



MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Syllabus

UPGCC – Operation Theatre Nursing
(One Year Certificate Course)

NOTICE

1. Amendments made by the Board of Management of the University in Rules/ Regulations of Post Graduate Medical Courses shall automatically apply to the Rules/ Regulations of the Mahatma Gandhi University of Medical Sciences & Technology.
2. The University reserves the right to make changes in the syllabus/books/ guidelines, fee-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.
3. The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

One year Certificate course

UNIVERSITY POST GRADUATE CERTIFICATE COURSE IN OPERATION THEATRE NURSING

SCHEME OF EXAMINATION

1. **Theory:**

- (a) There will be two Theory papers examination at the end of the academic year. Each Theory paper examination shall be of 3 hours duration and of maximum marks 80.
- (b) For each question paper there shall be a separate Internal Examiner. These papers shall be evaluated by the concerned Internal Examiners (Papers Setters).
- (c) The Paper Setter shall set the questions within the prescribed course of study of the concerned paper. There will be a set pattern of question papers duly approved by Academic Council. Model question paper for examination is annexed herewith.
- (d) It is to be noted that the Internal Examiners shall be appointed by the President of the University in consultation with the respective Coordinator of the course. This exercise shall be conducted through the office of the Controller of the Examinations of the University.
- (e) **Internal Assessment:** Internal assessment shall be of 20 marks for Each Theory paper.
- (f) **Passing Marks:** A candidate will have to obtain at least 50% marks in each Theory paper to pass. This means that he will have to score 50 marks in each paper. This shall include the marks obtained in Theory paper of 80 marks and internal assessment for that paper of 20 marks (Marks obtained in Theory paper + Marks obtained in internal assessment = the Total Marks obtained in each paper).

2. **Practical and Viva-Voce Examination:**

There shall be one practical and viva-voce examination. It shall be conducted after the Theory examination is over. The pattern shall be as follows –

- (a) The practical and viva voce examination shall be conducted by one External and two Internal examiners. The Internal examiners shall be appointed by the President of the University in consultation with the respective Coordinator of the course. The External examiner shall also be appointed by the President out of the panel of names submitted by the Coordinator of the course through the Controller of Examinations to the President. The President may or may not consult the Coordinator before the appointment of the External practical examiner.
- (b) Total marks of the practical examination shall be equivalent to the total marks put together of the number of Theory papers in the course. It shall mean that it shall be 200.
- (c) It shall be left to the examiners – Internals and the External, to examine and evaluate the students in practical in the way they wish and award the marks without giving any specific details. The total marks obtained by the candidate in the practical examination shall be the aggregate of the marks awarded by the three practical examiners (2 Internals and 1 External) put together as one figure. This shall then be submitted to the University.
- (d) A student shall be required to obtain a minimum of 50% pass marks in the practical examination. This means 100 out of 200.
- (e) A candidate who fails to obtain 50% marks shall be declared failed in the practical examination.

3. **Result:**

A candidate will have to obtain at least 50% marks separately in each Theory paper and a minimum of 50% marks in the practical examination for him to be declared pass.

4. **Supplementary Examination:**

- (a) Eligibility for the failed candidates to appear at the supplementary examination shall be as below:
 - i. Failed in Theory Paper(s) and failed in Practical – shall reappear in the respective failed Theory paper(s) and Practical examination.
 - ii. Failed in Theory paper/papers and passed in Practical examination – shall reappear only in the concerned failed Theory paper(s).
 - iii. Passed Theory papers but failed in Practical – shall reappear only in the Practical Examination.
 - (b) There shall be a supplementary examination within two months of the declaration of the result of the main examination. Internal assessment marks obtained in main examination in the concerned failed paper/papers shall be carried forward for working out the result of supplementary Theory paper(s) examination. Such candidate who has secured less than 50% marks in the internal assessment will be allowed to improve his internal assessment marks in the repeat supplementary internal assessment examination.
 - (c) Marks secured by the candidate in the main examination passed Theory paper(s) and/or practical of the main examination, as the case may be, will be carried forward for working out his result.
 - (d) *Result -*
 - i. A candidate obtaining at least 50% marks in the supplementary Theory paper(s) and 50% marks in the supplementary practical examination, as the case may be, shall be declared successful.
 - ii. A candidate who has failed in supplementary theory paper(s) examination shall have to reappear only in the failed theory paper(s) at the next main examination.
 - iii. A candidate who has failed in supplementary practical examination shall have to reappear both in theory (all papers) and practical at the next main examination.
 - (e) **No revaluation** of answer books either of main or of the supplementary examination shall be permitted. The candidates may however apply for scrutiny of marks as per rules.
- (a) The candidate will be allowed to avail maximum **four attempts** including supplementary (one main + one supplementary + one main + one supplementary) to pass the examination. After that he will have to leave the course. Non-appearance at an examination shall be counted an attempt.

5. **Result-Division:** Successful candidates will be categorized as under –

i.	Those, securing 50% and above but less than 60% in the aggregate marks	-	Pass
ii.	Those, securing 60% and above but less than 75% in the aggregate marks with I Division	-	Pass
iii.	Those, securing 75% and above in the aggregate marks	-	Pass with Honours

**UNIVERSITY POST GRADUATE CERTIFICATE COURSE IN OPERATION
THEATRE NURSING**

DURATION OF THE COURSE: 1 year

1. **ELIGIBILITY:** GNM/B.Sc. Nursing

2. **OBJECTIVES:**

- (1) At the end of the course the student will be able to develop an understanding of philosophy, principles, methods and issues, management, education and research in critical care nursing.
- (2) Furthermore, this course will enable him to develop skills and attitude in providing competent critical care nursing.

3. **SYLLABUS:**

Subject	Maximum Marks		
	Theory	I. Ass.	Practical
Paper I – Operation Theater Nursing – I	80	20	200
Paper II - Operation Theater Nursing – II	80	20	

4.1 **Theory:**

Paper I - OPERATION THEATRE NURSING - I

Description:

This course is designed to help the students to review their knowledge of structure & functions of human body, pharmacodynamics of drugs acting on various systems of body & their relation with promotion of health, and application of principles of microbiology as applied to infection control practices in the operation room. Further it would enable students to acquire knowledge of anaesthesia and responsibilities of the OT nurse.

Objectives:

At the end of the course the student will be able to:

1. Apply the knowledge of structure & functions of various system of human body relevant to surgical procedures.
2. Describe the pharmacodynamics of common drugs and anaesthetic agents used in OT.
3. Apply principles of microbiology in infection control practices in OT.
4. Describes the principles, types and methods of anaesthesia and nurse's responsibilities.
5. Apply principles of biophysics and chemistry in use of various gadgets.
6. Discuss ethical and legal responsibilities of OT nurse.

UNIT	CONTENT
Unit I	•
Unit II	SURGICAL ANATOMY GENERAL SURGERY <ul style="list-style-type: none"> • Abdominal Surgery-Anatomy of abdominal wall incision, Hernia alimentary Canal, Gall bladder, bile duct, liver,

	<p>spleen Pancreas, Surgery of Head & Neck, Mouth and Breast, Thyroid gland.</p> <p>ORTHOPAEDIC</p> <ul style="list-style-type: none"> • Bones and Joints <p>UROLOGY</p> <ul style="list-style-type: none"> • Kidney, ureters, Bladder, Prostate, Testes <p>EAR, NOSE & THROAT</p> <ul style="list-style-type: none"> • Surgery of pharynx, Larynx, Nose & Ear. <p>GYNAEC & OBST.</p> <ul style="list-style-type: none"> • Pelvic viscera and other supports, Uterus, fallopian tubes, ovaries, cervix, vagina <p>CARDIO THORACIC SURGERY</p> <ul style="list-style-type: none"> • Chest wall, heart, blood vessels, trachea, bronchi, lungs, <p>NEURO SURGERY</p> <ul style="list-style-type: none"> • Brain, spinalcord, peripheral & sympathetic nerves, <p>PAEDIATRIC SURGERY</p> <ul style="list-style-type: none"> • Body systems <p>OPHTHAMOLOGY</p> <ul style="list-style-type: none"> • Eyes
UNIT-III	<p>BIO-PHYSICSCHEMISTRY</p> <p>Review</p> <ul style="list-style-type: none"> • Units of measurements, • Gas laws, • Heat, • Electrostatics, • Laser Rays used in O.R., • Chemicals used in O.R., • Occupational Hazards in O.R., Its prevention, control and management in emergency • Radio active materials Operation tables-mechanics, positioning, • Principles underlying use of various budgets
UNIT IV	<p>□ COMMUNICATION SKILLS & IPR</p> <ul style="list-style-type: none"> • Process & methods • Establishing & maintaining good IPR & communication with family, staff and colleagues • Breaking of bad news Multidisciplinary team & role of nurses <p>□ Guidance & Counselling</p>
UNIT V	<p>□ ANAESTHESIA</p> <ul style="list-style-type: none"> • Introduction principles • Types • Stages • Method of administration • Anaesthetic machines and equipment's • Nurses role & responsibilities. <p>□ DRUGS USED IN ANESTHESIA?</p> <ul style="list-style-type: none"> • Anaesthetic Agents used : Types

	<ul style="list-style-type: none"> • Methods of administration, • Action and effects-side effect • Antidotes <p>Nurses responsibilities</p>
UNIT VI	<p>LEGAL RESPONSIBILITIES</p> <ul style="list-style-type: none"> • Identification of patients • Identification of right part to be operated • Valid consent <ul style="list-style-type: none"> ○ For operation ○ Use of body tissue and organ transplant (donor and recipient) • Care of dentures, • Counting of sponges, instruments etc • Prevention of unusual incidences (fall of patient, burn fire hazards) <p>Records in operation theatre : Its medico – legal importance</p>
UNIT VII	<p>PHARMACODYNAMICS.</p> <ul style="list-style-type: none"> • Drugs <ul style="list-style-type: none"> ○ Antiseptics and disinfectants ○ Hypnotics, Barbiturates, ○ Tranquillizers and sedatives ○ Neuroleptic drugs, ○ Phenothiazines, ○ Butobarbitone. ○ Anticonvulsants, ○ Analgesics, ○ Intraoperative Analgesia, ○ Nonsteroidal anti-inflammatory drugs ○ Narcotic antagonists, ○ Intravenous induction agents. ○ Isopyrenatone ○ Bronchodilators ○ Respiratory stimulants ○ Antidysrhythmic ○ Vasopressor, ○ Vasodilator ○ Antihypertensive agents ○ Ganglion blockers ○ Plasma expanders ○ Muscle relaxant ○ Beta blockers ○ Uterine stimulators ○ Uterine inhibitors ○ Uterine inhibitors ○ Insulin ○ Histamine and H1 & H2 receptor antagonists, ○ Anticoagulants ○ Antiemetics ○ Anticholinergics

	<ul style="list-style-type: none"> ○ Drugs acting on eye, ENT and etc <p>Nurses role and responsibilities</p>
UNIT VIII	<p>MICROBIOLOGY</p> <ul style="list-style-type: none"> ● Inflammation and Infection ● Principles of asepsis, ● Micro-organisms Classification ● Sterilization & disinfection-Principles, methods ● Diagnostics tests in Microbiology & related nurses responsibility ● Culture & Growth ● Standard safety measures & biomedical waste management
UNIT IX	<p>Care of dying patients</p> <ul style="list-style-type: none"> ● Spiritual support to the dying ● Grief and grieving process ● Bereavement support ● Organ donation & Counselling ● Care of dead

Paper - II OPERATION THEATRE NURSING-II

COURSE DESCRIPTION:

This course is designed to prepare OT nurses with specialized knowledge and skills in assisting for various surgical procedures and practicing infection control measures.

SPECIFIC OBJECTIVES:

On completion of this course the student will:

1. Demonstrate the skill in assisting different operative procedures.
2. Apply nursing process in pre-operative, operative and post-operative stages.
3. Demonstrate skill in organization of tasks, time, motion, equipment, supplies, materials and resources.
4. Demonstrate knowledge and principles of sterilization and disinfection
5. Participate with other surgical team members,

UNIT	CONTENT
I	OPERATION THEATER TABLE AND ORGANIZATION <ul style="list-style-type: none">• Equipment's and amenities• Different types of tables and accessories• Organization of table and equipment's nurses role and responsibilities.
II	INFECTION CONTROL <ul style="list-style-type: none">• Environment: - Cleaning, disinfecting O.R. Area, equipments, Air conditioning system,• Aseptic techniques – Handwashing, use of mask, gowning, gloving, head cover• Sterilization: - Preparing and packing of instruments, dressing materials, linen, suture materials, drainage tubes and catheters, care of electro-medical equipments<ul style="list-style-type: none">– Handling and storing of sterilized material, equipments, instruments.• Collection of various specimens for laboratory tests• Bio-Medical Waste Management: - Universal standards and its application in O.R. Nursing.<ul style="list-style-type: none">– Nurses Role and Responsibility
III	PREPARATION AND ASSISTING FOR VARIOUS SURGICAL PROCEDURES; AS CIRCULATION AND SCRUB NURSE <ul style="list-style-type: none">• Setting up of operation room and table• Setting up of trays and trolleys for various surgical procedures• Part preparation for surgical procedures• Positioning and draping according to the surgical procedures.• Incisions for various surgical procedures• Minor surgeries-surgical instruments and suturing materials

	<ul style="list-style-type: none"> • Major surgeries-surgical instruments and suturing materials: <ul style="list-style-type: none"> ○ General, Gynaeco ○ Obstetrics, ○ Orthopaedics, ○ Plastic and Reconstructive surgery, ○ Ophthalmic, ○ Head and Neck, ○ ENT ○ Cardio-Thoracic, ○ Neuro, ○ Paediatric ○ Dental. • Laser and robotic surgery • Records and reports <p>Nurses role and responsibilities</p>
IV	<p>OPERATING MICROSCOPES</p> <ul style="list-style-type: none"> • Types • Accessories • Attachments, • Uses • Disinfection • Maintenance and storage. <p>Nurses role and responsibility</p>
V	<p>SUTURE MATERIAL & NEEDLES</p> <ul style="list-style-type: none"> • Types • Uses • Disinfection • Storage
VI	<p>ENDOSCOPIES</p> <ul style="list-style-type: none"> • Definition • Types • Uses • Maintenance and storage • Preparation of patients • Nurses role and responsibilities
VII	<p>BANDAGE, SPLINTS, CASTS AND TRACTION</p> <ul style="list-style-type: none"> • Types • Uses • Preparation • Maintenance and storage
VIII	<p>RECOVERY ROOM/SURGICAL INTENSIVE CARE UNIT</p> <ul style="list-style-type: none"> • Set up and organisation • Management of patient • Reporting and recording • Transportation of patient <p>Nurses role and responsibility</p>
IX	<p>FLUID THERAPY</p> <ul style="list-style-type: none"> • Fluid and electrolytes

	<ul style="list-style-type: none"> • Blood and blood components • Plasma and plasma • Allergies and reactions • High risk patients • Management of anaphylactic shock • Records and reports <p>Nurses role and responsibility)</p>
XI	<p>SUPERVISION & MANAGEMENT</p> <p>□ Management</p> <ul style="list-style-type: none"> • Definition & Principles • Elements of management of Operation room :- Planning, Organizing, Staffing, Reporting, Recording and Budgeting • Operation room :- Time, material & personnel <p>PHYSICAL LAY OUT OF O.R.</p> <p>Design of OR, size, shape, colour, ventilation with Air Conditioning, lighting, ultra clean air system, traffic flow pattern, zones of risk, sign of various facilities</p> <p>□ Clinical supervision</p> <ul style="list-style-type: none"> • Introduction, definition and objectives of supervision • Principles & Functions of supervision • Qualities of supervisors • Responsibilities of clinical supervisors • Practice Standards of operation room nurse <ul style="list-style-type: none"> – Policies and Procedures – Establishing Standing orders and Protocols • Orientation programme for new recruits <p>□ Quality Assurance Programme in operation room nurse</p> <ul style="list-style-type: none"> • Nursing audit <p>□ Performance Appraisal</p> <ul style="list-style-type: none"> • Principles of performance evaluation • Tools of performance appraisal <ul style="list-style-type: none"> – Rating scales – Checklists – Peer review – Self appraisals <p>□ Staff development</p> <ul style="list-style-type: none"> • Introduction & purposes • In-service education • Continuing education

Procedures performed:

- Work as a scrub nurse
 - Work as a circulatory nurse
 - Setting up of trays and trolleys of all surgical procedures
 - Skin preparation
 - Draping and positioning
 - Transferring of the patient
 - Use of operating room care plan
 - Specific teaching related to patient's surgery
 - Adequate instrumentation
 - Use special supplies and/or equip
 - Dressing of all wounds
 - Sterilization and asepsis
 - Microbiology and environment
 - Preparation of supplies and instruments
 - Working knowledge of disposable packs,
 - Disposable gowns, proper handling of paper wrappers
- i. Neurological assessment; Glasgow coma scale
 - ii. Pulse oximetry
 - iii. Arterial B P monitoring
 - iv. Venous access, ABG collection monitoring
 - v. Oxygen administration, Suctioning, Respiratory therapy, Tracheotomy toilet
 - vi. Airway Management
 - a) Application of Oro Pharyngeal Airway
 - b) Oxygen therapy
 - c) CPAP (Continuous Positive Airway Pressure)
 - d) Care of Tracheostomy
 - e) Endotracheal Intubation
 - vii. Care of intercostals drainage
 - viii. Nebulisation
 - ix. Chest physiotherapy
 - x. Monitoring of critically ill patients – clinically & with monitors, CRT (Capillary Refill Time), ECG
 - xi. Gastric Lavage
 - xii. Setting of Ventilators
 - xiii. Assessment of Neonates: Identification & assessment of risk factors, APGAR Score
 - xiv. Admission & discharge of critically ill patients
 - xv. OG (Orogastric) tube insertion
 - xvi. Thermoregulation – management of thermoregulation & control, Use of hypothermia machines
 - xvii. Administration of Drugs: I/M, IV injection, IV Cannulation & fixation infusion pump, Calculation of dosages, Monitoring fluid therapy.
 - xviii. Administration of Blood and its components.
 - xix. Procedures for prevention of infections: Hand washing, disinfections & sterilization, surveillance, fumigation.

- xx. Collection of specimens related to critical care.
- xxi. Burns: assessment, calculation of fluid-crystalloid and colloid
- xxii. Maintenance of intake and output chart.
- xxiii. Wound dressing and prevention of contractures
- xxiv. Rehabilitation

University Post Graduate Certificate Course in Operation Theatre Nursing (Main) Examination
Month Year

Paper I Operation Theatre Nursing-I

Time: Three Hours

Maximum Marks: 80

Q.No.1	Modified Essay Type question	20
Q.No.2	Modified Essay Type question	20
Q.No.3	Short Notes (Any five out of seven)	40

University Post Graduate Certificate Course in Operation Theatre Nursing (Main) Examination
Month Year

Paper II Operation Theatre Nursing-II

Time: Three Hours

Maximum Marks: 80

Q.No.1	Modified Essay Type question	20
Q.No.2	Modified Essay Type question	20
Q.No.3	Short Notes (Any five out of seven)	40

University Advanced Post Graduate Certificate Course in Critical Care Nursing (Main)

Examination Month Year

Paper I Operation Theatre Nursing-I

Time: Three Hours

Maximum Marks: 80

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|--------|---|----|
| Q.No.1 | Discuss the sterilization. Explain method of sterilization ill patient in ICU. | 20 |
| Q.No.2 | Write in detail the standardized safety measures in biomedical waste management | 20 |
| Q.No.3 | Short Notes (Any five out of seven) | 40 |
| | (a) Differentiate between antiseptic & disinfectant. | |
| | (b) Define Nursing Diagnosis & Medical diagnosis. | |
| | (c) Define Hypocalcaemia & its dietary management. | |
| | (d) Name the components of communication and role of receiver. | |
| | (e) Scope of critical care nursing. | |
| | (f) Define Pharmacokinetics & Pharmacodynamics | |
| | (g) Measures of pain assessment | |