College of Physicians and Surgeons of Mumbai

Syllabus for CPS-PG-Course

DICU-DIPLOMA IN INTENSIVE CARE

College of Physicians and Surgeons of Mumbai

CPS House, Dr. E. Borges Marg, Parel, Mumbai – 400012.

DICU-DIPLOMA IN INTENSIVE CARE

COURSE DESCRIPTION

Eligibility Criteria for Candidates:

i. A candidate should possess MBBS degree/ equivalent degree as per provisions of Indian Medical Council Act.

&

ii. Candidates having a recognized 3 years degree Qualification (MD/MS/DNB) in any General Medicine

or 2 years Diploma Qualification in General Medicine

Duration of the Course : 2 years

POSTINGS IN VARIOUS UNITS

Basic Anesthesia skills & recovery room management	6 Months
Post Anesthesia care unit	
Trauma ICU	12 Months
Surgical ICU	
Medical ICU (Adult)	
Coronary care	6 Months
Burns ICU	
Toxicology	
Neurosurgical ICU	
Obstetric ICU	

TEACHING AND TRAINING METHOD

During the period of training, candidates should follow in-service residencyprogram.

He/She should work as senior resident and will be given increasing responsibilities gradually, for independently managing complicated critically illpatients.

Difficult airway management, Intensive care management, complexinvestigative procedures and invasive monitoring techniques.

He/she will also be given training for various diagnostic/ therapeutic invasive procedures and emergencyservices.

Managementofcriticallyillbraindeadpatients(deceaseddonor)for organretrivalprocedures.

He/she should conduct seminars/symposium & journal club for postgraduatestudents

Should organize workshops/CMEs and medical audit everymonth

Desirable – to present research papers in e-journal/national or internationaljournals.

To maintain a log book of the work assigned tothem.

ASSESSMENT

Periodicalinternalassessment(Threeperyear),bothintheoryand clinicalshouldbemadeforeverycandidate.

Internal assessment will be made on day to day work of the trainee,which involves post-operative patient care, ICU management, emergencyservice, handsontraining, bedsidepresentation, logbook maintenance, teaching and research.

EXAMINATION

Thisshouldbedoneattheendoftwoyearsoftraining.Consistsof clinicalexaminationandvivavoice.

One long case and three short cases will be given to each candidate and clinical discussion would last for thirty to forty minutes for long case, fifteen to twenty minutes for shortcase.

The candidates should also be given ECG, X-ray, ABG reportsto interpret.

Various equipment's used in OT and ICU, catheters for invasive monitoring, drugs & fluid therapy to be interpreted and discussed.

SCHEME OF EXAMINATION BASIC SCIENCES

ANATOMY:

Surface anatomy of anterior cubital fossa, large veins, anterior triangle ofneck, femoral triangle, Respiratory system including Airway, Tracheobronchial tree, CVS, CNS, pain pathway, NMJ, kidneys, Liver etc.

PHYSIOLOGY:

Cellular physiology, blood physiology, coagulation profile Thermoregulation

Nerve action potential, nerve conduction, physiology of pain Acid base& Fluid and electrolyte balance

Autonomic nervous system

Cardiac functions, cardiac rate and rhythm, circulation and hemodynamics

Respiratory physiology, mechanics of ventilation, open and closed chest ventilation, ventilation/perfusion mismatch, pulmonary airway mechanics,

Other systems: Renal, Hepatic, CNS, Endocrinal system, Metabolic effects of surgery, Endocrine response to anesthesia and surgery

PHARMACOLOGY:

Drugs related to clinical anesthesia, emergency life-saving drugs, drug distribution, metabolism, etc.

CRITICAL CARE ANESTHESIOLOGY:

Early warning signs of impending critical illness

Causes of cardio-respiratory arrest, identification of patients at risk, corrective treatment of reversible causes, appropriateness of resuscitation and ICU admission

Clinical signs associated with critical illness, their relative importance and interpretation Recognition of life threatening changes in physiological parameters

Treatment algorithms for common medical emergencies Immediate management of acute coronary syndromes Techniques of effective fluid resuscitation

Treatment strategies for abnormalities of fluid, electrolyte, glucose and acid-base balance Indications and methods for ventilatory support

Basic and complex arrhythmias- recognition and management Indications for not starting resuscitation or ceasing an initiated attempt

Relevance of prior health status in determining risk of critical illness and outcomes Criteria for admission to and discharge from the ICU

Factors influencing intensity and site of care (floor, step down unit, ICU)

Basic interpretation of chest radiographs, CT scan and other common radiological imaging modalities Principals of emergency airway management

Recognition and management of

Acute chest pain Tachypnea and dyspnea

Upper and lower airway obstruction Pulmonaryedema/ARDS Pneumothorax

Hypoxemia Hypotension Shock states

Anaphylactic and anaphylactic reactions Hypertensive emergencies

Acute confessional states and altered consciousnessAcute seizures/convulsion

Oliguria and anuria

Acute disturbances in thermoregulation Acuteabdominal pain

Recognition and management of organ system failure including

Circulatory failure Respiratory failure Renalfailure Hepatic failure

Gastrointestinal failure Neurological impairment Sepsis

Intoxication

Per partum complications

Principles of blood product administration Principles of nutritional assessment and support Principles of mechanical ventilation including: Interaction between the patient and ventilator Ventilation for severe acute respiratory failure Weaning from mechanical ventilation

Management of analgesia and sedation of critically ill patient Treatment of infections including:

Antibiotic classes and mechanism of action Principles of appropriate antibiotic usage Indications for surgical treatment

Therapies for management of sepsis, e.g. Activated protein C Indications and principles for renal replacement therapy Complications of central line placement and how to minimize them Indications and principles of bronchoscopy

Management of mass casualties

Transport of the critically ill patient outside of the ICU Management of end of life care

Legal and ethical issues in organ donor

MONITORING

Clinical assessment of vital organ function

Hemodynamic monitoring with arterial, central venous and pulmonary artery catheters

Bedside respiratory monitoring: evaluation of compliance, airway resistance and respiratory muscle strength

Monitoring of cardiac arrhythmias and ischemia/infarction with continuous ECG

Bedside monitoring of gas exchange, including blood gas analysis and noninvasive monitoring of CO2 exchange

Simple assessment of metabolic and renal function, including acidbasephysiology, serum and urine electrolytes

Neurological assessment through physical exam and interpretation of intracranial pressure.

RESPONSIBILITIES

Orders and prioritizes appropriate investigations

Evaluates the risks and benefits related to specific investigations Interprets laboratory results in the context of the patient's condition Identifies abnormalities requiring urgent intervention

Recognizes significant changes and need for repeated testing Documents investigations undertaken, results and action taken Principles of informed consent

Principles of crisis management, conflict resolution, negotiation and debriefing Understand nonverbal communication with critically ill patients

Principles of delivering bad news to patients and families

Strategies to communicate complicated critical care issues to the general population

DICU: DIPLOMA IN INTENSIVE CARE

EXAMINATION PATTERN

Theory Examination:

PAPER I	PAPER II	PAPER III
ANATOMY PHYSIOLOGY	THERAPEUTICS	Applied Sciences
Section I	**Section I**	**Section I**
Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**	Q.1. 10 Marks Q.2. 10 Marks Q.3. 10 Marks Q.4. 10 Marks Q.5. 10 Marks **Total 50 Marks**
Section II	**Section II**	**Section II**
Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks **Total 50 Marks**	Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks **Total 50 Marks**	Q.6. 10 Marks Q.7. 10 Marks Q.8. 10 Marks Q.9. 10 Marks Q.10. 10 Marks **Total 50 Marks**
Section I + II = 100 Marks	Section I + II = 100 Marks	Section I + II = 100 Marks
Total Theory = 300 Marks, Passing = 150 (i.e. 50%) Marks in aggregate		

Practical Examination:		**Marks**
Paper - IV	Clinical Practical	100
Paper - V	Oral & Viva	100
Paper - VI	Case	100
Total Marks	**(Aggregate marks for passing is 50% out**	**300**

BOOKS:

Text book of critical care byShoemaker

Procedures and monitoring for the critically ill patients byWilliumShoemaker.

ICU by PaulMarino

Manual of Intensive CareMedicine

Respiratory support inICU

Recent trends in Anaesthesia and CriticalCare

Journals

Journal of Critical CareMedicine