



## BRAINWARE UNIVERSITY

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

Term End Examination 2025-2026

Programme – B.Sc.(CCT)-2022/B.Sc.(CCT)-2023/B.Sc.(CCT)-2024

Course Name – Basics of Critical Care Technology

Course Code - BCCTC303

( Semester III )

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) Quote All muscles of the larynx are supplied by recurrent laryngeal nerve except.
- |                 |            |
|-----------------|------------|
| a) vocal cord   | b) carina  |
| c) cricothyroid | d) glottis |
- (ii) Select trachea starts from ends at.
- |             |             |
|-------------|-------------|
| a) C6 to T5 | b) c2 to c5 |
| c) t1 to t3 | d) t2 to t5 |
- (iii) Identify ventilation and perfusion is more.
- |           |           |
|-----------|-----------|
| a) base   | b) apex   |
| c) atrium | d) septum |
- (iv) Recite Total lung volume is.
- |                        |                        |
|------------------------|------------------------|
| a) It is 5000-6000 ml. | b) It is 5500-6000 ml. |
| c) It is 3500-4000 ml. | d) It is 4500-5000 ml. |
- (v) Choose early complication of Tracheostomy.
- |                        |                      |
|------------------------|----------------------|
| a) Pneumothorax.       | b) Infection.        |
| c) Tracheal ulceration | d) Tracheal stenosis |
- (vi) Interpret high flow o2 delivery system.
- |                  |                      |
|------------------|----------------------|
| a) nasal cannula | b) facemask          |
| c) Venturi mask  | d) none of the these |
- (vii) Relate aerosol generators are:
- |                |                        |
|----------------|------------------------|
| a) humidifire  | b) nebulaizers         |
| c) venturimask | d) low flow o2 devices |
- (viii) Select the location of aortic sinus.
- |                            |                    |
|----------------------------|--------------------|
| a) base of ascending aorta | b) arch of aorta   |
| c) descending aorta        | d) pulmonary trunk |

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- (ix) Choose which forms diaphragmatic surface of heart.  
a) both atrium  
b) both ventricle  
c) left ventricle and auricle  
d) right ventricle and auricle
- (x) Select the right answer: Decide Overdosage of narcotics can cause:  
a) Hypercapnic Ventilatory failure  
b) Oxygenation Failure  
c) Combined Oxygenation and Ventilatory Failure  
d) none of these
- (xi) Choose anaphylactic can cause:  
a) Cardiogenic shock  
b) distributive shock  
c) obstructive shock  
d) hypovolemic shock
- (xii) Difficulty with cricothyrotomy can be identified with all of the following EXCEPT:  
a) Class III or Class IV Mallampati  
b) Obesity  
c) Scarring from radiation on the neck  
d) Hematoma, tumor, or abscess on the neck
- (xiii) List the advantages of noninvasive positive-pressure ventilation (NPPV) over endotracheal mechanical ventilation.  
a) Decreased length of stay in, and reduced need for ICU admission  
b) Reduced risk of nosocomial infection  
c) Reduced risk of airway injury  
d) Preservation of speech, swallowing, and physiologic airway defense mechanisms
- (xiv) Select which of the following is not a common indication for bronchoscopy.  
a) Monitoring blood pressure  
b) Persistent cough  
c) Evaluation of vocal cord function  
d) Suspected lung cancer
- (xv) Identify the purpose of the "no-touch" technique during suctioning.  
a) To facilitate deep catheter insertion  
b) To improve suctioning efficiency  
c) To prevent contamination of the catheter  
d) To minimize patient discomfort

**Group-B**

(Short Answer Type Questions)

3 x 5=15

2. Describe the importance of maintaining a patent airway. (3)
3. State when it's necessary to use an oropharyngeal airway (OPA). (3)
4. Cite the common indications that may require oxygen therapy. (3)
5. Indicate the key difference between invasive and non-invasive ventilation in oxygen therapy. (3)
6. Write the preparation of extubation. (3)

OR

Write in short about RSBI.

(3)

**Group-C**

(Long Answer Type Questions)

5 x 6=30

7. Describe the role of oxygen therapy in emergency situations, such as cardiac arrest and trauma. (5)
8. Write about the key parameters and clinical signs that healthcare providers should monitor when a patient is receiving oxygen therapy. (5)
9. Summarize the potential complications of prolonged intubation. (5)
10. Compare planned extubation with unplanned or emergency extubation in terms of complications. (5)
11. Tell in details about respiratory alkalosis along with treatment. (5)
12. Focus on the role of aseptic technique in airway suctioning procedures. (5)

OR

Distinguish between oropharyngeal and endotracheal suctioning.

(5)