August, 2015

STATE MEDICAL FACULTY OF WEST BENGAL

Preliminary Examinations
for Diploma in Critical Care Technology : DCCT Course

Paper – I
Basic of Critical Care Services

Time : 3 Hours Full Marks : 80

Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

Q-1) Answer all of the following. Select only one response.
Each correct response carries One (1) mark:- **10x1 = 10**

i) Length of extrathoracic portion of trachea is:

a) 2 cm c) 5 cm
b) 3 cm d) 7 cm

ii) In ABG report increased difference between alveolar and arterial partial pressure of oxygen i.e. D $(A - a)_2$ signifies:

a) Alveolar hypoventilation c) Low FIO_2 in inhaled air
b) Ventilation/perfusion mismatch d) None

iii) In septic shock following helps assessing the severity:

a) Plasma bilirubin c) Plasma Lactate
b) Plasma cortisol d) None

iv) Brain death as a definition of death helps:

a) Procuring organ for cadaveric organ transplantation
b) Disposal of the subject and providing the bed to other patient
c) Both d) None

v) Normally intercostals & other chest wall muscles contribute to respiratory pump function by:

a) 20% c) 40%
b) 30% d) 50%

vi) IV Amiodarone is used to treat:

a) VT c) Both
b) SVT d) None

vii) Following specific blood test is routinely done prior doing tracheotomy:

a) Blood sugar c) Prothrombin Time
b) Serum creatinine

viii) Sterilization in ICU involves:

a) H_2O_2 c) Liquid paraffin
b) Xenon d) a+b

ix) Post CPR Cerebral protection involves:

a) Hyperthermia c) Hyponatraemia
b) Hypothermia d) Hypomagnesaemia

x) Common causes of metabolic acidosis are all, except:

a) Sepsis c) Vomiting
b) Renal failure d) Diabetic Ketoacidosis

Contd.....P2/

Preliminary Examinations
for Diploma in Critical Care Technology : DCCT Course

Paper – I
Basic of Critical Care Services

Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. Anatomy of respiratory tract of human body with diagram. 20

Q3. Physiology of ventilation in a normal human being. 20

Q4. Oxygen therapy – Indications, adverse effects, different high flow devices with advantages and disadvantages. 20

Q5. Respiratory Failure : different types, causes and management. 20

Q6. Write short notes on (**Any Four**) of the following:- **4 x 7.5 = 30**

a) Renal Replacement Therapy
b) Gas exchange unit in lung
c) PEEP
d) Permissive hypercapnea
e) Inhalation therapy.

****

August, 2015

STATE MEDICAL FACULTY OF WEST BENGAL

Preliminary Examinations
for Diploma in Critical Care Technology: DCCT Course

Paper – II
Principles Underlying Different Procedures & Equipments and Clinical Application

Time – 3 hours | Full Marks – 80

Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

Q-1) Answer all of the following. Select only one response.
Each correct response carries One (1) mark:- **10x1 = 10**

i) Recurrent Supra Ventricular Ectopic showed on monitor is:

a) Always ignored
b) Treated by Diltiazem
c) Treated when haemodynamically unstable
d) None

ii) In a capnometry, normal partial pressure of CO_2 in exhaled air is:
a) 90 ± 5 mmHg
b) 95 ± 5 mmHg
c) 46 mmHg
d) 50 mmHg

iii) Severe hypernatraemia means serum sodium level:

a) < 130 mEq/L
b) <126 mEq/L
c) < 120 mEq/L
d) < 116 mEq/L

iv) Intrinsic PEEP is developed because of all, except:
a) High spontaneous breath rate
b) High tidal volume
c) Increased expiratory time
d) Contraction of abdominal muscles while straining

v) Sharp instruments are sterilized by:
a) Autoclaving
b) Spirit
c) Lysol
d) UVI

vi) Maximum concentration of oxygen applicable by nonrebreathing mask with reservoir is:
a) 60%
b) 70%
c) 80%
d) 90%

vii) External pacemaker attached to Defibrillator is used to treat:
a) Chronic Heart block
b) Cardiac arrest due to heart block pending TPI
c) Sick Sinus Syndrome
d) None

viii) ABG report shows – pH 7.2, HCO_3 19MEq/L and PCO_2 70mmHg, Diagnosis is:
a) Metabolic acidosis
b) Metabolic alkalosis
c) Metabolic acidosis and Respiratory acidosis
d) Respiratory alkalosis

ix) All are used as nebulising solution in ICU, except:

a) Fluticasone
b) Budesonide
c) N – Acetyl Cysteine
d) Tiotropium

x) Chance of life threatening Blood Stream Infection is most common with:
a) Central Venous Cath
b) Peripherally inserted CV Cath
c) Peripheral Venous Cath
d) Subcutaneous pump

Contd……..P2/

Preliminary Examinations
for Diploma in Critical Care Technology: DCCT Course

Paper – II

Principles Underlying Different Procedures & Equipments and Clinical Application

Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. All noninvasive cardiorespiratory parameters monitoring – Clinical application. 20

Q3. Noninvasive Ventilation – Indications, Modes, Monitoring and Complications. 20

Q4. Pulse oximetry – physical principle, operation, indications and fallacies. 20

Q5. On multichannel monitor – What kind of alarms do you face and how to troubleshoot? 20

Q6. Write short notes on (**Any Four**) of the following:- **4 x 7½ = 30**

a) Peadiatric problem in PICU
b) Conflicts in ICU within different health care workers and between them & patients relatives
c) Acute Respiratory distress syndrome (ARDS)
d) Oxygen supply system
e) PCV mode of invasive ventilation.

****

STATE MEDICAL FACULTY OF WEST BENGAL

Preliminary Examinations – August, 2015
for Diploma in Critical Care Technology : DCCT Course

Paper – I
Basic of Critical Care Services

ANSWER TO THE QUESTIONS OF Q1. :-

Q1. :	i	-	c
	ii	-	c
	iii	-	c
	iv	-	c
	v	-	c
	vi	-	c
	vii	-	c
	viii	-	a
	ix	-	b
	x	-	c

Paper – II
Principles Underlying different Procedures & Equipments and Clinical Application

ANSWER TO THE QUESTIONS OF Q1 :-

Q1. :	i	-	c
	ii	-	c
	iii	-	d
	iv	-	c
	v	-	c
	vi	-	d
	vii	-	b
	viii	-	c
	ix	-	d
	x	-	b

****