



## **BRAINWARE UNIVERSITY**

Term End Examination 2023-2024
Programme – B.Sc.(OTT)-2021
Course Name – CSSD Procedures
Course Code - BOTTC502
(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) Select which disinfectant is commonly used for skin disinfection before surgery
  - a) Alcohol

b) Quaternary ammonium compounds

c) Hydrogen peroxide

- d) Chlorine bleach
- (ii) Select what is the temperature at which water typically boils at sea level
  - a) 0°C

b) 100°C

c) 212°F

- d) 273K
- (iii) Select which type of dry heat sterilization method is most commonly used in laboratories and healthcare settings.
  - a) Incineration

b) Hot air oven

c) Flame sterilization

- d) Infrared radiation
- (iv) Choose the temperature range typically used for boiling surgical instruments.
  - a) 50-60°C

b) 100-110°C

c) 150-160°C

- d) 200-210°C
- (v) Select the primary hazards associated with chemical sterilization methods such as ethylene oxide (EtO)
  - a) Fire risk

b) High cost

c) Radioactive emissions

- d) Rapid cycle times
- (vi) Choose the primary hazard associated with the use of ethylene oxide (EtO) for sterilization
  - a) Radioactive emissions

b) Chemical exposure

c) Chemical exposure

- d) Fire risk
- (vii) Select an effective measure to prevent chemical exposure hazards during sterilization
  - a) Increasing humidity levels

b) Mixing formaldehyde with ammonia

c) Proper ventilation

d) Rapid temperature changes

(viii)	Describe the essential precautions during sterilization to ensure proper penetration of sterilants		
	a) Increasing humidity levels	b) Using higher concentrations of sterilar	nts
	c) Monitoring sterilization time and	d) Rapidly changing the temperature	
(ix) To prevent accidents, choose what precaution should be taken when handling auto equipment			
	a) Regularly inspect electrical components	b) Increase humidity levels d) Avoid using fire extinguishers	
	Choose which of the following is NOT a key factor	in successful autoclave stermization.	
	a) Time	b) Temperature d) Airflow	
	<ul><li>c) Pressure</li><li>Describe the primary purpose of the autoclave\'s</li></ul>		
		b) To monitor humidity levels	
	a) To measure temperature accurately c) To ensure the chamber door is securely	d) To regulate pressure	
(vii)	locked during operation Select the critical parameter in ethylene oxide gas	sterilization	
	a) Temperature	b) Humidity	
	c) Pressure	d) Gas concentration	
(xiii)	Select which sterilization method is most suitable anesthesia machines and circuits.	for heat-sensitive rubber components in	
	a) Autoclaving	b) Ethylene oxide (EtO) sterilization	
	c) Gamma radiation sterilization	d) Dry heat sterilization	
(xiv)	Select which of the following materials is common instruments	nly used for carbonizing surgical	
	a) Steel	b) Plastic	
	c) Wood	d) Aluminum	
(xv)	Describe the term \"bactericidal\" in the context of		
	a) Kills bacteria	b) Inhibits bacterial growth	
	c) Reduces bacterial load	d) Repels bacteria	
	Group	о-В	
	(Short Answer Ty		3 x 5=15
2. explain the concept of biological indicators in wet sterilization validation?			(3)
3. discuss the limitations of using chemical sterilants,			(3)
	4. compare between disinfectants and sterilants in terms of their action?		
	5. explain the concept of gas plasma sterilization, and what are its advantages?		
6. conclude the disadvantages of using EtO for sterilization			(3)
de	OR cide on the key parameters to be considered wher		(3)
	Group	o-C	
	(Long Answer Ty	pe Questions)	5 x 6=30
7. C	escribe the various components and features of a	n autoclave and their functions.	(5)
3. Discuss the various sterilization indicators used to monitor autoclave processes			(5)
<ol> <li>Analyze the role of heat-sensitive medical instruments and the precautions necessary to maintain their functionality and sterility during sterilization.</li> </ol>			(5)

10. devise the role of personal protective equipment (PPE) in maintaining safety during sterilization processes.
11. decide the importance of clear labeling and documentation to avoid confusion and errors during sterilization.
12. Explain the hazards of biological indicators and spore tests used to monitor the effectiveness of sterilization processes.
OR
Explain the potential hazards of sterilizing medical waste, including the need for proper segregation and handling.

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