REV-01
BOT/15/20

2025/05

SET A

B.Sc. OPERATION THEATRE TECHNOLOGY
SECOND SEMESTER
INTRODUCTION TO OPERATION THEATRE
BOT-203

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

(Objective)

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. During which period was anesthesia first discovered, significantly improving surgical outcomes?
   a. 16th Century
   b. 18th Century
   c. 17th Century
   d. 19th Century

2. What equipment in the OT uses high-frequency electrical signals to cauterize or seal blood vessels?
   a. Anesthesia machine
   b. Heart-lung machine
   c. Electrocautery machine
   d. Pulse oximeter

3. Which member of the OT team is responsible for managing surgical instruments and ensuring their sterility during surgery?
   a. Scrub person
   b. OT attendant
   c. Circulating nurse
   d. Anesthesiologist

4. Who introduced antiseptic techniques in surgeries during the 19th century?
   a. Hippocrates
   b. Joseph Lister
   c. Edward Jenner
   d. Florence Nightingale

5. At what temperature is steam sterilization typically performed in a gravity displacement sterilizer?
   a. 100°C
   b. 121°C
   c. 140°C
   d. 180°C

6. What is the minimum sterilization temperature and time for a pre-vacuum steam sterilizer cycle?
   a. 121°C for 30 minutes
   b. 160°C for 2 hours
   c. 132°C for 4–5 minutes
   d. 134°C for 15 minutes

7. What is the main advantage of using steam sterilization over dry heat sterilization?
   a. It works slower but is safer
   b. It is faster and more effective at killing microorganisms
   c. It requires no special equipment
   d. It damages fewer surgical instruments

8. Which sterilization method requires a temperature of 160°C for 2 hours?
   a. Dry heat sterilization
   b. Chemical sterilization
   c. Steam sterilization
   d. Pasteurization

9. When must the initial count be performed during a surgical procedure?
   a. Before closing the wound
   b. After the operation ends
   c. During patient transfer
   d. Before making the incision

10. If a scrub practitioner is permanently relieved during surgery, what must happen?
   a. Only the new practitioner counts the items
   b. The outgoing practitioner simply informs the replacement
   c. A full count must be performed and documented
   d. Counting is not necessary

11. If a throat pack is intentionally left during surgery, what must be done?
   a. No recording needed
   b. Throat packs are not included in the surgical count
   c. Only circulating nurse notes it
   d. Time of insertion and removal must be recorded and announced

12. During counting of swabs, how should swabs be grouped?
   a. Randomly placed together
   b. Mixed with instruments
   c. By size, starting from smallest to largest
   d. By size, starting from largest to smallest

13. What is the recommended temperature range inside the operating theatre?
   a. 20°C–24°C
   b. 30°C–35°C
   c. 10°C–15°C
   d. 25°C–30°C

14. What is the minimum air exchange rate recommended for proper ventilation in the OT?
   a. 5 times per hour
   b. 10 times per hour
   c. 15 times per hour
   d. 20 times per hour

15. What is the correct action during a fire incident inside the OT according to the RACE acronym?
   a. Rescue, Alert, Confine, Evacuate
   b. Reach, Alarm, Close, Escape
   c. Run, Alert, Carry, Exit
   d. Rush, Announce, Cover, Evacuate

16. What is the primary function of an anesthesia machine in the operating theatre?
   a. To supply a continuous flow of medical gases mixed with anesthetic agents
   b. To provide mechanical ventilation
   c. To provide cardiac stimulation
   d. To monitor blood pressure

17. What does the capnograph monitor during anesthesia?
   a. Blood glucose level
   b. $ETCO_2$ levels
   c. Heart rate variability
   d. Serum electrolyte levels

18. Which of the following is used to monitor the patient's heart rate and rhythm during surgery?
   a. Pulse oximeter
   b. BP Monitor
   c. EEG
   d. ECG

19. What is the primary function of an airway device in the anesthesia setup?
    a. To monitor blood oxygen levels
    b. To administer intravenous fluids
    c. To provide a clear path for the delivery of gases and oxygen to the lungs
    d. To regulate heart rate

20. What is the primary purpose of a ventilator in the operating room?
    a. To assist or control the patient's breathing
    b. To administer anesthesia
    c. To provide intravenous fluids
    d. To monitor vital signs

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(Descriptive)

Time : 2 hr. 30 mins. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1. Classify the members of the OT team based on their sterile and non-sterile roles. Briefly describe their roles and responsibilities. 3+7=10
2. Explain the structure, workflow and functions of CSSD in a hospital. 2+6+2=10
3. What are the different methods and levels of disinfection used in patient care? 5+5=10
4. What is a surgical count? Describe the different stages involved in surgical counting. 2+8=10
5. Discuss the objectives of surgical count and methods for addressing surgical counting discrepancies. 3+7=10
6. What is the fire triangle and biological hazards? Discuss the types and preventive measures of biological hazards in the operating theatre. 2+5+3=10
7. Discuss the different types of radiation encountered in the operating theatre, the risks to healthcare personnel, and the protective measures used to minimize radiation exposure. 2+2+6=10
8. Mention the safety features of an anesthesia machine and explain their uses. Discuss the different pressure systems used in an anesthesia machine. 2+2+6=10

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