

B. Sc. MEDICAL TECHNOLOGY (OPERATION THEATRE) (BOT)
SEMESTER -VI EXAMINATION, SEPTEMBER- 2026

BASIC INTENSIVE CARE, MANPOWER RESOURCE, FIRE SAFETY AND INSTRUMENT MAINTENANCE
(ICU)

[Time allotted: Three Hours]

[Max Marks: 100]

Note: Read all the instructions carefully

Answer all questions in serial order. Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Attempt All)**(10 x 02 = 20)**

(Very short/ short answer/ MCQ/ One liners/ Fill in the blanks/ True/False)

- a. Normal arterial blood pH is:
 - i. 6.8–7.0
 - ii. 7.35–7.45
 - iii. 7.60–7.80
 - iv. 8.0–8.5
- b. Gloves eliminate the need for hand hygiene. (**True/ False**)
- c. What is the purpose of an Ambu bag?
- d. Mention any two indications for insertion of a nasogastric tube.
- e. Define aseptic technique.
- f. Name 2 arteries that are commonly used for ABG sampling.
- g. Which oxygen delivery device provides the highest concentration of oxygen?
 - i. Nasal cannula
 - ii. Venturi mask
 - iii. Non-rebreathing mask
 - iv. Simple face mask
- h. State two indications for suctioning in ICU patients.
- i. Mention two methods of biomedical waste segregation in ICU.
- j. Name four vital signs.

[CO2, PO2]

[CO4, PO3]

[CO5, PO3]

[CO3, PO2]

[CO6, PO7]

[CO6, PO5]

[CO2, PO2]

[CO4, PO2]

[CO6, PO7]

[CO1, PO1]

Q. 2. Short notes/ Short answer type questions (Attempt any Five)**(05 x 04 = 20)**

- a. Explain pulse oximetry, its principle, indications and limitations.
- b. Discuss the role of defibrillation during cardiac arrest.
- c. Write a short note on Basic Life Support (BLS).
- d. Explain urinary catheter care and prevention of catheter-associated urinary tract infection (CAUTI).
- e. List components of a crash cart and their uses.
- f. Describe transportation of critically ill patients within the hospital.
- g. Explain the methods of sterilization of ventilator parts.

[CO2, PO2]

[CO4, PO3]

[CO5, PO3]

[CO6, PO7]

[CO5, PO3]

[CO6, PO8]

[CO4, PO9]

Q. 3. Structured questions (Attempt any Three)**(03 x 10 = 30)**

- a. Explain the indications and procedure of central venous catheter insertion. Discuss nursing and technologist care after catheter insertion. Enumerate complications of central venous catheterization and methods to prevent them. **(3 + 3 + 4 marks)**
- b. Explain the Glasgow Coma Scale with scoring. Discuss its role in ICU. Explain the importance of documentation during neurological monitoring. **(4 + 3 + 3 marks)**
- c. Explain enteral nutrition. Mention its advantages over parenteral nutrition. Describe complications associated with enteral feeding and their prevention. **(3 + 3 + 4 marks)**
- d. Explain the working principle, applications and maintenance of multiparameter monitors and syringe infusion pumps. **(4 + 3 + 3 marks)**

[CO3,6,3; PO2,8,7]

[CO7,6 ; PO2,8]

[CO6, PO2,7]

[CO5 ; PO3,7]

Q. 4. Long Answer/ Essay type questions (Attempt any Two)**(02 x 15 = 30)**

- a. Describe the nursing care of an unconscious patient in Operation theatre and ICU, including airway management, positioning, hygiene, nutrition and prevention of complication.
- b. Explain the role of pulse oximetry in monitoring critically ill patients. Discuss the indications and limitations of pulse oximetry. Explain the importance of multiparameter monitoring in early detection of clinical deterioration.
- c. Explain biomedical waste management in ICU according to standard guidelines, including segregation, collection and disposal. Discuss standard precautions and WHO's five moments of hand hygiene.

[CO3, PO3]

[CO2,5 ; PO2,3]

[CO6, PO7,8]