

091205T4PTT

PERIOPERATIVE THEATRE TECHNOLOGY LEVEL 5

HE/OS/TT/CR/03/5A

Maintain Operation Theatre Instruments and Apparatus

July/Aug 2023



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. This paper has three sections **A**, **B** and **C**.
2. You are provided with a separate answer booklet.
3. Marks for each question are as indicated.
4. Do not write on the question paper.

This paper consists of SEVEN printed pages

**Candidates should check the question paper to ascertain that all pages
are printed as indicated and that no questions are missing**

SECTION A: (20 MARKS)

*Answer **all** questions in this section.*

Each question carries 1 mark.

1. The most appropriate instrument in an orthopedic set used to slice a bone would be:
 - A. Double-action rongeur
 - B. Chisel
 - C. Elevator
 - D. Gouge
2. During an exploratory laparotomy, the surgeon noticed that a blood vessel was bleeding too much and requested you to hand over an occluding instrument. Among the following which suits the purpose of occlusion?
 - A. Crile forceps
 - B. Allis tissue forceps
 - C. Volkman forceps
 - D. guide pins
3. Exposing and retracting instruments are designed mainly for:
 - A. Examining or creating an anatomic passage
 - B. Manipulating and stabilizing body tissues
 - C. Holding back wound edges and other tissues to gain access to the operation site
 - D. Compressing hollow organs
4. Which blade will the surgeon use during incision of the first layer of the skin?
 - A. Blade No. 10
 - B. Blade No. 12
 - C. Blade No. 15
 - D. Blade No. 16
5. In an open surgical procedure friable tissues or tissue planes are separated with:
 - A. Cutters and Saws
 - B. Scissors
 - C. Blunt Dissectors
 - D. Debulking Instruments

6. During assembly of instrument sets you must ensure that the weight of instruments and density of metal mass are distributed in the tray in order to:
 - A. Minimize contact with one another
 - B. Determine the pre-sterilization weight
 - C. Allow steam penetration for sterilizing and re-vaporization for drying
 - D. Avoid damage of lighter instruments
7. Instruments do deteriorate from normal use, but with proper care an instrument should have a life for at least:
 - A. 15 years
 - B. 10 years
 - C. 20 years
 - D. 5 years
8. When is the appropriate time for the scrub person to break down the instrument table at the end of the surgical procedure?
 - A. When the patient has been admitted to PACU
 - B. Immediately after the procedure
 - C. After fifteen minutes
 - D. When the surgeon has closed the operation site
9. Depending on use, storage and transportation, a sterile product should be packaged in one or more packaging layers. What is the importance of the primary packaging?
 - A. Allow passage of air and the sterilizing agent
 - B. Prevents recontamination of the product after sterilization
 - C. Facilitates proper storage and internal transport to user
 - D. Promotes effective external transporting of sterile packs
10. After the sterilization process is finished, the sterilizer door should be kept open slightly for about:
 - A. 15 minutes.
 - B. 5 minutes
 - C. 10 minutes
 - D. Half an hour

11. The thorough cleaning and disinfection of the perioperative environment at the end of every surgical procedure is referred to as.
 - A. Decontamination
 - B. Terminal cleaning
 - C. Dump dusting
 - D. Terminal disinfection
12. As a theatre technician you should take a proactive role in checking instruments for safety and correct operation. When should this be done?
 - A. During the surgical procedure
 - B. In between the procedure
 - C. During sorting
 - D. During packing
13. During an abdominal surgery, the surgeon will use which of these instruments to grasp the major blood vessels temporarily.
 - A. Non-crushing Clamps
 - B. Crushing Clamps
 - C. Hemostats
 - D. Grasping forceps
14. Toothed forceps are used on what type of tissues?
 - A. Delicate structures
 - B. Visceral organs
 - C. Tough tissues
 - D. Tissue edges
15. During sterilization the term 'Bioburden' denotes:
 - A. The number of microorganisms present on the surface
 - B. The bacterial spores present on the surface after the sterilization of the surface
 - C. The process of elimination of microorganisms by using physical agents
 - D. The aseptic process for the maintenance of the sterility of the surface

16. Name the sterilization method that is most frequently used in hospitals and clinical laboratories for the heat-labile liquid substances.
- A. Dry heat
 - B. Radiation
 - C. Filtration
 - D. Formaldehyde
17. Identify the temperature and time period commonly used for the hot-air oven while sterilizing glassware.
- A. 180 degrees Celcius for 30 mins
 - B. 63 degrees Celcius for 30 mins
 - C. 121 degrees Celcius for 15 mins
 - D. 160 degrees Celcius for 45 mins
18. How is an Operation Theatre ventilated?
- A. Air is blown in from the lower part of the wall
 - B. Air is sucked out from the upper region of the wall
 - C. Air is blown in from the lower part and sucked out from the upper part
 - D. Air is blown in from the upper part and sucked out from the lower part
19. Name the chemical in a 'bleach' used to eliminate bacteria, fungi, and viruses during decontamination of surgical instruments.
- A. Sodium chloride
 - B. Ethylene oxide
 - C. Sodium hypochlorite
 - D. Ethyl alcohol
20. Which of the following is the most recommended method for sterilizing surgical instruments?
- A. Dry Heat Sterilization
 - B. Chemical Sterilization
 - C. Autoclaving
 - D. Soaking in disinfectant solution.

SECTION B: [40 MARKS]

*Answer **all** questions in this section.*

21. State FOUR personal protective equipment a theatre technician should wear in theatre in readiness for a procedure. (4 marks)
22. Highlight FOUR tools used in assembling of theatre equipment and instruments during maintenance. (4 marks)
23. State FOUR classification of instruments used for different surgical procedures in theatre. (4 marks)
24. Outline FOUR key items a theatre technician should indicate on packs before sterilization. (4 marks)
25. State THREE reasons a theatre technician would disassemble instruments with multiple parts in theatre. (3 marks)
26. Highlight FIVE factors that determine the choice of sterilization packaging material in the central supply and sterilization department. (5 marks)
27. You are packing a set for sterilization. Name TWO types of sterility indicators that you may use in this process. (2 marks)
28. State FOUR guidelines a theatre technician should follow when loading packs in sterilization chamber during steam sterilization. (4 marks)
29. Highlight FOUR benefits of proper documentation when maintaining theatre instruments and apparatus. (4 marks)
30. Outline TWO factors to consider when arranging packs in sterilizing chambers. (2 marks)
31. Identify FOUR instances when sterilized items should be considered unsterile. (4 marks)

SECTION C: (40 MARKS)

Answer any two questions in this section

32. You are undertaking one of your clinical placements in the central sterilization and supplies department. You are tasked with ensuring that there is adequate processing of instruments.
- a) Differentiate between sterilization and disinfection. (2 marks)
 - b) What are FOUR advantages of using hydrogen peroxide for sterilization? (4 marks)
 - c) You are packaging instruments for a basic set for sterilization in the CSSD. Which FOUR drapes/towels must you include in this set? (4 marks)
 - d) Outline any TEN sterilizing precautions that you should follow as you assemble instrument sets for sterilization. (10 marks)
33. You are preparing the diathermy machine for use during an explorative laparotomy.
- a) What are EIGHT precautionary measures in the use of this machine? (16 marks)
 - b) You are checking the functionality of basic anaesthesia machine in anticipation for surgery. What FOUR items will you examine if you detect low pressure in the machine? (4 marks)
34. During the surgical procedure, efficient instrument handling is the hallmark of an efficient scrub person. Describe TEN key points in handling instruments during the procedure. (20 marks)