



14736

**BRAINWARE UNIVERSITY**

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

**Term End Examination 2025-2026****Programme – B.Sc.(OTT)-2021/B.Sc.(OTT)-2022/B.Sc.(OTT)-2023****Course Name – CSSD Procedures****Course Code - BOTT502****( 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 the primary purpose of a spore test in autoclave sterilization.

- |   |                               |
|---|-------------------------------|
| a) To measure temperature accurately                    | b) To monitor humidity levels |
| c) To confirm sterilization by testing for spore growth | d) To regulate pressure       |

(ii) Select the purpose of using autoclave pouches or wraps.

- |  |                       |
|--|-----------------------|
| a) To protect items during sterilization | b) To remove moisture |
| c) To accelerate the cooling process     | d) To save energy     |

(iii) Select the primary objective of gaseous sterilization.

- |                             |                                      |
|-----------------------------|--------------------------------------|
| a) Reducing microbial load  | b) Disinfection                      |
| c) Preservation of moisture | d) Elimination of all microorganisms |

(iv) Describe which gaseous sterilization method is often used for heat-sensitive materials and instruments.

- |                                     |                           |
|-------------------------------------|---------------------------|
| a) Autoclaving                      | b) Boiling                |
| c) Ethylene oxide gas sterilization | d) Dry heat sterilization |

(v) Select the minimum recommended temperature for ethylene oxide gas.

- |          |          |
|----------|----------|
| a) 300°C | b) 500°C |
| c) 55°C  | d) 600°C |

(vi) Select which chemical sterilization method uses hydrogen peroxide vapor for sterilization.

- |  |                               |
|--|-------------------------------|
| a) Ethylene oxide gas sterilization      | b) Radiation sterilization    |
| c) Hydrogen peroxide vapor sterilization | d) UV radiation sterilization |

(vii) Select which form of radiation sterilization is non-ionizing sterilization:

- |                           |                                   |
|---------------------------|-----------------------------------|
| a) X-ray sterilization    | b) Gamma ray sterilization        |
| c) Infrared sterilization | d) Ultraviolet (UV) sterilization |

(viii) Choose which parameter is critical for effective ultraviolet (UV) sterilization:

- |                |             |
|----------------|-------------|
| a) Temperature | b) Humidity |
|----------------|-------------|

- c) Dose of UV radiation  
d) Pressure
- (ix) Select the primary purpose of radiation sterilization indicators:  
a) To measure temperature accurately  
b) To monitor humidity levels  
c) To confirm sterilization by testing for radiation exposure  
d) To regulate pressure
- (x) Choose which parameter is critical for effective X-ray sterilization:  
a) Temperature  
b) Humidity  
c) Dose of X-ray radiation  
d) Pressure
- (xi) Choose which parameter is most critical in ensuring the success of ultraviolet (UV) sterilization.  
a) Temperature  
b) Humidity  
c) Dose of UV radiation  
d) Pressure
- (xii) Select which sterilization method is often preferred for rubber laryngoscopes.  
a) Ethylene oxide (EtO) sterilization  
b) Gamma radiation sterilization  
c) Steam sterilization  
d) Dry heat sterilization
- (xiii) Select what is the recommended temperature and pressure for autoclaving rubber articles like LMA devices:  
a) 100°C and 0 psi  
b) 121°C and 15 psi  
c) 150°C and 30 psi  
d) 200°C and 50 psi
- (xiv) Select which sterilization method is most suitable for heat-sensitive rubber components in anesthesia machines and circuits.  
a) Autoclaving  
b) Ethylene oxide (EtO) sterilization  
c) Gamma radiation sterilization  
d) Dry heat sterilization
- (xv) Select which sterilization technique is commonly used for fiber-optic bronchoscopes (FOB).  
a) Steam sterilization  
b) Gamma radiation sterilization  
c) Ethylene oxide (EtO) sterilization  
d) Dry heat sterilization

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Tell about the primary objective of sterilization. (3)
3. Describe the principles and processes of autoclave sterilization. (3)
4. Discuss the role of pressure in autoclave sterilization. (3)
5. Discuss the role of temperature in autoclave sterilization. (3)
6. Infer the primary gases used in gaseous sterilization. (3)

OR

Focus on the advantages of hydrogen peroxide gas plasma sterilization? (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Analyze the role of chemical disinfection in the prevention of hospital-acquired infections. (5)
8. Compare and contrast boiling sterilization with other common methods like autoclaving and chemical sterilization. (5)
9. Summarize the potential contamination risks associated with improperly handled boiling sterilization processes. (5)
10. Describe the various components and features of an autoclave and their functions. (5)
11. Discuss the different types of autoclaves used in various industries and applications. (5)
12. Infer the hazards of using heat-based sterilization methods, such as dry heat sterilization. (5)

OR

Analyze the advantages and disadvantages of chemical disinfection in comparison to other disinfection methods. (5)