

NOTICE

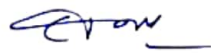
Notice for the procurement of following skill lab items are being proprietary articles under Rule 104 of HPFR 2009 as per detail give.

- | | |
|---|--|
| 1. Mannequins for intramuscular Training Arm | (Specification attached as Annexure-A) |
| 2. Mannequins for intravenous Training Arm | (Specification attached as Annexure-B) |
| 3. Mannequins for intramuscular Training (Gluteal Region) | (Specification attached as Annexure-C) |
| 4. Mannequins for Skin Suturing | (Specification attached as Annexure-D) |
| 5. Mannequins for catheter insertion | (Specification attached as Annexure-E) |
| 6. Mannequins for Normal Delivery with Pelvic Trainer | (Specification attached as Annexure-F) |
| 7. Mannequins for Adult CPR | (Specification attached as Annexure-G) |
| 8. Mannequins for Adult CPR with AED Trainer | (Specification attached as Annexure-H) |
| 9. Mannequins for infant CPR | (Specification attached as Annexure-I) |
| 10. Mannequins for Tracheal intubation | (Specification attached as Annexure-J) |
| 11. Mannequins for Breast Examination | (Specification attached as Annexure-K) |
| 12. Mannequins for Adult full body ALS Simulator | (Specification attached as Annexure-L) |

The department concerned of Pt. Jawaharlal Nehru Govt. Medical College, Chamba, District Chamba, (H.P) intends to purchase these items for setting up Skill Lab/ Life Support system Lab in this institution. The Specification of above proprietary items of OEM can be viewed and downloaded from the medical college website <http://www.gmcchamba.edu.in>.

As per the knowledge of department concerned of this Medical College, the said articles /items are only manufactured by M/s LAERDAL MEDICAL INDIA PVT. LTD, (Principal Firm) and the said firm sell the same items through its authorized dealer/agent i.e. M/s Surgitek, Impoter & Distributor of Medical Laboratory Equipments & Diagnostic Kits, Panchkula-134113.

In case there is another OEM for the above items/articles, then they are requested to submit their proposal to this Medical College through email gmcchamba@gmail.com hard copy latest by 10 days failing which it will be presumed that there is no other firm who manufacture the required items/articles/equipments as per attached specification and purchase will be processed and finalized from the available source.


Principal,

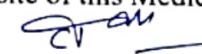
Pt. JLNGMC&H Chamba,

Dated Chamba the: - 23 / 07 /2022

Endst. No. As Above 13852-63

Copy for information and necessary action to:-

1. The Secretary (Health) to the Govt. of HP for kind information please.
2. The Director Medical Education & Research for Information please.
3. The HoDs of Orthopedics, Surgery, Medicine, Pediatrics, ENT, OBG/GYANE, Pharmacology and Anesthesia Pt. JLNGMC&H Chamba for information
4. Dr. Parveen Assistant Professor, department of Pharmacology Pt. JLNGMC&H Chamba with the request to upload the Notice on the website of this Medical College at the earliest.


Principal,

Pt. JLNGMC&H Chamba,



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Date – 07th June 2022

Proprietary Certificate & Letter of Confirmation

To Whom It May Concern

We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Laerdal® Airway Management Trainer is a proprietary product of Laerdal Medical. Having the following unique features –

- Realistic representation of human anatomy, tissue, and skin
- Allows students to undertake training that is directly transferable to the clinical setting
- Practical training in clearing an obstructed airway and suctioning of liquid foreign matter
- Minimal maintenance and robust design delivers cost effective training
- Base plate mount allows stable practicing conditions
- A hard carry case provides easy transportation and safe storage
- Practicing of oral and nasal intubation
- Practicing use of LMA (Laryngeal Mask Airway) and Combitube®
- Correct tube placement can be checked by practical inflation test
- Realistic anatomical features allow demonstration of Sellick Maneuver and laryngospasm
- Bag-Valve-Mask ventilation can be practiced
- Retrograde intubation
- Stomach inflation and vomiting situation can be simulated
- Provides visual inspection of lung expansion
- Provides auscultation of breath sounds
- Airway demonstration model is standard with each trainer



27.6.22



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Interchangeable Catheterization and Enema Task Trainer is a proprietary product of Laerdal Medical. Having the following unique features –

- Realistic articulation enabling proper positioning for procedures
- Interchangeable male and female genitalia
- Genitalia, when used with urinary connectors and reservoir, should facilitate urologic care procedures such as perineal care, insertion of vaginal medications and indwelling catheter insertion, care, irrigation and removal
- Genitalia, when used with anal connectors and colon reservoir, should facilitate enema administration using fluid for realistic return
- Abdominal plate with interchangeable stoma site, allowing simulation of cystostomy tube care and urinary diversion stoma care
- Single plug with valve in abdominal plate, used to pressurize the reservoir during urinary catheterization procedures
- Bilateral thigh, dorsal gluteal, and ventral gluteal IM injections possible
- Must be CE/ISO Certified



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Resusci Anne Simulator is a proprietary product of Laerdal Medical. Having the following unique features –

- Full-body Adult humanoid model with training suit
 - Airway Management head
 - Articulating Lower body
 - Blood Pressure arm and cuff
 - IV Arm
- Wireless control system
- 2x AC Adapter, USB Cable
- Blood pressure cuff
- Artificial Blood and Airway Lubricant
- carrying case
- User Guide

AIRWAY

- Realistic airway anatomy including cricoid cartilage
 - o Bag-Valve-Mask (BVM)
 - o Oropharyngeal and nasopharyngeal Airway
 - o Supraglottic Airway Devices
 - o Sellick Maneuver
- Spontaneous breathing with realistic chest rises and fall
 - o Controllable On/off & breathing rate
 - o SpO₂ and etCO₂ settings
- "Chin lift" & "Jaw thrust and "Head tilt" sensors including tongue fall back
- Airway closing mechanism
 - o Overrides an open airway to simulate an obstruction at any time
 - o Open or closed airway status operated via wireless control

CIRCULATION

- Eyes for pupil assessment
 - o Normal – Dilated – Constricted
- Automatically generated pulses synchronized with ECG
 - o Radial, brachial (right arm only) and carotid pulses both sides
 - o Pulse strengths dependent on BP or set individually
 - o Brachial pulse off when BP cuff pressure is above 20 mmHg
 - o Radial pulse off when BP cuff pressure is above systolic BP level
- Auscultated and palpated blood pressure simulation
 - o Korotkoff Sounds synchronized with ECG
 - o Systolic and diastolic pressure may be set individually in steps of 2 mmHg
 - o Systolic 0-300 mmHg/diastolic 0-200mmHg
 - o Auscultative Gap, with on/off feature
 - o Pressure accuracy +/- 4 mmHg
 - o Brachial and radial pulse control, palpated BP function
- Defibrillation capabilities (25-360j)
 - o 4 – Lead ECG monitoring
 - o Synchronized variable rate, rhythm abnormalities and duration
 - o Pacing – threshold 20 to 200 mA

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oCPR

- Live feedback on Basic life support/ cardio-pulmo. resuscitation parameters
- Detailed information about chest compression, compression rate, ventilation volume and combined graphical display
- cardio-pulmonary resuscitation Performance Summary
- Debriefing Screen notes

Physiological Sounds

- Lung sounds breath sounds synchronized with breathing rate
 - o Normal, crackles, pneumonia, stridor, wheeze, rhonchi
- Individual lung or bilateral sound selection
- Vocal sounds – computer generated sounds, mixed with live voice input
- Heart sounds - synchronized with programmable ECG
 - o Aortic Stenosis, Friction Rub, Austin Flint Murmur, Diastolic Murmur, Systolic Murmur, Mitral Valve Prolapse, Opening Snap 70ms, Normal

Intravenous cannulation for dorsum of hand, Basilic, cephalic and median veins

Logging

- o Instructor can log activities and CRM skills during training sessions individually
- o Log files for debriefing sessions
- o cardio-pulmonary resuscitation log file for detailed debriefing
- o Downloading of logs for “after actions” review/debriefing via software
- o Software for detailed summary of student performance

Wireless Instructor Faculty Control

The system shall have the ability to manage the following parameters:

BLOOD PRESSURE/PULSES

- The user shall be able to set the blood pressure level, and to make it gradually change over time.

TEMPERATURE

- The user shall be able to set the temperature level, and to make it gradually change over time. Temperature can be presented in Celsius or Fahrenheit.
- Temperature shall be displayed on the Patient Monitor

PULSE OXIMETRY (SpO2)

- The user shall be able to set the peripheral capillary oxygen saturation level, and to make it gradually change over time.

End Tidal CO2 (etCO2)

- The user shall be able to set the etCO2 level, and to make it gradually change over time.
- etCO2 can be presented in percentage, mmHg or kPa with individual selectable wave forms

SOUNDS

- Heart sounds synchronized with ECG
- Auscultated lung sounds synchronized with breathing, 0 - 60 BPM
- Individual lung sound selection
- Normal or abnormal bowel sounds
- Vocal sounds: Computer-generated sounds, recorded vocal sounds and real-time voice input
- User generated vocal sounds

Patient Monitor

The training system shall also have the ability to work with a simulated Patient Monitor. The patient monitor shall display ECG, SpO2, etCO2, BP, Respiration rate and Temperature controllable via wireless device.



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To Whom It May Concern

We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai - 600 024, Tamil Nadu, India certify that Advanced Clinical Female Pelvic Trainer is a proprietary product of Laerdal Medical. Having the following unique features -

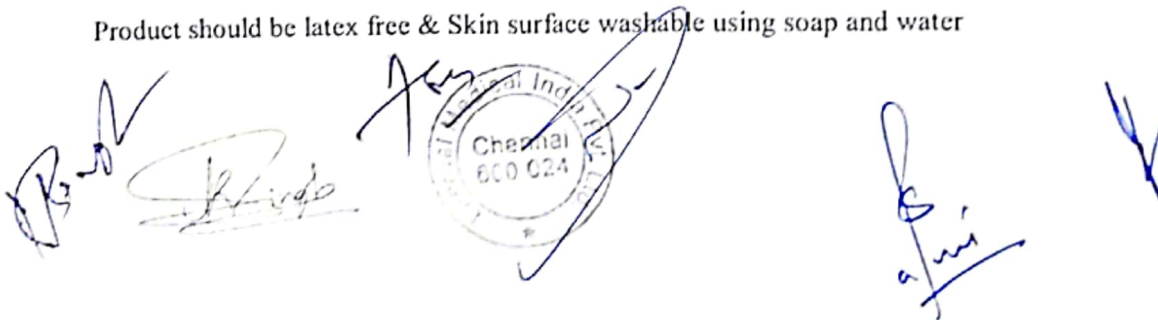
Should help gain following skills-

- Recognition of perineal and pelvic anatomy including bony landmarks
- Digital vaginal examination
- Bi-manual examination
- Cervical smear procedure (including use of speculum)
- Digital rectal examination

Should be anatomically correct representation of -

- Abdomen, pelvis and genitalia
- Vagina, cervix, anus and lower bowel
- Interchangeable uterine modules with different complications
- Modules:
 - Normal - Nulliparous Cervix
 - Large Fibroid - Nulliparous Ectropion Cervix
 - Small Fibroid - Nulliparous Polyp Cervix
 - Ovarian Cyst - Multiparous Cervix
 - Retroverted - Multiparous Cervix
 - 10-12 Weeks Pregnant
 - 14-16 Weeks Pregnant
- Abdominal wall with fat layer makes palpation more realistic
- Labia can be parted realistically
- Each uterus is presented at the correct anatomical angle
- Partial thighs aid anatomical orientation
- Soft and strong perineum and labia

Product should be latex free & Skin surface washable using soap and water





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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Advanced Breast Trainer is a proprietary product. Having the following unique features –

- Clinical breast examination (CBE)
- Self-breast examination (SBE)
- Identification of anatomical landmarks
- Identification of lymph nodes (axillary, supra & infraclavicular)
- Location and diagnosis of pathologies
- Professional-to-patient communication

Product should have anatomy as:

- Realistic soft tissue breast anatomy
- Pathologies to be supplied: carcinomas: 2cm, 3cm, 5cm, cyst, fibrocystic disease, fibroadenoma
- Soft tissue breasts look and feel realistic Clavicular and axilla pads for accurate lymph node placement
- Can be used with a Standardized Patient
- Pathologies can be placed in various predetermined location points and are easily changeable
- Hard torso to be supplied for bench top use
- Pathologies can be placed in various predetermined location points and are easily changeable
- Latex free
- Skin surface should be washable using soap and water



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai - 600 024, Tamil Nadu, India certify that Infant Airway Management Trainer is a proprietary product of Laerdal Medical. Having the following unique features -

1. Realistic anatomy of the tongue, oropharynx, epiglottis, larynx, vocal cords and trachea
2. Bag-Valve Mask ventilation
3. Sellick Maneuver
4. Intubation (oral and nasal)
5. Laryngeal Mask Airway (LMA)
6. Realistic tissue simulation
7. Correct tube placement can be checked by practical inflation test
8. Simulated stomach inflation



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certifies that Pediatric Multi-Venous IV Training Arm Kit, Adult Female Multi-Venous IV Training Arm Kit & Adult Male IV Training Arm Kit are proprietary product of Laerdal Medical. Having the following unique features –

- IV Training Arm Kit should include a full-size arm with replaceable skin and veins designed for peripheral intravenous therapy.
- Anatomically accurate full arm model
- Rotation at deltoid for easier anterior and posterior vein access
- Multiple injection sites for IV insertion
- Dorsal veins of hand (3)
- Median Vein
- Basilic Vein
- Cephalic Vein
- Realism of the human arm in appearance, feel and resistance at puncture sites
- Palpable veins enable site selection and preparation
- Subcutaneous and intramuscular injections may be performed in the deltoid
- Infusible veins allow peripheral therapy with IV bolus or push injection
- Replaceable skin and vein system ensure longevity of model
- Multi-Venous IV Training Arm Kit should include: Multi-Venous IV Arm, 01 Replacement skin and multi-vein system, 01 Blood concentrate, 01 Blood Bag with Tubing and Connector, 01 Clamp and Hook in the carry case, 5 Syringes, 01 Manikin Lubricant, 01 Carry Case





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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certifies that Injection Trainer is proprietary product. Having the following unique features –

Our soft tissue injection pad is designed for practicing intradermal, subcutaneous and intramuscular tissue injection techniques. The Injection Trainer has multiple tissue layers representing the epidermis, dermis, fat and muscle layer, and can easily attach to an arm or thigh to help teach professional-to-patient communication.

Overview

- Epidermis layer peels back to quickly release subcuticular liquid

Realism

- Tissues are soft and warm to the touch

Versatility

- Strap for hybrid simulation

Cleaning

- Durable replaceable epidermis

Safety

- Latex free

Skills Gained

- Subcutaneous injection
- Intradermal and intramuscular injection
- Management of tissue
- Professional-to-patient communication



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certifies that Little Baby QCPR, Little Junior QCPR & Little Anne QCPR are proprietary product of Laerdal Medical. Having the following unique features –

Feedback

The BLS Torso should be able to connect with wireless tablets, smart phones and/or LCD wired feedback providing both student and instructor feedback.

Wireless Instructor Feedback –

- Software shall be available for free downloads as many times as required providing real-time wireless feedback on compressions and ventilations
- It shall be able to monitor and connect to get the live feedback from more than 5 individual BLS Torso mannequins simultaneously for group training.
- It shall help provide improvement tips based on CPR performance
- Compression depth, rate release, time and chest compression fraction
- Indication of too little, OK or excessive ventilation volumes

Wireless Student Feedback –

- Wireless Student Feedback Software shall also be available for free downloads as many time as required providing real-time wireless feedback on compressions and ventilations, students can view and monitor their own performance for the following points
 - Compression Depth and Rate
 - Incomplete Release
 - Ventilation volume
 - Overall CPR score
 - Improvement suggestions
 - CPR duration

The tethered plug and play feedback device shall also be able to provide detailed live feedback on compression and ventilation along with assessment and Summative Feedback Mode



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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Knot Tying Trainer with BSS day 1& Day2 is a proprietary product. Having the following unique features –

Skills Gained-

- One-handed reef knot technique
- Instrument tie
- Surgeon's knot
- Slip knot
- Tying in a small opening
- Tying at depth vertically in a large opening
- Tying at depth, at an angle, in a large opening

Product Features-

- Light and compact
- Cylinders are transparent to allow the trainer to observe and assess trainee competence
- Unique magnetic system to represent tissue strength
- Parallel knotting tubes are elastic for a realistic tissue response
- Latex free

Anatomy

- 2 perioperative openings represented by:
 - Small, shallow fixed cylinder for tying in a small opening
 - Large, deep removable cylinder, reversible for angled abdominal and gynecological depth tying

BSS Kit –

Skills Gained-

- Knot-tying: one-handed reef knot, instrument tie, surgeon's knot, tying at depth
- Suturing techniques: holding/manipulation of needles, interrupted, simple and mattress, continuous, subcuticular
- Skin lesions and LA techniques: excising a skin lesion, excising a sebaceous cyst
- Hemostasis: clip tie, continuity tie, pedicle transfixion
- Tissue handling - bowel: end-to-end interrupted sutures
- Fine tissue handling: tendon repair
- Abdominal closure and drain insertion: open abdominal wall, insert drain and secure, close abdominal wall with Aberdeen knot
- Fine tissue handling: vein patch exercise
- Wound management: abscess drainage, traumatic wound debridement



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Proprietary Article Certificate

We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that MamaNatalie is proprietary products with approximate price of 55 thousand rupees. Having the following unique features-

MamaNatalie

- The Simulator should be able to train vaginal deliveries, forceps and vacuum deliveries.
- The Simulator Should be simple, non-electrical and highly realistic for training control of postpartum hemorrhage.
- The simulator should be strapped onto instructor and shall manually control the amount of bleeding and the conditions of uterus.
- Instructor shall control dilation of the cervix and fetal heart sounds.
- Simulator should comprise the following:
 - Birthing simulator
 - Placenta with umbilical cord
 - Blood concentrate
 - New-born Suction
 - Fetal stethoscope
 - Fluid collection tray
 - Fluid drain
 - Urine catheter
 - 20 ml syringe
 - New-born skull with fontanelles
 - New-born Simulator
 - Backpack
 - Squeeze bulbs for simulation of birth cries, spontaneous breathing, palpable umbilical pulse and auscultation of heart sounds
 - External umbilical cord and 2 umbilical tie
 - Sheets to simulate towel Head cap
 - Storage/carrying pouch
 - Directions for use

Birthing simulator should have the facilities to train the following:

- Fetal heart rate Monitoring
- Vaginal delivery
- Breech delivery
- Vacuum delivery
- Incomplete placenta

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- Oxytocin injection
- Controlled cord traction
- Urine bladder catheterization

Jon

[Signature]

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We, Laerdal Medical India Private Limited, having registered office at No.10, 1st Floor, 1st Street, Dr. Subbarayan Nagar, Kodambakkam, Chennai – 600 024, Tamil Nadu, India certify that Pediatric Intubation Trainer is a proprietary product of Laerdal Medical. Having the following unique features –

- Anatomically accurate airway allowing sizing and insertion of various airway adjuncts: Oropharyngeal and nasopharyngeal airway insertion
- Endotracheal tube insertion and securing
- Bag valve mask ventilation
- Tracheal suctioning
- Manually generated carotid pulse
- Closed chest compressions should be possible
- Should have CE/ISO certificate
- The manikin should be supplied with 1 Pediatric Torso Trainer, 1 Can of Manikin Lubricant, 1 Carry Case and Directions for Use



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Appendix 1

Proprietary Certificate

This is to certify that the Simulation Technology used in LAP Mentor III is proprietary of 3D Systems / Simbionix Ltd.

The following modules are offered in the LAP Mentor:

1. Suturing: Basic and Advanced Modules
2. Basic Laparoscopic Skills
3. Essential Tasks Module
4. Cholecystectomy Modules: Lap Chole Procedural Tasks and Lap Chole Complete Procedure
5. Cholangiogram Module
6. Incisional Hernia Module
7. Gastric Bypass Module
8. Nephrectomy Module
9. Colorectal - Sigmoidectomy Module
10. GYN Module
11. Hysterectomy Module
12. Appendectomy
13. Vaginal Cuff Suturing Module (includes suturing handles)
14. Thoracic - Lobectomy Module
15. Inguinal Hernia Module
16. LAP VR

Simbionix Ltd.
Golan Corner of Hanegev St.
Airport City 70151, Israel

3D Systems - Simbionix Ltd. Golan corner of Hanegev St. Airport City 70151 Israel
Tel: +972-3-9114444 Fax: +972-3-9114455 www.simbionix.com

LAPAROSCOPIC SIMULATOR

- The system should be fully computerised and interactive.
- Should have PC and virtual reality simulation processor
- Should have 24" flat LCD touch screen
- Should have elevation mechanism for height adjustment
- Should have foot switch for electrosurgical coagulation
- Should have high performance force feedback with three (3) degrees of freedom
- Should have tool tracking with five(5) degrees of freedom
- Should be High performance and precision
- Should have a variety of optical angles : 0 , 30 and 45
- Should have adapted instrument handles (graspers)
- Should have interchangeable suturing handles with suturing module
- The system should be able to provide comprehensive training in the field of laparoscopic surgery.
- The system should allow for individual training and allow **Team Training** by **plug-and play**-connection of the portable system. "Team training is performed using a combination of **haptic and non-haptic** systems".
- The system should contain at least 19 modules.

• The system should have multiple parameters to evaluate trainee.

- The system should have Web based Simulator Curricula Management System, providing the optimal solution for managing simulation based training and education needs
 - Should facilitate performing the administrative tasks of running a training course or workshop.
- Should offer extensive library of courses including a library of ready-to-use simulator based courses and a platform to design new ones. Courses may include online didactic content, performance review and assessment with benchmarks in selected modules.
- Should have Virtual selection of pre-set trocar positions in certain modules.

Virtual operating Room Setting – VR-OR (in selected modules)

- The system should have a setting of the fully immersive environment of the Virtual Operating Room using Oculus headset for the following modules: Inguinal Hernia, LAP Chole, Appendectomy and Hysterectomy
- The Virtual Operating Room setting should allow performance of the procedure in a virtual operating room with a virtual team, equipment and operating room sounds.
- VR OR should include optional tool selection instructions by Nurse in certain modules.
- VR OR should include the Surgical Mentor capability – Surgical mentor provides procedural comments and tips – in certain modules.

Modules

- The system should have the following practice modules :
 - Basic Laparoscopic Skills including:
 - Camera manipulation
 - Eye-Hand Coordination
 - Clip Applying
 - Clipping and Grasping

- Should have a complete laparoscopic appendectomy curriculum.
- Should include at least two guided tasks, three guided techniques and four complete procedures with different levels of appendix inflammation and anatomical variations.
- Anatomy variations should include: retrocecal appendix, regular appendix, gangrenous pre-ileal appendix and perforated appendix.
- Should include ability for complete exposure, dissection and clipping of the appendicular artery.
- Should be able teaching surgical residents the basic steps of an appendectomy procedure and its techniques.
- Should include
 - i) Inspection of the abdominal cavity,
 - ii) Pus removal (in perforated and gangrenous cases),
 - iii) Exposure of the retrocecal appendix,
 - iv) Cecum mobilization (in retrocecal case),
 - v) Division of the mesoappendix,
 - vi) Control of the appendicular artery, division and extraction of the appendix and irrigation and inspection of the abdominal cavity.
- Trainees should be able to learn to prevent potential complications such as perforation of the appendix and injury to the surrounding structure.
- Should have anatomical 3d Map and real life video.
- Should include "Proctor Mode"- capability enabling real-time modification of mesoappendix blunt dissection difficulty.
- Should include "Proctor Mode" – capability enabling real-time trigger of injury to the appendicular artery and bleeding control.
- Should include "Proctor Mode – capability that allows to enable/disable a specific tool from the tools menu in real time.
- Should include Nurse Tool Selection - capability that enables the selection of instruments during the case by a nurse
- The Appendectomy module should be validated.

Cholangiography Module-

- The module should feature realistic visualization of the Cholangiography procedure.
- Should have didactic step by step guidance to lead the trainee through this complicated procedure.

Nissen Fundoplication

- The module should offer **hands-on practice** with highly realistic graphics allowing users to practice the key steps of the Laparoscopic Nissen Fundoplication procedure for treatment of Gastro-Esophageal Reflux Disease (GERD)
- Should include dissection of peritoneal ligaments, and dissection of the short gastric vessels.
- Trainee should learn to prevent potential complications such as bleeding from various vessels and damage to the esophagus, crura, stomach and spleen.
- Should have at least Two Tasks –

Task 1- Incision of the Gastrohepatic ligament and revealing Esophagus and Crura

- The task should allow for practicing accurate peritoneal incision and dissection.

- Should have objective performance metrics that enhance the learning experience.
- The system should have options of selecting various hand instruments.
- Should have a "Proctor Mode" – capability enabling real-time modification of the tissue stiffness during blunt dissection.
- Should have "Proctor Mode" – Capability enabling real-time trigger of mild and major injuries to the vessels and injuries control.
- Should have "Proctor Mode" – capability that allows to enabling /disabling a specific tool from the tools menu in real time.
- Should include Nurse Tool Selection - capability that enables the selection of instruments during the case by a nurse

Lap Nephrectomy and full procedure–

- Has to have full procedure module of Transperitoneal Laparoscopic Radical Left Nephrectomy
- Trainee should be able to identify the anatomy such as the ureter, gonadal vein; renal vein, renal artery,
- Should allow trainee to decide about the adrenal gland and
 - i) perform the Hilar Dissection
 - ii) Perform the Colon Mobilization with a complete instrument set.
 - iii) Perform mobilization of the upper pole

Lap Gyn – salpingostomy, oophrectomy etc. procedures –

- Should have at least 7 cases to encounter a range of patient pathologies and gain experience with various techniques and surgical instruments.
 - Should include variety of complications and emergency situations.
 - i) bleeding at the implantation site,
 - ii) a ruptured fallopian tube
 - iii) a blood filled abdominal cavity.
 - Should allow trainee to make decision in a unrestricted clinical environment to perform
 - i) Salpingostomy
 - ii) Salpingectomy
 - iii) Salpingo-Oophorectomy
 - iv) Tubal sterilization
- The module has to be validated in clinical studies

Lap Hysterectomy skills and full procedure –

- Should offer complete hysterectomy procedure including
 - i) Ureter exposure,
 - ii) Uterine manipulation,
 - iii) Superior pedicles division,
 - iv) Bladder mobilization,
 - v) Exposure and division of the uterine artery, and
 - vi) Colpotomy.
- The course of the ureters may be visualized transperitoneally, or through a retroperitoneal dissection

- Should facilitate web based simulator curricula management system, providing the optimal solution for administration of users, Curricula design, Pre-preparation with didactic learning, Simulation and Reporting and assessment remotely.
- Should have ready to use designed Curricula from famous institutes.
- Should have a facility to access, assign, evaluate and administer the data of users remotely.
- Should have ready to use simulator based courses.
- Should have implementation of the ACS/APDS curricula.
- The system should have an option to be fully integrated online.
- The system should have an option for online centralized management of one or more simulators
- The system should have an option for online user and group registration and administration
- The system should have an option for online access to didactics content: descriptions, objectives module books, tutorials and real life videos.
- The system should have an option for online access to ready to use course
- The system should have an option for online access to the performance reports.
- The system should have an option for online export of reports to files.
- The system should have an option for online capability to create and modify benchmarks.

Team Training

- Should have Team Training capability in Hysterectomy Module allowed by a plug and play connection of the portable LAP Express system to the haptic LAP Mentor.
- Should have Camera Assistant capabilities in LAP Chole and Appendectomy modules allowed by a plug and play connection of the portable LAP Express system to the haptic LAP Mentor.
- The camera control in the Team Training case in the Hysterectomy module should be easily switched between users during a procedure.
- The camera control in the Camera Assistant setting in the LAP Chole Full Procedures module should be easily switched between users during a procedure.
- In the Hysterectomy Team Training case several trainees should be able to work simultaneously on the same case: the main surgeon operates 2 tools. The first assistant operates the third assisting tool and the second assistant manipulates the uterine manipulator.
- Should offer Nurse Tool Control capability - that enables the selection of instruments during the case (in Appendectomy, Hysterectomy and Lobectomy modules)

Curricula

- Should offer an implementation of the validated Proficiency Based Curriculum for the Cholecystectomy module
- Should offer an implementation of the SORTED Bariatric Curriculum
- Should offer an implementation of The Patient Safety Course for OR Nurses
- Should offer an implementation of the 1st MSMU (I.M.Sechenov First Moscow State Medical University) Scoring course.
- Should offer an implementation of the LSS (Laparoscopic Surgical Skills) Curriculum – Grade 1 –Level1.

Associations

- Should be used exclusively for the simulation based assessment for the European Laparoscopic Skills Curriculum (LSS) - Endorsed by EAES.

- Should have an option to allow the infrared illumination of the ureters for ureters's course identification.
- Should have an option to perform, hysterectomy with or without a preservation of the fallopian tubes and ovaries.
- Should include the option of ischemic appearance of the uterus after the division of the uterine vessels.
- Should include an option of "Proctor Mode" –capability enabling real-time triggering of injuries to the vessels and bleeding control.
- Should include an option of "Proctor Mode" – capability that allows to enable/disable a specific tool from the tools menu in real time.
- Should include Nurse Tool Selection - capability that enables the selection of instruments during the case by a nurse

Vaginal Cuff Suturing–

- The module should provide a unique opportunity to practice vaginal cuff suturing using unidirectional and bidirectional Barbed Sutures.
- Should include a variety of potential complications such as suspected injury to the bladder, ureters, colon and iliac vessels.
- Should offer both visually guided suturing techniques and free-hand training

MYOMECTOMY SUTURING MODULE

- The module should provide to practice and refine the suturing skills required for an upper myometrium and serosal closure using a continuous running suture.
 - Training should include a variety of potential complications such as suspected injury to the bladder, ureters, colon and iliac vessels.
 - Should have Real suturing handles allow for the life-like practice of suturing skills.
 - Should have educational aids including videos of the real procedure, procedural instructions, 3D anatomical atlas and comprehensive performance reports.
- The system should be CE and ISO certified.
 - 3D anatomical maps with an ability to filter out different organs for better understanding of anatomy - should be available on certain modules.
 - Should have feature of split screens of the procedure and of the anatomical atlas (that also have the capability to follow the user's camera movement on both sides of the split screen) - in certain modules.
 - Should have short video of real-life procedures in certain modules for self-learning
 - Should have custom building of training courses for learners of all levels.
 - Should have viewing and exporting of performances reports to facilitates learning, analysis of training effect, showing the learning curve, research and future certification.
 - Should have technical Skills Reporting and Assessment :
 - Time and economy of movements.
 - Safety and electrosurgical dissection per relevant modules.
 - Procedural errors.
 - Procedure specific checklist items relating to knowledge of procedures, handling of instruments and many more.

- Should provide the trainee an opportunity to incise a window into the gastrohepatic ligament, safely dissect the peritoneum, separating the esophagus and crura, and release the esophageal circumference by dissecting the phrenoesophageal ligament.

Task 2 – Division of the Short Gastric Vessels

- The task should allow for practicing an accurate and safe dissection of the gastrosplenic ligament, including its short gastric vessels, in order to later mobilize the stomach fundus.

Lap Full Gastric Bypass–

- Should help the trainee to understand and practice to complete a gastric bypass in its four primary steps.
 - i) Creation of the gastric pouch,
 - ii) Measurement and division of the jejunum,
 - iii) Gastrojejunal anastomosis
 - iv) Enteroenterostomy anastomosis with 2 anatomical positions

Lap Sigmoidectomy and full procedure–

- Has to be full procedure module
- The Module should help the user to identify anatomy such as the ureter, IMA, IMV, gonadal,
- Should include
 - i) incise the peritoneum,
 - ii) dissect in the correct tissue planes,
 - iii) expose and dissect vessels, and
 - iv) perform distal division and anastomosis.
- The Sigmoidectomy module should be validated.

Lap Lobectomy Module–

- The module should provide a unique opportunity to practice the complicated steps.
 - i) The hilar dissection
 - ii) Dissection and division of the blood vessels and bronchus, fissures division in order to separate the upper right lobe.
- Should simulate complications such as
 - i) injury to the pericardium, pulmonary artery and vein branches, phrenic nerve and azygos vein
- Virtual cases Should have
 - i) 3D anatomy atlas
 - ii) step by step tutorials,
 - iii) experts video
 - iv) A fully guided case
 - v) Breathing and pulse movements

- Two handed Manoeuvres
- Cutting
- Electrocautery
- Translocation of Objects

Basic and advanced suturing skills

- The advanced Suturing Module should include, Backhand technique, U-stitch, Curved suture line, Anastomosis, Slanted plane Suture line, Upper plane suturing and Hexagonal suture line.
- The Basic and advance Suturing, should include, detailed interactive tutorials to enable independent training.

Essential skills Module

- Should have Essential tasks similar to Fundamentals of Laparoscopic Skills developed by SAGES.

The system should enable trainee to practice simulation of the following procedures:

Lap Cholecystectomy skills and full procedures-

- Should have procedural task module to guide the trainee through the critical steps involved in the Lap Chole procedure with displayed guidance.
- Should have Full procedures for cholecystectomy of at least 6 virtual patient cases with 16 anatomical variations enabling hands on in an unrestricted anatomical environment.
- Should have task Expert's "Critical View of Safety" which allows to perform a dissection of the cystic duct and artery using a reference of the expert's dissection.

Lap Incisional Hernia -

- Should have at least 6 easy to difficult hernia repair cases.
- Should feature cases of hernia removal using simulated tools common to real surgeries such as the Harmonic Scalpel.
- The module should have simulated mesh, fixation devices, touch screen capabilities with external body view.
- The module should have an ability to control an abdominal cavity insufflation pressure.

Lap Inguinal Hernia Module-

- The Module should provide virtual-reality hands-on simulation for Inguinal Hernia.
- The module should allow users to practice the key steps of the Laparoscopic Transabdominal Preperitoneal (TAPP) Inguinal Hernia repair for the right direct defect.
- Should include anatomy identification, peritoneal incision and dissection and sac reduction steps.
- Should include mesh placement, closure and fixation of the peritoneum task.

Lap Appendectomy skills and full procedures-