression rate, ventilation volume feedback to measure and improve CPR performance	
	26. The Manikin should be supplied with simulated patient monitor	

- The project will be on turnkey basic and following items to be provided
    1. Split steel body consealed AC- 3 units (2 ton each) Make- Ogeneral / Daikin / Hitachi / Bluestar
    2. Full HD Camera for recording purpose – 5 units
    3. LED monitor for display – 1 unit (55 inch)
- All item should be quoted
- The manufacturer should have global presence
- The manufacturer should be of topmost quality.
- Warranty period should be 2 years for all items.
- Quality Assurance – ISO certificate should be provided for all items.