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**BRAINWARE UNIVERSITY**

Term End Examination 2025-2026

Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022/B.Sc.(CCT)-2023

Course Name – Patients Care for Ventilation

Course Code - BCCTC503

(Semester V)

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

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) Select the medication commonly used for sedation in ventilated patients.
- | | |
|---------------|----------------|
| a) Albuterol | b) Midazolam |
| c) Furosemide | d) Epinephrine |
- (ii) Identify the lead placement of V6.
- | | |
|--|---|
| a) Fifth intercostal space, midaxillary line. | b) Fifth intercostal space, midclavicular line |
| c) Fourth intercostal space, left of the sternum | d) Fourth intercostal space, right of the sternum |
- (iii) Select the indication of transcutaneous pacemaker.
- | | |
|-------------------------------|---|
| a) For cosmetic purposes | b) In cases of bradycardia or heart block |
| c) During scheduled surgeries | d) Routine cardiac monitoring |
- (iv) Select which of the following pressures is calculated using the systolic and diastolic pressures.
- | | |
|---------------------------------|----------------------------------|
| a) Respiratory pressure | b) Central venous pressure (CVP) |
| c) Mean arterial pressure (MAP) | d) Pulse pressure |
- (v) Interpret the "dicrotic notch" in an arterial pressure waveform corresponds to.
- | | |
|-----------------------------|----------------------------|
| a) Blood entering the atria | b) Atrial relaxation |
| c) Aortic valve closure | d) Ventricular contraction |
- (vi) Recognize which of the following is a sign of fluid overload.
- | | |
|-----------------------------|-------------------------|
| a) Edema | b) Weight loss |
| c) Decreased blood pressure | d) Increased heart rate |
- (vii) Recognize which positive inotropic agents may increase the risk of cardiac arrhythmias due to,
- | | |
|---------------------------------------|--------------------------|
| a) Decreased afterload | b) Vasodilation |
| c) Decreased myocardial oxygen demand | d) Enhanced automaticity |
- (viii) Identify Which inotropic agent is a catecholamine and stimulates both alpha and beta adrenergic receptors.

- a) Dobutamine
c) epinephrine
- b) Milrinone
d) Dopamine
- (ix) Identify Which of the following statements about postural drainage is true.
- a) It is contraindicated in all respiratory conditions.
c) It involves manually clearing mucus from the airways.
- b) It uses gravity to assist in mucus clearance.
d) It is only effective in supine position.
- (x) Identify which position should the patient ideally be placed during suctioning.
- a) Left lateral
c) Trendelenburg
- b) High Fowler's
d) Supine
- (xi) Select which lead of QRS complex is often used to determine the heart's electrical axis.
- a) Lead V1
c) Lead II
- b) Lead aVR
d) Lead I
- (xii) Identify the "dicrotic notch" in an arterial pressure waveform corresponds to,
- a) Blood entering the atria
c) Aortic valve closure
- b) Atrial relaxation
d) Ventricular contraction
- (xiii) Select the correct answer- How should you position the patient's chest drainage system when they are being transported within the hospital.
- a) It doesn't matter
c) Below the level of the patient's chest
- b) At the same level as the patient's chest
d) Above the level of the patient's chest
- (xiv) Determine the purpose of the "Allen's test" before radial artery cannulation.
- a) To measure radial artery diameter
c) To assess blood pressure
- b) To evaluate collateral circulation
d) To check for arterial obstruction
- (xv) Interpret the "sawtooth" pattern of atrial activity .
- a) Right bundle branch block
c) Atrial flutter
- b) Left ventricular hypertrophy
d) Atrial fibrillation

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Tell the complications that can arise from the improper placement of a endotracheal tube, and how can these be prevented. (3)
3. Explain the importance of verifying tube placement in nasogastric tube insertion. (3)
4. Explain the potential consequences of neglecting cuff pressure management in endotracheal tubes in critical care situations. (3)
5. Explain the importance of sterile technique and infection control measures when suctioning. (3)
6. Write the anatomical sites commonly used for arterial line cannulation. (3)

OR

Plan the transducer setup and zeroing performed to ensure accurate arterial pressure monitoring. (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. Discuss the concept of the T-wave on an ECG, including the significance of T-wave inversion. (5)
9. Interpret the ECG criteria for diagnosing bundle branch blocks (right and left bundle branch blocks) and their clinical significance. (5)
10. Discuss briefly about the ECG characteristics of a first-degree heart block, a second-degree heart block (Type I and Type II), and a third-degree (complete) heart block. (5)

11. Write the common indications for performing a pericardiocentesis procedure. (5)
12. Summarize the maintenance and care of central venous catheters, including strategies to prevent infection and thrombosis. (5)

OR

Summarize the indications and techniques for the insertion of a peripherally inserted central catheter (PICC). (5)

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