

RKMVERI Cardiopulmonary Critical Care Syllabus 3rd Sem M. Sc. CCST

Course	Course Code	Credit
Physiology I	CP301	2+1
Physiology II	CP302	2+1
General Critical Care I	CP303	2
General Critical Care II	CP304	2
Cardiopulmonary Critical Care	CP305	2 + 1
Respiratory Critical Care	CP306	2 + 1
Recent Advancements in Cardio Pulmonary Critical Care	CP307	2
Total		18

CP301 PHYSIOLOGY I:-

1. Lung volumes and Capacities, Mechanism of Respiration
2. Oxygen dissociation curve,
3. Co₂ Transport
4. O₂ cascade, O₂ flux
5. Pulmonary function tests
6. . ECMO
7. . Hyperbaric oxygen

CP302 PHYSIOLOGY II

8. . High Altitude Physiology/ Scuba Diving Physiology
9. . Fitness for Air travel
10. . Cardio Pulmonary Resuscitation
11. . Sleep Related Breathing Disorders
12. . Cardiac cycles Cardiac conduction systemic
13. Vascular Haemodynamics

CP 303 GENERAL CRITICAL CARE I :-

- 1) Central ICU Monitoring system.
- 2) ICU setup.
- 3) Infection control.
- 4) Feeding
- 5) Gas pipelines and safety features
- 6) Sedation and analgesia in ICU
- 7) Scores in ICU.
- 8) Vascular hemodynamics
- 9) Sepsis
- 10) EKG
- 11) ABG

- 12) Radiation hazards prevention (Pregnant)
- 13) Chest X-ray
- 14) CVP lines, Arterial lines.
- 15) ECMO
- 16)) Bipap

CP 304 GENERAL CRITICAL CARE II:

- 17) HFNC
- 18) Inotropes.
- 19) Thermoregulation.
- 20) Physiotherapy
- 21) Massive transfusion
- 22) ICU acquired weakness.
- 23) Initiation of invasive ventilation, troubleshooting - graphics, weaning
- 24) End at life care in ICU
- 25) Brain death. Organ donation, care of donor.
- 26) How to examine an ICU patient.
- 27) Crash cart trolley in Icu.
- 28) Anticoagulation, Anti arrhythmics, Anticonvulsants
- 29) Basics of dialysis in an ICU
- 30) Statistics
- 31) How to read a journal/thesis

CP 305 CARDIOPULMONARY CRITICAL CARE CARDIOVASCULAR

- 1) ACS Acute coronary syndrome. Cardiogenic shock
- 2) Heart failure in Icu.
- 3) Heart Block
- 4) Cardiomyopathy
- 5) Infective endocarditis
- 6) Cardiac tamponade (Pericardial drain)
- 8) Valvular heart disease.
- 9) Aortic dissection.
- 10) Hypertensive crisis.
- 11) Refractory shock
- 12) Care of HF patient and post heart transplant recipient.
- 13) ACT Activated clotting time.
- 14) TPM, PPM, AICD
- 15) CIN contrast induce nephropathy
- 16) Adult grown up with congenital heart disease, general care and management
- 17) post operative care of interventional cardiology/sheath removal/
- 18) Anticoagulant
- ALLIED
- 19) ECHO
- 20) IABP
- 21) PICCO
- 22) Thromboelectrogram
- 23) C-Arm

CP 306 RESPIRATORY Critical Care

- 1) ARDS
- 2) Pulmonary embolism.
- 3) pneumothorax, pleural effusion, .
- 4) Pneumonia
- 5) intercostal drainage , bronchoscopy
- 6) Airway management Difficult airway
- 7) USG Lung scans
- 8) Tracheostomy.
- 9) Cricothyrotomy.

CP 307 RECENT ADVANCE in Cardio Pulmonary Critical Care

- 1) Cardiac output monitoring (Flow-tract/Thermodilution).
- 2) Pulmonary artery catheter,
- 3) Bronchoscopy - Fibre Optic Bronchoscopy (FOB) & Rigid Bronchoscopy
- 4) Transesophageal echocardiography (TEE),
- 5) Thromboelastogram (TEG),

- 6) Drugs Antiarrhythmic drugs, Levosimendine, Antianginal drugs, Dexmedetomidine Antihypertensive ,opioids, local anaesthetics, , Xylocard, induction agents, bzds, Anti platelets, anticoagulant and NOAC, Pkpd of antibiotics etc