

PONDICHERY UNIVERSITY COMMUNITY COLLEGE



SYLLABUS & COURSE FRAMEWORK

BACHELOR OF VOCATIONAL DEGREE

IN

OPERATION THEATRE TECHNOLOGY

WITH EFFECT FROM ACADEMIC YEAR 2019-20

**REGULATION AND CURRICULUM FOR THE
BACHELOR OF VOCATIONAL DEGREE COURSE IN
OPERATION THEATRE TECHNOLOGY**

1. Title of the course :B.VOC.(OPERATION THEATRE TECHNOLOGY)

2. Eligibility for admission:

A candidate seeking admission to the Bachelor of Vocational Degree Courses in Para medical sciences shall have passed higher secondary examination (10, +2) or equivalent with physics, chemistry and biology as principal subjects of study. (or)

Vocational higher secondary examination with Physics, Chemistry and Biology in addition to vocational subjects.

3. Sanctioned student strength: 20 Students.

4. Course significance:

Today with advanced technology, surgeries and operations have a big role to play to help people overcome their ailments. Various electrical and electronic equipment are in use in modern operation theatres for monitoring anaesthesia and surgical procedures.

The role of operation Theatre Technician is to help to save the lives of patients by assisting doctors performing surgery in the theatre. They are responsible for the direct and indirect patient care. They are trained to assist the surgical and anesthetic teams during the procedures and assume responsibility for completion of other functions assigned. Apart from the operation related work like preparing and maintaining operation theatre and equipment, operation theatre technicians also act as a link between the surgical team and other part of operation theatre and hospital. They must be able to anticipate the requirements of the surgical team and respond quickly and effectively.

Now there is a great demand for such personnel, the qualified and trained Operation Theatre Technician, in the corporate hospitals, both in India and abroad.

5. Course objectives:

After completion of the course the students will assist the doctors in Operation Theatres and be an integral part of the care delivery system.

Specifically Operation Theatre Technicians should be able to acquire the following skills:

(i). Professional skills:

To do the common tasks like

- Help to save lives by assisting doctors performing surgery in the operating theatre.
- Setting up, checking, connecting and adjusting surgical equipment.
- Providing technical assistance to surgeons, surgical nurses and anesthetists.
- Cleaning and restocking the operating room and arranging equipment and supplies.
- Positioning patients for surgical and/or anesthetic treatments.
- Helping patients after the operation by taking them to the recovery room

(ii). *Personal skills:*

- Good communication and interpersonal skills
- Attention to minute details
- Able to work under pressure.
- Able to work accurately and with minimal supervision.
- Organized, methodical and systematic
- Good general health and fitness.

6. Duration of the course:

The duration of the course shall be three years with semester pattern.

7. Medium of instruction:

The medium of instruction and examination shall be in English.

8. Course implementation:

- (i). General education component of the curriculum would be imparted in Pondicherry University Community College and skill training by SKP (Skill Knowledge Providers) such as physicians, trainers, senior technicians, etc. of the hospital sectors.
- (ii). A log book would be maintained for students with SKP's and continuous assessment and end semester evaluation of skill would be done by SKP.
- (iii). Only the necessary number of core faculties would be there in the institution and the remaining would be drawn as guest faculties from skill sectors and people with experience and expertise in the specific vocational skills.
- (iv). The expenses in connection with job training (training fees) educational tour, field visits etc. if any should be borne by the candidates.

9. Attendance:

Every candidate should have attended at least 80% (compulsory) of the total number of classes conducted in an academic year from the date of commencement of the term to the last working day as notified by university in each of the subjects prescribed for that year separately in theory and practical. Only such candidates are eligible to appear for the university examinations in their first attempt.

10. Schedule of Examination:

The university shall conduct examinations semester wise as notified by the university from time to time. A candidate who satisfies the requirement of attendance, progress and conduct as stipulated by the university shall be eligible to appear for the university examination.

11. Conducting Examination:

(i).Theory Exams: Pondicherry University for general and Vocational papers

(ii).Practical Exams:

- English and computer exams: Pondicherry University
- All other papers (general as well as vocational periodic assessment and end semester exams) are conducted by Skill Knowledge Providers (SKP) or trainers in the clinical settings and marks shall be submitted in sealed covers (in duplicates) to Community College. This will be forwarded to Pondicherry University from Community College.

Also a certificate from the SKP / HOD / Institution shall be issued to each student at the end of each semester on the clinical training imparted in the respective institutions, giving the assessment of Skill performance of the candidate as grade (marks).

Note: Remuneration as per University norms shall be given to SKP for conducting practical exam for Vocational & general education paper.

12. Declaration of Class:

- a. A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 75% of marks or more of grand total marks prescribed will be declared to have passed the examination with Distinction.
- b. A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 65% of marks or more but less than 75% of grand total marks prescribed will be declared to have passed the examination in the First Class.
- c. A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 50% of marks or more but less than 65% of grand total marks prescribed will be declared to have passed the examination in the Second Class.
- d. A candidate passing the university examination in more than one attempt shall be placed in Pass category irrespective of the percentage of marks secured by him/her in the examination.

[Please note fraction of marks should not be rounded off clauses (a), (b) and c)].

13. Course structure and scheme of Examinations:

BACHELOR OF VOCATIONAL DEGREE IN OPERATION THEATRE TECHNOLOGY									
		General papers	Hours		Credits	Vocational papers	Hours		Credits
			Theory	Practical			Theory	Practical	
Diploma (1Year)	1 st sem	English	30	20	4	OT Equipment & Techniques	40	60	7
		Computer & IT Skills	30	20	4	Basic patient Care & Theatre Organization	40	60	7
		Anatomy & Physiology	50	20	6		-	-	-
	2 nd sem	Biochemistry & Microbiology	50	20	6	OT & Its Maintenance	40	60	7
		Pathology & Pharmacology	50	20	6	Hands on Training in Relative Department	40	60	7
		Infection Control	50	20	6	-	-	-	-
		Total	260	120	32		160	240	28
Advanced Diploma (2Year)	3 rd sem	Biomedical & e-Waste Management	40	20	5	Basic Medical & Surgical Nursing	40	60	7
		BLS & ATLS	50	20	6	General Surgeries in OT	40	60	7
			-	-	-	Emergencies and Disaster Management	40	60	7
	4 th sem	CSSD ,Store & inventory	50	20	6	OBG Surgeries	40	60	7
		Patient & Staff Safety	50	20	6	Specialty Surgeries	-	180	9
		Total	190	80	23		160	420	37
B.Voc Degree (3Year)	5 th sem	Environmental Studies (EVS)	30	-	3	Medical, Legal & Ethical Issues	40	60	7
			-	-	-	Internship I	-	400	20
	6 th sem		-	-	-	Transport Medicine	40	60	7
			-	-	-	Internship II	-	460	23
		Total	30	-	3		80	980	57

EXAMINATION SCHEME OF B.VOC DEGREE IN OPERATION THEATRE TECHNOLOGY									
Papers	Subjects	Theory Max	Theory Min	IA Max	IA Min	*PC/PR/VV Max / Min	Total Max	Total Min	
	Semester-I								
General Paper-I	English	60	30	20	10	20	10	100	50
General paper-II	Computer & IT Skills	60	30	20	10	20	10	100	50
General Paper-III	Anatomy & Physiology	60	30	20	10	20	10	100	50
Vocational-I	OT Equipment & Techniques	60	30	20	10	20	10	100	50
Vocational-II	Basic patient Care & Theatre Organization	60	30	20	10	70	35	150	75
	Semester -II								
General paper-IV	Biochemistry & Microbiology	60	30	20	10	20	10	100	50
General Paper-V	Pathology & Pharmacology	60	30	20	10	20	10	100	50
General Paper-VI	Infection Control	60	30	20	10	70	35	150	75
Vocational-III	OT & Its Maintenance	60	30	20	10	70	35	150	75
Vocational-IV	Hands on Training in Relative Department	60	30	20	10	70	35	150	75
	Semester -III								
General Paper-VII	Biomedical & e-Waste Management	60	30	20	10	20	10	100	50
General Paper-VIII	BLS & ATLS	60	30	20	10	20	10	100	50
Vocational-V	Basic Medical & Surgical Nursing	60	30	20	10	20	10	100	50
Vocational-VI	General Surgeries in OT	60	30	20	10	70	35	150	75
Vocational-VII	Emergencies and Disaster Management	60	30	20	10	70	35	150	75
	Semester -IV								
General Paper-IX	CSSD ,Store & Inventory	60	30	20	10	20	10	100	50
General Paper- X	Patient & Staff Safety	60	30	20	10	20	10	100	50
Vocational- VIII	OBG Surgeries	60	30	20	10	70	35	150	75
Vocational-IX	Specialty Surgeries	-	-	20	10	130	65	150	75
	Semester -V								
Compulsory Paper	Environmental Studies (EVS)	75	30	25	10	-	-	100	40
Vocational – X	Medical Legal & Ethical Issues	60	30	20	10	70	35	150	75

Vocational – XI	Internship-I	-	-	20	10	330	190	350	200
Semester -VI									
Vocational – XII	Transport Medicine	60	30	20	10	70	35	150	75
Vocational – XIII	Internship-II	-	-	20	10	330	190	350	200

Vocational paper's practical will be evaluated by the skill provider.

*** PC – Practical, PR- Practical Report, CS-Case study, VV – Viva-Voce**

Split up of practical marks	Practical / Practical Report	Case study/Project	Viva-Voce
20	15	-	5
70	50	-	20
130	80	30	20
330	180	100	50

SYLLABUS CONTENTS
OPERATION THEATRE TECHNOLOGY
(B.Voc. Course)

Semester I	
General Paper-I	English
General Paper-II	Computer & IT Skills
General Paper – III	Anatomy & Physiology
Vocational -I	OT Equipment & Techniques
Vocational – II	Basic Patient Care & Theatre Organization
Semester II	
General Paper – IV	Biochemistry & Microbiology
General Paper – V	Pathology & Pharmacology
General Paper – VI	Infection Control
Vocational – III	OT & Its maintenance
Vocational – IV	Hands on Training in Relative Dept.
Semester III	
General Paper – VII	Biomedical & e-waste Management
General Paper – VIII	BLS & ATLS
Vocational –V	Basic Medical & Surgical Nursing
Vocational –VI	General Surgeries in OT
Vocational - VII	Emergencies and Disaster management
Semester IV	
General Paper – IX	CSSD, Store & Inventory
General Paper – X	Patient & Staff safety
Vocational – VIII	OBG Surgeries
Vocational – IX	Specialty Surgeries
Semester V	
Compulsory Paper	Environmental Studies (EVS)
Vocational – X	Medical, Legal & Ethical Issues
Vocational – XI	Internship I
Semester VI	
Vocational – XII	Transport Medicine
Vocational – XIII	Internship II

SYLLABUS
I YEAR – 1ST SEMESTER

Theory : 30 hrs
Practical's: 20 hrs

FOUNDATION COURSE – ENGLISH

Objective and Learning Outcome: To strengthen the student's academic English writing and reading skill; to strengthen skills in oral communication and be able to address different kinds of audiences.

Unit 1

Fundamentals of Language: Grammar and Vocabulary: Articles, prepositions, modal auxiliaries, Limited to the basic use of Parts of Speech.

Unit 2

Reading Skills: a) Reading official Letters and Profiles b) Reading News Reports/Newspapers c) Reading Online Content d) Reading Comprehension, Description and Narration (Objects, Places and People) Strategies: Skimming and Scanning, e) Note-making.

Unit 3

Creative writing: Basic writing skills, developing ideas and themes, writing introduction, welcoming, thanks giving, reporting events and conclusion. Describing everyday events, recounting incidents, letter writing.

Unit 4

Effective Oral Communication [Spoken English]: 1) Introducing yourself 2) Presentation 3) Group Discussion 4) role play

Unit 5

Developing Conversational Ability:

1) Meeting People, Exchanging Greetings and Taking Leave 2) facing interview 3) Introducing People to Others 4) Answering the Telephone and Asking for Someone 5) Dealing with a Wrong Number 6) Taking and Leaving Messages 7) Making Inquiries on the Phone 8) Calling for Help in an Emergency 9) Participating in small talks- At the office, At the railway station, At the airport, At the travel agency, At the bank, At the doctor's clinic, At the hospital.

Text Books:

1. David Green, *Contemporary English Grammar Structures and Compositions*. Revised Edition, Macmillan India Ltd, 2008
2. G. Radhakrishna Pillai, K. Rajeevan and P. Bhaskaran Nair, *Written English for You*. Emerald, 2007.

Objective and Learning Outcome: To introduce the students to the basics and practical knowledge of computer programming and MS-Office tools and Bioinformatics

UNIT- I

Introduction to Computer - Function and components of a computer, Types & characteristics of computers, Input and Output devices, Auxiliary storage devices.

UNIT-II

Word processing using MS –Word; Introduction –Creating a New Document-Templates and Wizards-Controlling the Screen Display-Formatting-Searching & Replacing – Tables-Desktop Publishing with Word.

UNIT-III

Spread Sheet Management using Excel; Introduction-Basic Worksheet Mechanics – Worksheet Development-Editing & Formatting Worksheet-Printing Techniques-Sorting the Data filtering-List- Pictorial representation of Data in Excel; Creating a Chart-Customizing& Embedding a Chart-Charting Techniques

Introduction to Power Point; Usage of Design Templates- Presentation Using Wizards-Slide Transition & Animations-Inserting Clip Arts & Pictures-Background & Colour Layouts

UNIT-IV

Introduction to C programming- Declaring the variable, data types, control statements. Functions, input & output streams.

UNIT-V

Introduction to Bioinformatics- Scope and applications – Biological database- Biological structural database- Presently available biological software programs-BLAST, FASTA, Phylip

Practical's:

1. Various browsers, Search engines, email
2. Text document with images with multiple formatting options using a specified office package
3. Spread sheet using a specified office package
4. Presentation on a specified topic using the specified locations
5. C program demonstrating the usage of user defined variables
6. C program-functions
7. C program-file handling

Reference Books:

1. C programming Tutorial(K&R version 4) Author's : Mark Burgess
2. An introduction to GCC by Brian J. Gough, foreword by Richard M. Stallman
3. Red Hat Linux 9 bible by Christopher Negus May 2003
4. Microsoft office 2003 by Jennifer Ackerman Kettell, Guy Hart-Davis

GENERAL PAPER-III
APPLIED ANATOMY & PHYSIOLOGY

Theory: 50 hrs
Practical's: 20 hrs

Objective and Learning Outcome: To understand the anatomy and physiology of the body. To describe the internal and external **anatomy** of the body. To provide practical knowledge of the anatomy and general physiology.

1. Introduction, General Physiology & Body Fluids.
2. Cardiovascular system
3. Respiratory system
4. Nervous system – Central, Peripheral
5. Blood including Coagulation system

Practical

1. Naming of the organs in Major body systems
2. Identification of tissues
3. Identifying the cell components
4. Identification of Body cavities and its organs
5. Temperature recording
6. Pulse recording
7. BP recording
8. TPR BP chart
9. Monitoring Urine output
10. Monitoring the Bowel
11. Pulmonary Function Test by Spirometry

Reference books

Comprehensive text Book of Medical Physiology, Prof.G.K.Paul., 2nd Edition,
Jaypee Publication, 2019.

VOCATIONAL PAPER I - OT EQUIPMENTS AND TECHNIQUES

Theory:40 hrs
Practical's: 60hrs

Objective and Learning Outcome: To learn about the various OT equipment's and their operation in OT

1. Cleanliness and sterilization of OT, Carbonization and fumigation
2. Lighting in OT
3. Assisting Surgeons in OT
4. Trouble Shooting
5. Anesthesia Services -General Anesthesia Techniques, Local Anesthesia techniques
6. Blood transfusion
7. Monitoring in OT
8. Positioning of Patients
9. Medical Air -Gas Manifold
10. Hooking up the ventilator
11. The maintenance of humidifiers
12. Nebulization
13. Airway Devices
14. Laryngoscope and Endotracheal tubes
15. Face Mask and Manual Resuscitator
16. Instrument planning for various surgical procedures
17. Assist with intubation
18. OTT techniques
19. Air exchanges and HEPA filters

EQUIPMENTS:

Anesthesia workstation

1. Electrical diathermy
2. Monitoring a resuscitative devices
3. Vaporizers
4. Laparoscopic unit
5. Suction devices
6. Mechanical ventilators & compressors
7. Autoclave& types
8. Operating microscopes
9. Imaging devices
10. X ray units C arm
11. Medical gas cylinders & pressure regulators
12. .Operating tables and lights

Practical's I in OT techniques and Equipment's

Autoclaving and sterilization methods

Washing, cleaning, testing and repairing of gloves and sorting

Preparation of dressings, swabs and packs,

Packing of drums and sterilization

Common types of instruments, needles, suture and ligatures used in operation theatre

VOCATIONAL PAPER II
BASIC PATIENT CARE & THEATRE ORGANIZATION

Theory: 40 hrs
Practical's: 60 hrs

Objective and Learning Outcome: To understand the fundamentals of patient care and the preparation for OT procedures.

I Basic Patient care

- 1 Introduction to patients' rights- Confidentiality – Reception – Identification: checking and identification of patient density.
- 2 Infection control practices- Sterile techniques, bladder sterilization, preparation for cannulation and bladder catheterization Cleanliness and disinfection of ward and appliances, bed making, wound dressings,
- 3 Shifting and transportation of patients, Monitoring of vitals, transfusion practice
- 4 First Aid Techniques
- 5 Ethical issues.

II Theatre Organization

1. Sterile practices & Fumigation practices, Maintaining sterility & cleanliness of OT.
2. Universal precautions & occupational safety-Introduction to central gas supply system: medical gas cylinder & safe handling, handling biohazard materials, fire safety mechanism, and managing specimens.
3. Setting up & care of equipment's - Basics of suture materials & surgical instruments – Method of CSSD functioning- cleaning & packing of surgical instruments, soil linen management, sterilization, Handling autoclaves, E.T.O sterilization.
4. Hospital waste management.
5. Patient and staff safety.

I YEAR – 2ND SEMESTER

GENERAL PAPER IV- BIOCHEMISTRY & MICROBIOLOGY

**Theory: 50hrs
Practical's: 20hrs**

Objective and Learning Outcome: Students will learn to explain/describe the synthesis of proteins, lipids, nucleic acids, and carbohydrates and their role in metabolic pathways .

I. Biochemistry

1. Introduction–Structure–Classification–Properties of Carbohydrates, Proteins, Lipids
2. Metabolism of carbohydrates, proteins and lipids
3. Clinical Biochemistry-Hormones basic concepts in metabolic regulation with examples, with respect to insulin - Blood sugar, urea, creatinine and bilirubin significance of their estimation

II. Microbiology

1. General Bacteriology and Virology
2. Sterilization and Disinfection
3. Communicable infections & agents
4. Fumigation & Sterilizing agents

Practical's

- 1 Methods of Sterilization
- 2 Handling, preparation and transport of the specimens for microscopic examination

GENERAL PAPER V- PATHOLOGY & PHARMACOLOGY

Theory: 50hrs
Practical: 20 hrs

Objective and Learning Outcome: To understand the basics of pathology and control. To utilize critical thinking skills in discussing the concept of pharmacotherapy. To understand basic concepts of pharmacology.

I. Applied pathology

1. Esophagus, stomach, Duodenum. Their anatomical relevance to Endoscopy
2. Anal Canal, Colon, their Relevance to Colonoscopy - Endoscopy
3. GI Tract Pathogenesis
4. Common Diseases of Colón
5. Double balloon enteroscopy, capsule endoscopy in Small Intestine
6. Respiratory tract Disorders
7. Bleeding Lesions of Oesophagus

II. Applied Pharmacology

1. Pharmacodynamics and Pharmacokinetics of Drugs
2. Cardiovascular Drugs – Dopamine, Dobutamine, Adrenaline, Nor adrenaline, Vasopressin, Nitroglycerine, S.N.P, Esmolol, Labetalol, Metoprolol, Anti arrhythmic agents, Atropine, Glycopyrrolate. Haemostasis Drugs- Heparin / Tranexamic acid
3. General Anesthesia Drugs, Regional Anesthesia Drugs
4. Emergency drugs
5. Analgesics
6. Antihistamines and antiemetic's
7. Inhalation gases
8. Pharmacotherapy of respiratory Disorders
9. Corticosteroids
10. Pharmacological protection of organs during CPB
11. Diuretics
12. Miscellaneous Drugs- Intravenous Fluids

Practical's

Applied Pathology & Applied Pharmacology-

Case Studies

GENERAL PAPER VI-INFECTION CONTROL

Theory:50hrs
Practical:20hrs

Objective and Learning Outcome: To familiarize with infection control procedure and care.

Infection Control

- 1 Care of skin
- 2 Hand hygiene
- 3 Protective apparel
- 4 Procedure for safe handling of sharps
- 5 Procedure for safe disposal of sharps
- 6 Management of blood and body fluids pills
- 7 Linen management (use & disposal)
- 8 PPE-Hand washing-Gloves- Masks, goggles & facemasks-Gowns
- 9 Patient care equipment
- 10 Environmental cleaning
- 11 Management of Sharps

VOCATIONAL PAPER III-OT & ITS MAINTENANCE

Theory: 40hrs
Practical's: 60hrs

Objective and Learning Outcome: To understand the structure of hospital and the services in OT; to learn to maintain OT services for infection control and patient care.

1. OT Management
 - 1.1. Introduction
 - 1.2. Organization of Hospital
 - 1.3. Types of OT
2. Surgeries
 - 2.1. Elective Surgeries
 - 2.2. Emergency Surgeries
 - 2.3. Ambulatory Surgeries
3. Surgical Asepsis and Hygienic Operating room
 - 3.1. Preparation of sterile field
 - 3.2. Preparation of Patient
 - 3.3. Preparation of OT
 - 3.4. Care of OT Before and after surgery
4. Introduction to Anesthesia
 - 4.1. Basics of Anesthesia and Sedation
 - 4.2. Equipment used in Anesthesia
 - 4.3. Gases used in OT
 - 4.4. Drugs used in Anesthesia
5. Introduction to Surgical Principles
 - 5.1. Introduction to basic principles of surgery
 - 5.2. Introduction to the "surgical patient": patient Centre care of patients undergoing surgery
 - 5.3. Different types of tumors, cysts, ulcers fistulas
 - 5.4. Fractures and dislocations
 - 5.5. Head and spinal cord Injury
 - 5.6. Pregnancy, caesareans
 - 5.7. Laparotomy and minimally invasive surgeries
6. Assisting with Anesthetist
 - 6.1. Patient transfer
 - 6.2. Positioning of Patient
 - 6.3. Orientation to different types of Anesthesia

Vocational Paper IV
HANDS ON TRAINING IN RELATIVE DEPARTMENTS

Theory: 40hrs
Practical's: 60hrs

Objective and Learning Outcome: To provide hands on training in various OT departments in hospitals; to learn the procedures of OT in various specializations.

1. Emergency care services
2. Intensive Care Unit
3. Cath Lab
4. Surgery
5. CSSD
6. Orthopaedics
8. Paediatric Surgery
9. Neurology
10. Urology
11. Obstetrics& Gynecologist

II YEAR -3RD SEMESTER

General Paper-VII

BIOMEDICAL & e-WASTE MANAGEMENT – III SEMESTER GENERAL PAPER – VII

Theory: 40hrs

Practical's: 20hrs

Objective and Learning Outcome: To understand, classify and dispose biomedical waste; to learn the regulations governing waste management and best practices.

Biomedical waste

1. Introduction

2. General Considerations

3. Separate waste streams

3.1. Sharp wastes

3.2. Infectious non sharp wastes

3.3. General waste

3.4. Recyclable items

3.5. Pharmaceuticals

4. Colour coding

5. BMW Management Committee

5.1. Structure & Composition

5.2. Functions

6. Steps

6.1. Segregation

6.2. Collection

6.3. Transportation

6.4. Disposal

7. Documentation

7.1. Application for authorization

GENERAL PAPER VIII – BLS & ATLS

Theory: 50 hrs
Practical: 20 hrs

Objective and Learning Outcome: To understand the concepts of BLS & ATLS and prepare students for emergency and critical procedures.

1. Introduction to Adult CPR
2. Definition of CPR
3. Benefits of CPR for Cardiac Arrest Victims
4. Mechanisms of CPR - Compressions for circulation - Respirations for oxygenation
5. Physiology of Chest Compressions
6. Physiology of Rescue Breathing
7. Indications for CPR
8. Scene Safety
9. Checking for Unresponsiveness
10. When to call for help-If you are a lone rescuer call the required number and retrieve the defibrillator immediately-If you are not alone, send someone to call and retrieve the AED and begin CPR
11. The EMS System
12. The ABC's - Airway - Breathing -Circulation
13. Opening the Airway - Head tilt chin liftman oeuvre
14. Checking for Breathing-Look for chest rise-Listen for air movement-Feel if air is moving out of the victim
15. Protective Barriers- Pocket Mask – Face Shields
16. Providing Rescue Breaths- Give 2 breaths - Give each breath over 1 second - Take afresh breath between each breath
17. Providing Chest Compressions-Correct Hand Position -Correct Compressions Depth- Position victim on hard surface-Push Hard Compress chest 1 to 2 inches- Push Fast Compress at a rate of 100 compressions per minute
18. Compression Ventilation Ratio- Alternate 30 Compressions with 2 breaths- Reopen airway before providing breaths
19. Second Rescuer - Alternate frequently to prevent fatigue
20. When to discontinue CPR -When AED arrives and is ready to be attached - When emergency care professionals arrive and take over care of the victim - When you are too exhausted to continue.

Reference books - ACLS guidelines 2010

VOCATIONAL PAPER- V
BASIC MEDICAL NURSING &SURGICAL NURSING

Theory: 40hrs
Practical's: 60hrs

Objective and Learning Outcome: To familiarize with the basic and practical knowledge of basic and surgical nursing.

I. Basic Medical Nursing

1. Patient Feeding

- 1.1. Serving Meals to Bed patients
- 1.2. Feeding of Helpless patients

2. Patient Care

- 2.1. Care of vulnerable Patients
- 2.2. Fever and its nursing care
- 2.3. Measuring and recording of Height and Weight

3. Observation for Output: collection and measurements

- 3.1. Observation of Stool
- 3.2. Observation of Urine
- 3.3. Observation of Vomits

4. Examination of Urine (bedside ,dipstick)

5. Advanced First Aid(CPR)

II. Basic Surgical Nursing

1. Surgical Dressing

- 1.1. Dressing trolley

2. Instruments Care

- 2.1. Care and Sterilization of Sharp Instruments
- 2.2. Care and Sterilization of Blunt Instruments
- 2.3. Care and Sterilization of Rubber Goods
- 2.4. Care and Sterilization of Glass wares

3. Dressings and Bandages

- 3.1. Definition and classification of Dressings
- 3.2. Bandages types

VOCATIONAL PAPER VI-GENERAL SURGERIES IN OT

Theory : 40hrs

Practical's: 60hrs

Objective and Learning Outcome: To understand, classify and learn the procedures, practices and measures in general surgeries in OT.

1. Basic Surgical Principles and incision
2. Surgical Biopsies
3. Thyroidectomy/Parathyroid ectomy
4. Breast surgery/Mastectomy
5. Herniorrhapy
6. Abdominal Laparotomy
7. Laparoscopy
8. Gastrectomy, Vagotomy and Pyloroplasty , Anastomosis of gut, Gastrostomy, ileostomy, Colostomy
9. Appendectomy
10. Haemorrhoidectomy, Pilonidal sinus, fistula inano etc
11. Phimosis, orchidopexy, varicocoele
12. Vasectomy, varicoseveins
13. Orthopaedic; Open reduction and internal fixation
14. Bone grafting types and arthroscopy, ExternalFixation
15. Plaster of Paris cast –Introduction ,types
16. Principles and techniques of plaster application
17. Fractures and dislocations-classification, basic scheme of management
18. Complications of fractures
19. Crutches, measurement and use/Tractions in orthopedics
20. Basics of Orthotics / Bandaging, slings, strappings, RJ bandage
21. Amputations: Types and operative steps
22. Faciomaxillary Operations
23. Operations on Spine and Spinal Cord
24. ENT surgeries

Practical's Basic Specialty General Surgery, ENT and Orthopaedics

1. Practical's/ demos for operations

VOCATIONAL PAPER VII- EMERGENCIES & DISASTERMANAGEMENT

Theory: 40 hrs

Practical's: 60hrs

Objective and Learning Outcome: To familiarize with the various emergency procedures in disaster management.

1. Types of disasters
2. Mobilization of resources
3. Triage
4. Trauma Emergencies
5. Shock: Types &management
6. Special airway devices
7. ATLS guidelines
8. Communication strategies

Practical's

1. Air way management
2. Cannulation techniques

Reference Book:

Tintinalli's Emergency Medicine 7th edition

II YEAR – 4TH SEMESTER

GENERAL PAPER IX - CSSD, STORES AND INVENTORY PROCEDURES

Theory: 50hrs

Practical's: 20 hrs

Objective and Learning Outcome: To understand and evaluate the best practices in CSSD, Stores and inventory management.

1. Sterilization
2. Disinfectants
3. Gloves Care, Maintenance, Cleaning and sterilization
4. Dressing Preparation and Drums Packing
5. Sutures, Needles, Ligature care maintenance and sterilization
6. Procedure of sending specimen for Biopsy or Culture
7. Identification of instruments for common surgical operations and examinations
8. Setting up tray for various surgeries
9. Scrubbing, gloving and gowning
10. Laying tables for surgeries
11. OT Stores - Indenting, storekeeping, accounting and audit
12. Inventory Management
13. Electrical and fire safety
14. OT waste Management
15. Special Precaution in handling patient with sepsis and blood borne infection
16. Surgical Safety Checklist
17. Patient receipt, dispatch, documentation and record keeping

Practical's - CSSD, stores and inventory procedures

1. Procedure of sending specimen for Biopsy or Culture
2. Identification of instruments for common surgical operations and examinations
3. Setting up tray for various surgeries

GENERAL PAPER X- PATIENT & STAFF SAFETY

Theory: 50hrs
Practical's: 20 hrs

Objective and Learning Outcome: To learn the skills needed to provide patient and staff safety in various adverse events

1. Communicating Effectively
 - 1.1. Involving patients as partners in healthcare
 - 1.2. Do's & Don'ts of Communication
 - 1.3. Obtaining Consent
 - 1.4. Being culturally respectful & knowledgeable
2. Adverse events & near misses
 - 2.1. Introduction & explanation to the terms
 - 2.2. Adverse event forms
3. Working Safely
 - 3.1. Being a team player
 - 3.2. Understanding human factors
 - 3.3. Providing continuity of care
4. Medication safety
 - 4.1. Wrong site
 - 4.2. Wrong patient
 - 4.3. Wrong technique
 - 4.4. Wrong dose
 - 4.5. Wrong Medicine
- 4.6. Organization of Hospital
- 4.7. Admission and transfer Procedures- Maintenance of Operation records
- 4.8. Communication and Health care Provider
- 4.9. Management- Delegation, Scheduling, Staffing
- 4.10. Supervision techniques
- 4.11. Assignments- Individual and team functions
- 4.12. Moral-Employee
- 4.13. Human relations, Public relations
- 4.14. Ethical and Legal Issue in Anesthesia and OT

VOCATIONALPAPERVIII-OBGSURGERIES

Theory: 40hrs

Practical's: 60 hrs

Objective and Learning Outcome: To understand and evaluate the procedures and complexities in OBG surgery; to learn suitable interventions for safety of patients in OBG.

1. Labour
2. PPH
3. Inversion of Uterus
4. Rupture of Uterus, Cord Prolapse
5. LSCS
6. Obstetric hysterectomy
7. Ectopic Pregnancy
8. Abortions and Cervical Circle age
9. MTP- MTP Act, Methods and Complications
10. Check Curettage
11. Manual removal of Placenta
12. Vaginal Tear
13. Tubectomy
14. Mini Laparotomy
15. Hysterectomy
16. Cystectomy
17. MyoMectomy
18. Tuboplasty
19. Cytoreduction for CA Ovary
20. D &C
21. Endometrial biopsy
22. Bartholin Cyst Excisions

Practical's OBG Surgeries

- 1 Case Studies
- 2 Practical's/ Demo's for OBG surgeries

**VOCATIONAL
PAPERIX –SPECIALTY SURGERIES**

Practical: 180 hrs

Objective and Learning Outcome: To familiarize with the techniques and measures involved in specialty surgery.

1. Premedication Drugs
2. Pre-Operative Set Up
3. Care of Operating room
4. Maintenance and handling of OTI instruments
5. Recovery follows up of the patient
6. Management of Unconscious Patient
7. Management of Patient on ventilator
8. Management in ICU
9. NICU and Patient Handling
10. Intensive care- Surgical Emergency
11. ICU- Medical Emergencies
12. Shock
13. Burn
14. Pain Management
15. Monitoring of Patients during Dialysis
16. Anesthesia for General Surgery
17. Anesthesia for orthopedic Surgery
18. Anesthesia for ENT Surgery
19. Anesthesia for ophthalmic Surgery
20. Anesthesia for obstetrics /gynecology
21. Anesthesia for Surgery in remote areas - psychiatry, radiology and imaging, IVF, ESWL, Endoscopy
22. Disaster management

Reference books

Morgan & Mikhail's Clinical Anesthesiology

III- YEAR V- SEMESTER
ENVIRONMENTAL STUDIES
COMPULSORY PAPER [ENVS-353]

Theory: 30 hours

Objective and Learning Outcome: To sensitize the students with the need for environment management systems. To make them appreciate environment protection methods.

Unit 1: The Multidisciplinary Nature of Environmental Studies

Unit 2: Natural Resources

Unit 3: Ecosystems

Unit 4: Biodiversity

Unit 5: Pollution

Unit 6: Social Issues and the Environment

Unit 7: Human Population and the Environment

Unit 8: Case Studies

Textbook:

Text book of Environmental Studies for Undergraduate Courses of all Branches of Higher Education

Erach Bharucha

For University Grants Commission

VOCATIONAL PAPERS PAPER-X
MEDICAL, LEGAL & ETHICAL ISSUES

Theory: 40hrs

Practical's: 60 hrs

Objective and Learning Outcome: To sensitize the students with the need for respecting medical, legal and ethical issues. To make them appreciate the regulations through case study.

1. Physician patient relationship
2. Confidentiality
3. Consent
4. Medical records
5. Risk management
6. End of life legal issues
7. Case studies –Malpractice
8. Documentation & Medical records.

Practical's

- 1 Case studies

Vocational Paper XI

INTERSHIP I

Practical: 400 hrs.

III YEAR – 6th SEMESTER

Theory: 40 hrs
Practical: 60 hrs

VOCATIONAL PAPER XII- TRANSPORT MEDICINE

Objective and Learning Outcome: To provide practical training in transport medicine. To provide procedures for handling and treating the patients in emergency medical care.

1. Introduction to Emergency medical care
2. Lifting & positioning techniques
3. Assessing victim
4. Site evaluation
5. Primary survey
6. Stabilization techniques
7. Secondary survey
8. Vital parameters monitoring
9. Documentation
10. Emergencies
11. Surgical/Medical Emergencies

Practical's

1. Setting up of Ambulance
2. Equipment
3. Drugs & fluids
4. Other materials
5. Pre transport check
6. Communications & Documentation

Vocational Paper XIII

INTERSHIP II

Practical: 460 hrs