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**BRAINWARE UNIVERSITY**

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Term End Examination 2025-2026**Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022/B.Sc.(CCT)-2023****Course Name – Mechanical Ventilation-Non Invasive and Invasive Mechanism****Course Code - BCCTC502****(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) Identify the primary determinant of the work of breathing.
- | | |
|--------------------|----------------------|
| a) Tidal volume | b) Respiratory rate |
| c) Lung compliance | d) Oxygen saturation |
- (ii) Choose the following conditions can reduce the work of breathing.
- | | |
|------------------------|--------------------------------|
| a) Bronchoconstriction | b) Increased airway resistance |
| c) Stiff chest wall | d) Decreased lung compliance |
- (iii) Choose the following factors can affect the work of breathing in mechanical ventilation.
- | | |
|----------------------------------|---------------------------------|
| a) Sedation level of the patient | b) Humidity of the inspired air |
| c) Ambient temperature | d) Time of day |
- (iv) Identify the primary goal of adjusting the inspiratory and expiratory times on a ventilator.
- | | |
|--|--|
| a) To synchronize with the patient's natural breathing pattern | b) To maintain a constant tidal volume |
| c) To maximize inspiratory hold time | d) To minimize inspiratory time |
- (v) Choose the following units is typically used to measure tidal volume.
- | | |
|---------------------------|---------------------|
| a) Liters (L) | b) Milliliters (mL) |
| c) Cubic centimeters (cc) | d) All of these |
- (vi) Choose the following factors can affect tidal volume settings on a mechanical ventilator.
- | | |
|-----------------------------|-------------------------------|
| a) Patient's age and gender | b) Ventilator brand and model |
| c) Ambient room temperature | d) Nurse's preference |
- (vii) Identify the primary purpose of CPAP therapy.
- | | |
|----------------------------|---|
| a) To lower blood pressure | b) To treat sleep apnea and improve breathing |
| c) To reduce anxiety | d) To increase oxygen levels in the blood |
- (viii) Identify the recommended pressure setting for CPAP therapy.
- | | |
|------------------------------|--------------------------------|
| a) 5-10 cm H ₂ O | b) 20-30 cm H ₂ O |
| c) 50-60 cm H ₂ O | d) 100-150 cm H ₂ O |

11. Explain the role of nebulization in the management of respiratory conditions, especially in patients requiring mechanical ventilation. (5)
12. Explain the underlying principles and mechanisms of Pressure Control Mode in mechanical ventilation. (5)

OR

Explain the potential drawbacks or disadvantages associated with Pressure Control Mode ventilation. (5)

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