



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(OTT)-2021

Course Name – Advance Anesthetic Techniques

Course Code - BOTT503

(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) What is the primary function of the atrioventricular (AV) valves in the heart?
- a) To pump blood into the pulmonary artery b) To prevent backflow of blood into the ventricles
- c) To receive oxygenated blood from the lungs d) To facilitate the release of carbon dioxide
- (ii) What is the primary cause of the "lub" sound (S1) heard in heart sounds?
- a) Closure of semilunar valves b) Ventricular relaxation
- c) Ventricular ejection d) Closure of AV valves
- (iii) What is the primary determinant of cardiac output?
- a) Stroke Volume b) Heart Rate
- c) Preload d) Afterload
- (iv) What is the primary goal of managing atrial fibrillation?
- a) Reduce heart rate b) Restore sinus rhythm
- c) Increase atrial contractions d) Lower blood pressure
- (v) Which population may require higher levels of humidification due to prolonged mechanical ventilation?
- a) Neonates b) Adults
- c) Critically ill patients d) Home care patients
- (vi) What is the typical heart rate during ventricular tachycardia?
- a) 40-60 bpm b) 60-100 bpm
- c) 100-150 bpm d) Above 150 bpm
- (vii) What is the maximum flow rate for high-flow nasal cannula therapy?
- a) 1-6 L/min b) 4-12 L/min
- c) 6-15 L/min d) Up to 60 L/min

8. Analyze the physiological mechanisms involved in gas exchange during Intermittent Positive Pressure Ventilation (IPPV) and explain how they contribute to maintaining adequate oxygenation and carbon dioxide elimination. (5)
 9. Elaborate on the importance of close monitoring of gas exchange, respiratory mechanics, and hemodynamic parameters during IPPV. (5)
 10. Analyze the principles of acid-base balance and explain how alterations in hydrogen ion (H+) and bicarbonate (HCO₃⁻) concentrations affect the body's pH. (5)
 11. Describe different ECG leads and their placement. (5)
 12. Explain different elements of cardiac contractility. (5)
- OR**
- Analyze the causes and management of hypertension. (5)
