**Competency framework for the COVID-19 and critical care management under USAID RISE**

| **Area** | **Type of assessment** | **Topics/skills** | **Cadre** | | | | | | **Training mode** | **Training method** | **Material required** | **Duration** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SP | MO | NS | LT | BME | V |
| Critical care | Knowledge | Triage in ARDS and SARI and management in emergency | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Point of care testing- pulse oximetry and blood gas analysis | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Point of care testing- Lung ultrasonography | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT  Video | 30 mins |
| Oxygen Therapy- oxygen sources, conventional oxygen delivery devices, rational use of oxygen | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |  |
| HFNC vs NIV in ARDS and SARI | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| ABG interpretation-case scenarios | √ | √ |  |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Investigations in COVID-19 | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Clinical Management Protocols in COVID-19- Medical Management) | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Monitoring in COVID-19- Early warning scores | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Management of shock, fluid and electrolyte imbalance in COVID-19 | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Management of comorbidities – Diabetes and hypertension) | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Common Complications and management in COVID- Mucormycosis | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Common complications and management in COVID-19 - Thrombosis, bleeding, Pneumothorax | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Mechanical ventilation- Initiation, Basic modes and settings | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Graphs in Mechanical Ventilation | √ | √ |  |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Lung protective ventilation, sedation and paralysis in Mechanically Ventilated | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | PPT | 30 mins |
| Troubleshooting and alarms in MV | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | * PPT | 30 mins |
| ICU care of Ventilated Patients | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | * PPT | 30 mins |
| Infection Control Bundles in ICU | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | * PPT | 30 mins |
| Dead body management in COVID-19 | √ | √ | √ |  |  |  | Virtual/  Onsite | Interactive discussion | * PPT * Video | 30 mins |
| Skill | Lung ultrasonography | √ |  |  |  |  |  | Onsite | Demonstration/ Hands on | * USG machine * Volunteer | 40 mins |
| Oxygen Therapy- oxygen sources, conventional oxygen delivery devices, rational use of oxy | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Nasal prong * Face mask * Nasal cannula * NRBM * Venturi mask with valves * Oxygen concentrator * Oxygen cylinder with key and humidifier | 40 mins |
| Infection prevention practices: **Hand washing** | √ | √ | √ | √ | √ | √ | Onsite | Demonstration/  Hands on | * Soap with dry dish * Pic. Of tap with running water * Alcohol based hand rub * Checklist * Job aid | 40 mins |
| Infection prevention practices: **Wearing and removing gloves** | √ | √ | √ | √ | √ | √ | Onsite | Demonstration/  Hands on | * Gloves * Checklist |
| Infection prevention practices: **Donning/doffing** | √ | √ | √ | √ | √ | √ | Onsite | Demonstration | * Cap * N 95 Mask * Face shield/Eye cover * Gown * Gloves * Shoe cover * Hand sanitizer * Checklist |
| Basic Life Support | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * BLS mannequin * Face mask * Ambu bag (adult)and mask * Automated defibrillator * Checklist | 40 mins |
| Advanced Cardiac support | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Simple adult mannequin * ECG strips (normal sinus rhythm, Supraventricular tachycardia, Ventricular tachycardia, atrial fibrillation) * Adenosine vial * Amiodarone vial * Lidocane vial * Defibrillator cum cardioverter cum pacer * Pacer pads * ECG gel * ECG chest lids * Checklist * Job aid | 40 mins |
| Central Line Insertion | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Central line mannequin * Central line with insertion needle, guide wire and syringe and dilator * Gloves * Towel holder * Beta dine solution * Gauze * 10 ml syringe * 18 G needle (for puncture) * 16 G needle (for insertion) * Needle holder * Suture Ethicon 2 x 0 silk * Dynaplast * Lignocaine 2% * Checklist | 40 mins |
| Arterial Line Insertion and setup | √ |  |  |  |  |  | Onsite | Demonstration/  Hands on | * Arterial line with insertion needle and guide wire * Gloves * Towel holder * Beta dine solution * Gauze * 10 ml syringe * 18 G needle * Needle holder * Suture Ethicon 2 x 0 silk * Dynaplast * Lignocaine 2% * Checklist |  |
| Mechanical Ventilation- Initiation, basics and lung protective ventilation | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Test lung * Mechanical ventilator * HEPA filter * Oxygen source (if required) * Ventilatory circuit * Catheter mount * Checklist |  |
| Mechanical Ventilation- Trouble shooting and alarms | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Test lung * Mechanical ventilator * HEPA filter * Oxygen source (if required) * Ventilatory circuit * Catheter mount * Checklist | 40 mins |
| Proning | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Bed * Pillow * Bed sheets * Full body Mannequin | 40 mins |
| Airway management and intubation | √ | √ | √ |  |  |  | Onsite | Demonstration/  Hands on | * Airway mannequin * AMBU bag with valve mask * Guedel airway * Nasopharyngeal airway * Laryngoscope (adult) with blade size 3 and 4 * Batty for the laryngoscope * Intubating bougie * Intubating stylet * Endotracheal tube (size 7 or 7.5) * 10 ml syringe * Lignocaine jelly * ET tie * Stethoscope | 40 mins |