



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

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

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 what is the primary purpose of disinfection.
 - a) Eliminating all microorganisms
 - b) Reducing the microbial load to a safe level
 - c) Killing only pathogenic microorganisms
 - d) Preventing microbial growth
- (ii) Select the minimum recommended temperature for ethylene oxide gas.
 - a) 300°C
 - b) 500°C
 - c) 55°C
 - d) 600°C
- (iii) Select what is the primary goal of chemical sterilization
 - a) Reduction of microbial load
 - b) Preservation of moisture
 - c) Elimination of all microorganisms
 - d) Disinfection
- (iv) 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
- (v) 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
- (vi) Choose what is the purpose of using a biological indicator in ethylene oxide (EtO) sterilization processes.
 - a) To monitor humidity levels
 - b) To measure temperature accurately
 - c) To confirm sterilization by testing for spore growth
 - d) To regulate pressure
- (vii) Choose which sterilization method is commonly used for fiber-optic bronchoscopes (FOB).
 - a) Autoclaving
 - b) Gamma radiation sterilization

- c) Dry heat sterilization d) Ethylene oxide (EtO) sterilization
- (viii) Choose which parameter is critical in ensuring the success of ethylene oxide (EtO) sterilization for carbonized instruments.
- a) Temperature b) Humidity
c) Gas concentration d) Time
- (ix) Select the primary element that remains in the solid residue after the carbonization process.
- a) Carbon b) Hydrogen
c) Oxygen d) Nitrogen
- (x) Describe the process of carbonization of surgical instruments.
- a) Heating surgical instruments to high temperatures in the absence of oxygen b) Converting surgical instruments into diamonds
c) Treating surgical instruments with carbon-rich compounds d) Applying a colour coating to surgical instruments
- (xi) Select the primary goal of disinfection.
- a) To eliminate all microorganisms b) To kill all bacteria
c) To remove dirt and debris d) To reduce the microbial load to a safe level
- (xii) Select which disinfection method is commonly used to treat drinking water to eliminate pathogens.
- a) Ultraviolet (UV) radiation b) Chlorination
c) Boiling d) Alcohol-based disinfectants
- (xiii) Describe the primary purpose of using an alcohol-based hand sanitizer for hand disinfection.
- a) To remove dirt and debris b) To moisturize the skin
c) To sterilize the hands d) To kill bacteria and viruses
- (xiv) Select the disinfection method involves the use of strong acids or bases to kill microorganisms.
- a) Chemical disinfection b) Ionization
c) Autoclaving d) Filtration
- (xv) Select which sterilization method poses the risk of toxic gas exposure to workers if not handled properly.
- a) Autoclaving b) Gamma radiation sterilization
c) Ethylene oxide (EtO) sterilization d) Dry heat sterilization

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Interpret the common materials and items that can be sterilized effectively using dry heat. (3)
3. Explain the process of steam sterilization using an autoclave. (3)
4. Write the advantages of chemical sterilization methods? (3)
5. Tell about the primary objective of 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. Summarize the potential contamination risks associated with improperly handled boiling sterilization processes. (5)
8. Explain the role of autoclaves in the sterilization of hazardous waste and medical waste materials. (5)
9. Compare and contrast autoclave sterilization with other sterilization methods, such as chemical sterilization and radiation. (5)
10. Focus on the mechanism of action of chemical sterilants? (5)
11. Devise the use of formaldehyde as a chemical sterilant and its applications in hospitals. (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)

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