

SHORT TERM VOCATIONAL CERTIFICATE COURSES
COURSE NAME: OPERATION THEATRE TECHNICIAN
(12 MONTHS)

PREPARED BY

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STATE INSTITUTE OF VOCATIONAL EDUCATION

Director of Intermediate Education

HYDERABAD - TELANGANA

COURSE NAME: OPERATION THEATRE TECHNICIAN

SECTOR: PARAMEDICAL

COURSE CODE: OTT

ELIGIBILITY: SSC and above

PRE-REQUISITES: Basic knowledge of Anatomy and Physiology

TERMINAL COMPETENCY: Upon successful completion of this course, the aspirant will be able to work as Operation Theatre Technician which includes patient care:

- Prepare patients for surgery
- Assist in patient positioning and transportation
- Troubleshoot equipment malfunctions
- Safety and hygiene
- Maintenance of a safe and organized OT environment
- Adhere to infection control protocol

DURATION: 12 MONTHS (80 Hrs. ENGLISH+ COURSE:400 Hrs)

INTRODUCTION:

This course is design to develop health work force warriors that can support health care industry in providing high quality surgical care and ensures optimal patient outcomes.

OBJECTIVES:

- The students are extensively taught to prepare, manage and maintain operation theatre for surgery
- They are trained in setting up the theatre and instrument trolley for the specific surgeries and assisting, a surgeon, during the surgery
- Enable students to keep up with the latest technologies and techniques in the respective field

SKILLS:

- Safety and hygiene skills
- Team work - collaborating with team members
- Patient care skills
- Technical skills

SCHEME OF INSTRUCTION/ MODULE:

1. Communicative English - 80 hours
2. Course: 200 hours 6 months & 400 hours for 12 months
3. Theory: 30% ojt:70%

Duration of Course	Theory		On the Job Training		Total	
	Hours	weightage	Hours	Weightage	Hours	weightage
1 Module	140	30%	60	70%	200	100%
2 Module	60	30%	140	70%	200	100%

SYLLABUS - MODULE I

1. Human Anatomy and Physiology

- Basics of anatomy and physiology
- Cardiovascular system
- Respiratory system
- Nervous system

2. General OT setup

- Operation theatre structure
- Operation theatre instruments maintenance
- Sterilization responsibility and vital recording
- Trolley setup

3. Biomedical Waste Management

- Infection control
- Disposal of medical waste and
- Precautionary measures

4. Administration of Drugs

- Intra venous preparation, IM, IV and SC injections
- Oral drugs administration

5.Introduction to CSSD

- Definition and purpose of CSSD
- Sterilization of instruments
- Wet, dry and chemical sterilization
- CSSD protocols and guide lines

Practical Lab Session

- Setting up operation theatre model
- Introduce to instrument use in surgeries
- Setting up bio waste management

INTERNSHIP /ON THE JOB TRAINING

- Orientation to operation theatre complex
- Familiarization with OT equipment
- Hands on training in: setting up and preparing OT
- Sterilization and disinfection techniques skills
- Participate in real in real surgeries under professional super vision

MODULE 2

1.Haematology

- Definition of Haematology
- Anaemia and Its Types
- Blood Components and Its Functions
- Bleeding Disorders Coagulation and Clotting Mechanism
- Blood Groups and Cross Matching

2. Oxygen Management System

- Definition of Oxygen and Its Importance
- Oxygen Supply and Delivery System
- Oxygen Monitoring and Analyzer
- Hypoxia and Hyperoxia and Understanding the Risks

3. Indication for Boil Operators

- Sterilization of Instruments and Equipment
- Disinfection of Heat-Resistant Materials
- Sterilization of Utensils and Supplies
- Electronic Equipment and Instruments
- Instruments that Require Special Sterilization Methods

(Eg. Ethylene Oxide Hydrogen Peroxide)

4. Indications and Contraindications of OT

- Autoclave
- Ventilator
- Cautery Machine and Suction Apparatus
- Bone Curator

5.Roles and Responsibilities of OT Technician

- Preparing the operation theatre for surgery
- Assisting surgical team
- Managing supplies and inventory
- Maintaining accurate records
- Collaborating with health care team

INTERNSHIP/ON THE JOB TRAINING

- Learning crisis management and emergency procedures
- Practicing communication and team work skills
- Mentorship by experienced OTTS and surgeons
- Familiarization with hospital policies and protocols
- Collaborate with health care team
- Infection management skills

PRACTICAL SESSION

- Sterilization Procedure and Practices
- Pre and Post Operational Patient Care and Safety
- Operation Theatre Set up Procedure
- Learning Surgical Procedure
- Cope with Emergency Situations

LIST OF TOOLS AND EQUIPMENT:

- Surgical Instruments: Scalpels, Forceps, Retractor, Scissors, Clampers
- Surgical Tables Stirrups: Operating Tables, Stirrups, Trolley
- Patient Monitoring Equipment: ECG, BP Monitors, Pulse Oximeters
- Dressing and Bandaging Materials: Gauze Pads, Bandages, Sutures
- Cautery Machine, Auto Clave, Drugs, Suction Machine
- Sphygmomanometer, ECG, Oxy pulse Meter, Ventilator
- First Aid Safety Kit

QUALIFICATION of TEACHING FACULTY:

1. A Bachelor's Degree in Nursing from any recognized university with minimum of 55 % marks - B. Sc/ M. Sc Nursing
2. Clinical Experience: Minimum 5 years real time experience from reputed hospital

Reference books:

1. Clinical Methods by Hutchison's
2. Operation Room Technicians by Dr. Pramila Bhalla
3. Anatomy and Physiology by Ross & Wilson

Division of Marks

Theory :100 Max Marks

1. Communicative English :20 Marks
2. Short Questions 6 X 5 M:30 Marks
3. Long Questions 4 X 10 M:40 Marks
4. MCQ Questions 10X 1 M :10 Marks

Practical: 100 Max Marks

1. External: 40 Marks
2. Record & Viva: 10 Marks
3. Internship/OJT: 50 Marks

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EXAMINATION**

TIME: 3 HRS

MAX MARKS: 100

**OT TECHNICIAN
MODEL QUESTION PAPER (THEORY)**

SECTION -A

COMMUNICATION ENGLISH

20 Marks

SECTION – B

Note: Answer all the questions

Each question carries 5 marks

6X5 =30 Marks

1. Explain the anatomy of the human heart.
2. Describe the structure and function of the human skeletal system.
3. Describe the layout and design of an operation theatre.
4. Define vital signs and explain their importance in patient care.
5. Define bio medical waste.
6. What are the methods of sterilization?

SECTION – C

Note: Answer any **four** questions

Each question carries 10 marks

4x10 = 40 marks

- 1.Explain about the different types of operation theatres.
- 2.Explain the process of gas exchange in the respiratory system.
- 3.Describe the role of Central Sterile Supply Department (CSSD)
- 4.What are the main components of blood? Explain briefly.
- 5.What is hypoxia and mention the purpose of oxygen therapy?
6. Write short notes on:

A) Auto clave b) suction machine c) bone curette d) BMWM

SECTION -D

10x1=10 marks

1. What is the largest organ in human body?
 - A. Skin
 - B. Lungs
 - C. Brain
 - D. Heart
2. Which of the following is key topic covered in OT technician course?
 - A. Surgical anatomy
 - B. Pharmacology
 - C. Physiology
 - D. Radiology
3. Which of the following surgical instruments used in operation theatre?
 - A. Forceps
 - B. Scissors
 - C. Retractor
 - D. All of the above
4. What is the importance of maintaining asepsis in operation theatre?
 - A. To promote healing
 - B. To reduce bleeding
 - C. To prevent infection
 - D. To minimize scarring
5. What is the name of the device used to maintain a patient's body temperature?
 - A. Temperature monitor
 - B. Thermoregulator
 - C. Cooling blanket
 - D. Heating blanket
6. What is the symbol of oxygen?
 - A. O
 - B. O₂
 - C. O₃
 - D. Ox
7. Haematology is the study of
 - A. Heart and blood vessels

- B. The blood and blood forming organ
- C. The liver and digestive system
- D. The kidneys and urinary tract

8. Which is the respiratory organ?

- A. Liver
- B. Heart
- C. Kidneys
- D. Lungs

9. What does IM stand for?

- A. Intra medicine
- B. Intramuscular
- C. Intra measles
- D. Intradermal

10. What is the normal blood pressure of an adult human?

- A. 60-80 mmhg
- B. 100-140 mmhg
- C. 80-120 mmhg
- D. 120-160 mmhg

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TIME: 3 HRS

MAX MARKS: 100

**OT TECHNICIAN
MODEL QUESTION PAPER (PRACTICAL)**

A) Answer all the questions

B) Each question carries 10 marks

4 x 10 = 40 Marks

1. Prepare a model of operation theatre structure layout design and explain how it works.
2. Demonstrate your understanding of basic anatomy and physiology pertaining to operation theatre.
3. You are one of the surgical team members in operation theatre. Explain how do you follow the patient's safety protocol.
4. Explain how biomedical waste management helps in infection control and ensure safety.

Record & Viva: 10 Marks

Internship/OJT : 50 Marks

MODULE-2
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TIME: 3 HRS

MAX MARKS: 100

OT TECHNICIAN
MODEL QUESTION PAPER (THEORY)

Note:

A) Answer all the questions

B) Each question carries 10 marks

4 x 10 = 40 Marks

Section -A

Communication English

20 Marks

Section – B

Note:

A) Answer all the questions

B) Each question carries 5 marks

6x5 =30 Marks

1. What is haematology?
2. Describe the important components of blood and its importance.
3. Discuss what is hypoxia and hyperoxia.
4. Explain the process of sterilization of instruments and equipment.
5. Write short notes on:
A) Autoclave b) suction machine c) bone curette d) gauze pieces
6. What do you mean by pre and post operation patient care?

Section – C

A) Answer any four questions

B) Each question carries 10 marks

4x10 = 40 Marks

1. Explain the different types of blood groups.
2. Describe the importance of oxygen and its uses
3. What type of instruments are used in OT?
4. What is a ventilator and how it helps a patient kept on ventilator?
5. What is the use of suction and cautery machine?

Section - D

10x1=10 marks

1. Ventilator works as a/ an

- A. Artificial lung
- B. Artificial brain
- C. Artificial heart
- D. BP machine

2. Bone curretor is used for

- A. Orthopaedic surgical procedure
- B. Drug control
- C. Pathology
- D. Blood control

3. The study of lungs is called

- A. Dermatology
- B. Neurology
- C. Nephrology
- D. Pulmonology

4. What is the symbol of oxygen?

- A. O3
- B. O2
- C. O
- D. Ox

5. Oximeter is

- A. A temperature monitor
- B. Track oxygen saturation
- C. Cooling blanket
- D. Heating blanket

6. IV stand for

- A. Intravenous
- B. Intra virus
- C. Intra venom
- D. Intra versus

7. Cardiology is the study of

- A. Heart

- B. Lungs
- C. Liver
- D. Brain

8. ECG stands for

- A. Electro Curing Gram
- B. Electro Component Gram
- C. Electro Cardio Gram
- D. Electron Cephalon Gram

9. Sphygmomanometer is used to check

- A. Sugar
- B. Blood
- C. Oxygen
- D. Blood pressure

10. RBC stand for

- A. Red Blood Cell
- B. Red Blood Capsule
- C. Red Blood Count
- D. Red Blood Component

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TIME: 3 HRS

MAX MARKS: 100

**OT TECHNICIAN
MODEL QUESTION PAPER (PRACTICAL)**

Note:

A) Answer all the questions

B) Each question carries 10 marks

4 x 10 = 40 Marks

1. How do you manage, a patient with bleeding disorder, schedule for elective surgery?
2. Demonstrate/explain the optimal oxygen management strategy for a patient undergoing surgery to minimize the risk of hypoxia and hyperoxia.
3. What are the specific indications and contraindications for using boil operator during surgery?
4. What are the guidelines for sterilization and disinfection of surgical implants and devices that are used in surgery?

Record & Viva: 10 Marks

Internship/OJT: 50 Marks