



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

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

Course Name – Basic Administration and Equipment Maintenance

Course Code - BOTTE603

(Semester VI)

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 primary purpose of a purchase order in healthcare administration:
 - a) To request funds for equipment purchase
 - b) To authorize the purchase of goods or services
 - c) To schedule staff training sessions
 - d) To monitor patient records
- (ii) Tell the electrode placement configuration is commonly used for defibrillation.
 - a) Anterior-posterior
 - b) Left arm-right arm
 - c) Right chest-left chest
 - d) Apex-anterior
- (iii) Choose the main purpose of a ventilator in an operating theatre.
 - a) To monitor blood pressure
 - b) To administer anesthesia
 - c) To assist with breathing
 - d) To regulate temperature
- (iv) State the mode of ventilation that delivers breaths at a set rate and volume regardless of patient effort :
 - a) Assist-control ventilation
 - b) Pressure support ventilation
 - c) Synchronized intermittent mandatory ventilation (SIMV)
 - d) Continuous positive airway pressure (CPAP)
- (v) Choose the parameter that is essential for monitoring when a patient is on a ventilator.
 - a) Blood glucose level
 - b) Oxygen saturation (SpO₂)
 - c) Urine output
 - d) Intracranial pressure
- (vi) Identify the appropriate term for PEEP .
 - a) Pressure-enhanced expiration phase
 - b) Positive end-expiratory pressure
 - c) Preemptive endotracheal pressure
 - d) Pulmonary efficiency enhancement program
- (vii) Select BiPAP machines are commonly used for patients with:
 - a) Hypertension
 - b) Obstructive sleep apnea
 - c) Hyperthyroidism
 - d) Asthma
- (viii) Choose the key difference between CPAP and BiPAP machines.

- a) CPAP delivers one pressure, BiPAP delivers two pressures
- b) CPAP is used for ventilation, BiPAP is used for oxygenation
- c) CPAP is used for pediatric patients, BiPAP is used for adults
- d) CPAP provides constant pressure, BiPAP provides variable pressure
- (ix) Choose the meaning of NIBP.
 - a) Non-Invasive Blood Pressure
 - b) Normal Intraoperative Blood Pressure
 - c) Neurological Intensive Blood Pressure
 - d) Nasal Inspiratory Burst Pressure
- (x) Choose the first step in troubleshooting a malfunctioning medical device.
 - a) Check the power source
 - b) Consult the user manual
 - c) Restart the device
 - d) Notify technical support
- (xi) Trace, during validating equipment, IQ/OQ/PQ stand for.
 - a) Input Quality, Output Quality, Performance Quality
 - b) Installation Qualification, Operational Qualification, Performance Qualification
 - c) Inventory Quantity, Operational Quality, Productivity Quantity
 - d) Inquiry Questionnaire, Operational Query, Performance Questionnaire
- (xii) Identify the significance of the Allen's test before arterial blood sampling.
 - a) To assess renal function
 - b) To evaluate liver function
 - c) To ensure collateral circulation
 - d) To determine coagulation status
- (xiii) Choose the term FiO2 represent in ventilator settings:
 - a) Frequency of inspiration
 - b) Fraction of inspired oxygen
 - c) Forced inspiratory oxygen
 - d) Flow rate of oxygen
- (xiv) Select In BiPAP mode, difference between IPAP and EPAP.
 - a) IPAP is the pressure during inspiration, and EPAP is the pressure during expiration
 - b) IPAP is the pressure during expiration, and EPAP is the pressure during inspiration
 - c) IPAP is the pressure at which the patient breathes, and EPAP is the pressure set by the clinician
 - d) IPAP is the pressure set by the clinician, and EPAP is the pressure at which the patient breathes
- (xv) Select the primary purpose of using a syringe pump.
 - a) To deliver small volumes of medication accurately
 - b) To administer fluids rapidly during emergencies
 - c) To maintain continuous infusion of medications
 - d) To monitor intravenous lines

Group-B

(Short Answer Type Questions)

3 x 5=15

2. List the key components of a purchase order in healthcare administration? (3)
3. Discuss what are the measures can healthcare administrators take to prevent equipment theft or misuse? (3)
4. Explain how can healthcare administrators evaluate the effectiveness of their equipment maintenance programs? (3)
5. Explain What are the key components of a monitoring process for medical equipment in an operating theatre? (3)
6. Evaluate the importance of regularly checking and cleaning the filters in ventilators and CPAP machines for ensuring optimal air quality and device performance. (3)

OR

Summarize the potential risks associated with improper maintenance of infusion pump battery packs and propose strategies for ensuring battery longevity and performance. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain what safety precautions should be followed when using an ECG machine in proximity to other medical equipment or during specific surgical procedures? (5)
8. Express what safety precautions should be followed when handling arterial blood samples and operating an ABG machine in the operating theater? (5)
9. Illustrate the importance of accurate record-keeping in purchase order administration for healthcare facilities. (5)
10. Justify the role of risk management in identifying and addressing potential issues related to purchase orders and equipment maintenance in healthcare. (5)
11. Enumerate the importance of adherence to maintenance protocols in ensuring the reliability of medical equipment during surgical procedures. (5)
12. Evaluate the purpose of an arterial blood gas (ABG) machine in the operating theater, and how does it contribute to patient care during surgery? (5)

OR

Illustrate the importance of proper handling and storage of arterial blood samples before analysis in an ABG machine. (5)

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