BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – B.Sc.(CCT)-2021/B.Sc.(CCT)-2022
Course Name – CSSD Procedures
Course Code - BCCTC604
(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 which of the following is a physical method of sterilization.
a) Autoclaving b) Ethylene oxide gas
c) Glutaraldehyde d) Hydrogen peroxide

(ii) Enumerate which of the following is an example of a high-level disinfectant.
a) Soap and water b) Quaternary ammonium compounds
c) Hydrogen peroxide d) Glutaraldehyde

(iii) Select what is the primary target of dry heat sterilization.
a) Moisture b) Proteins
c) DNA d) Heat-sensitive materials

(iv) Choose which of the following is NOT a method of dry heat sterilization.
a) Incineration b) Hot air oven
c) Flame sterilization d) Autoclaving

(v) Describe how long is the typical duration for dry heat sterilization at 160°C.
a) 10 minutes b) 30 minutes
c) 1 hour d) 2 hours

(vi) Describe when is Dry heat sterilization is the most effective .
a) The exposure time is long b) The moisture content is high
c) The temperature is low d) The material is heat-sensitive

(vii) Describe through which effect Dry heat sterilization primarily relies on the destruction of microorganisms.
a) Moisture b) Heat
c) Chemicals d) Pressure

(viii) 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

(ix) Select the purpose of using a biological indicator in the sterilization of carbonized articles.

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

(x) 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

(xi) Which term describes the primary goal of chemical disinfection for surgical instruments.

a) Sterilization
b) Decontamination
c) Polishing
d) Magnetization

(xii) 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

(xiii) Select which sterilization method can potentially generate harmful ozone as a byproduct.

a) Autoclaving
b) Ethylene oxide (EtO) sterilization
c) Gamma radiation sterilization
d) Dry heat sterilization

(xiv) Select which type of clothing or gear should be worn to prevent radiation exposure hazards during sterilization with ionizing radiation.

a) Fire-resistant clothing
b) Lead shielding
c) Chemical-resistant gloves
d) Ventilated shoes

(xv) Select a notable recent advance in the field of sterilization that uses high-temperature water vapor for disinfection.

a) Autoclaving
b) Ethylene oxide (EtO) sterilization
c) Hot air oven
d) Water vapor plasma sterilization

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain how does dry sterilization affect different types of microorganisms, including bacteria, viruses, and spores. (3)
3. Tell the key principles of EtO sterilization. (3)
4. State the principles of radiation sterilization. (3)
5. Explain the fundamental principles of disinfection. (3)
6. Conclude the disadvantages of chemical sterilization methods. (3)

OR

Conclude the disadvantages of using EtO for sterilization. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Analyze the role of sterilization monitoring and validation in ensuring the safety of medical devices and instruments. (5)
8. Decide the importance of clear labeling and documentation to avoid confusion and errors during sterilization. (5)
9. Compare and contrast radiation sterilization with other sterilization methods like chemical sterilization and autoclaving. (5)

10. Explain the role of biological indicators and process monitoring in wet sterilization validation. (5)
11. Discuss about autoclave cycles. (5)
12. Write the classification and principles of commonly used disinfectants. (5)

OR

Write the principles behind the sterilization processes using moist heat. (5)

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