24854-27209-42175

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022/B.Sc.(CCT)-2023
Course Name – Basic Administration and Equipment Maintenance
Course Code - BCCTC603
(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) Write a crucial step to prevent contamination when changing ventilator circuits?

a) Disconnecting the patient from the ventilator
b) Ensuring the ventilator is turned off
c) Using sterile gloves
d) Wiping down the circuits with a dry cloth

(ii) Write the proper actions should be taken, if unusual sounds are detected coming from a ventilator during operation?

a) Ignore the sounds unless alarms are triggered
b) Increase the volume to drown out the sounds
c) Immediately investigate and troubleshoot
d) Wait until the next scheduled maintenance to address the issue

(iii) Choose the appropriate response to a ventilator alarm indicating "High Respiratory Rate"?

a) Decrease tidal volume
b) Increase tidal volume
c) Assess patient's lung compliance
d) Increase sedation level

(iv) Choose the first step you should take when troubleshooting a defibrillator that is not functioning?

a) Check the battery status
b) Verify electrode placement
c) Ensure proper cable connections
d) Restart the device

(v) Write the parameter is essential to verify before delivering a shock with a defibrillator?

a) Blood pressure
b) Pulse oximetry
c) Paddle placement
d) Respiratory rate

(vi) Write the proper the cause if the ECG monitor displays a flat line despite the patient being connected properly?

a) Faulty ECG machine
b) Loose electrode connection
c) Incorrect lead selection
d) Inadequate patient grounding

(vii) Write the importance to perform routine quality control checks on an ABG machine?

a) To ensure accurate patient results
b) To increase the lifespan of the machine
c) To fulfill regulatory requirements only
d) To reduce energy consumption

(viii) If the ABG machine displays inconsistent temperature readings, Select a possible solution.

a) Allow the machine to warm up for an extended period
b) Replace the temperature sensor
c) Adjust the calibration settings
d) Clean the sampling ports thoroughly

(ix) Choose a potential consequence of air bubbles in the syringe tubing of a pump?

a) Increased infusion accuracy
b) Improved patient outcomes
c) Potential occlusion of the tubing
d) Faster medication delivery

(x) Select components should be checked regularly during BiPAP machine maintenance?

a) Humidifier chamber
b) Tubing
c) Filters
d) All of this

(xi) Choose the proper step if a BiPAP machine displays a "High Leak" alarm.

a) Adjust mask fit
b) Increase pressure settings
c) Replace tubing
d) Decrease pressure settings

(xii) Identify the proper step if a syringe pump is found to be leaking fluid.

a) Continue using the pump while monitoring the leak
b) Tighten any loose connections and check for cracks in the tubing
c) Ignore the leak unless it affects drug delivery
d) Replace the syringe with a larger size

(xiii) Identify the proper step if a syringe pump is found to be delivering medication at a slower rate than programmed?

a) Increase the infusion rate to compensate for the slow delivery
b) Check for any obstructions in the infusion line
c) Replace the syringe with a larger size
d) Ignore the issue unless it persists

(xiv) Choose the correct sequence for troubleshooting when encountering a "Lead Off" alarm:

a) Check cables, check electrodes, replace electrodes
b) Replace the monitor, check cables, check electrodes
c) Replace electrodes, check cables, check monitor
d) Reboot the monitor, replace electrodes, check cables

(xv) Name the component of a multipara monitor responsible for measuring end-tidal CO2:

a) Pulse oximeter
b) ECG module
c) Capnography module
d) Temperature probe

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Write common signs that indicate a CPAP or BiPAP mask may need replacement. (3)
3. Name three common preventive maintenance tasks for syringe pumps and their importance. (3)
4. Describe the proper storage conditions for ABG machine reagents to maintain their effectiveness. (3)
5. Write a short note on consumable items in a hospital setting. (3)
6. Write down how often should the defibrillator electrodes or pads be replaced, and Explain factors can affect their lifespan. (3)

OR

Explain steps should be taken if a defibrillator fails its self-test during routine maintenance. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the essential steps involved in the routine maintenance of multipara-monitors in hospital settings, highlighting the importance of each step in ensuring accurate patient monitoring. (5)

8. Discuss the common issues encountered during ABG sampling and analysis, elaborating on their potential causes and the appropriate troubleshooting steps to resolve them effectively. (5)
9. Write the safety precautions should be followed during ABG sample collection. (5)
10. Discuss the ways to prevent clot formation in the sample lines of an ABG machine. (5)
11. Illustrate the ways to address high peak pressure and high plateau pressure in a ventilated patient. (5)
12. Write the recommended cleaning and disinfection protocols for syringe pumps and infusion pumps. (5)

OR

Write the factors might affect the delivery accuracy of medications. (5)

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