BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022
Course Name – Patients Care for Ventilation
Course Code - BCCTC503
(Semester V)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Ventilator-associated pneumonia (VAP) is a significant concern in ventilated patients. State the crucial measure to help prevent VAP.

a) Elevating the head of the bed to 30-45 degrees
b) Regularly suctioning the patient's airway to remove secretions
c) Administering prophylactic antibiotics to all ventilated patients
d) Increasing the humidity level in the patient's room

(ii) Select the mode of ventilation allows the patient to initiate breaths.

a) Continuous positive airway pressure (CPAP)
b) Pressure support ventilation (PSV)
c) Synchronized intermittent mandatory ventilation (SIMV)
d) Assist-control ventilation (ACV)

(iii) Identify the landmark used for the insertion of a subclavian central line is.

a) Clavicle
b) Sternum
c) Xiphoid process
d) Acromion process

(iv) Identify the purpose of the water seal chamber in the chest drainage system.

a) To provide suction to the chest tube
b) To create a one-way valve
c) To collect drainage
d) To measure intrapleural pressure

(v) Predict the potential complication of central venous catheter insertion that may require immediate intervention.

a) Localized pain
b) Air embolism
c) Minor bleeding at the insertion site
d) Skin rash

(vi) Identify in what position should the patient be in order to get access the subclavian vein during central line cannulation.

a) Supine
b) Trendelenburg
c) Left lateral decubitus
d) Prone

(vii) Choose the preferred site for arterial line cannulation in patients with peripheral vascular disease.

a) Dorsalis pedis artery
b) Brachial artery
c) Femoral artery
d) Radial artery

(viii) During PAC insertion, predict where the catheter tip is ideally positioned for accurate pulmonary artery pressure measurement.

a) Left ventricle
b) Pulmonary artery
c) Right ventricle
d) Right atrium

(ix) Choose the primary purpose of continuous cardiac output monitoring with a PAC.

a) To measure blood pressure
b) To assess cardiac contractility
c) To monitor fluid status
d) To track changes in cardiac output in real-time

(x) Choose what is the most common cause of a widened QRS complex on an ECG.

a) Sinus tachycardia
b) Atrioventricular block
c) Bundle branch block
d) Atrial fibrillation

(xi) Interpret which of the following conditions is NOT an indication for ionotropic support.

a) Decompensated heart failure
b) Hypertension
c) Cardiogenic shock
d) Acute myocardial infarction

(xii) Choose Which ionotropic agent is often used as a first-line treatment for severe anaphylaxis.

a) Dopamine
b) Epinephrine
c) Norepinephrine
d) Isoproterenol

(xiii) Determine the common sign of inadequate fluid resuscitation in a patient with septic shock.

a) Bradycardia
b) Decreased urine output
c) Hypotension
d) Elevated body temperature

(xiv) Identify The "triangle of safety" refers to a region on the neck used for.

a) Capillary blood sampling
b) Peripheral venous cannulation
c) Central venous catheterization
d) Arterial cannulation

(xv) Determine the potential complication of using lactated Ringer's solution for fluid resuscitation.

a) Bradycardia
b) Decreased urine output
c) Hypotension
d) Elevated body temperature

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain the concept of hyperoxygenation. (3)
3. Write the anatomical sites commonly used for central line insertion, and the factors influence the choice of site. (3)
4. Tell the common respiratory conditions that can benefit from chest physiotherapy. (3)
5. Identify the role of continuous cuff pressure monitoring in reducing complications associated with intubation. (3)
6. Explain the contraindications for the use of central venous catheters in critically ill patients. (3)

OR

Explain the concept of "central line-associated bloodstream infections" (CLABSIs). (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the ECG findings associated with hyperkalemia and hypokalemia, including their clinical implications and treatment approaches. (5)
8. Summerize the key criteria for diagnosing atrial fibrillation on an ECG. (5)
9. Evaluate the role of central venous catheters in the administration of medications, parenteral nutrition, and hemodynamic monitoring. (5)
10. Evaluate the importance of waveform analysis in interpreting arterial pressure readings obtained through arterial cannulation. (5)
11. Summerize the key anatomical landmarks and considerations when inserting a needle or catheter into the pericardial space. (5)
12. A patient with septic shock and acute respiratory failure requires mechanical ventilation. Analyze how should ventilatory parameters be adjusted to improve oxygen delivery and perfusion in this critical condition. (5)

OR

Organize the common indications for initiating ionotropic support in critically ill patients. (5)

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