



SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
(An Autonomous Institution)
Puducherry – 605 107

2nd - Board of Studies Meeting
ALLIED HEALTH SCIENCES

for the Programmes

1. B.Sc., Critical Care Technology
2. B.Sc., Emergency Medicine Technology
3. B.Sc., Operation Theatre & Anaesthesia Technology
4. B.Sc., Renal Dialysis Technology
5. Diploma in Operation Theatre & Anaesthesia Technology

Venue

College Council Hall
Sri Manakula Vinayagar Medical College and Hospital
Kalithirthalkuppam, Puducherry – 605 107

Date & Time

20.03.2021 & 09.00 AM

AGENDA OF THE MEETING

1. To approve the revised curriculum for all the programmes
 - Distribution of Lecture / Practical hours
 - Distribution of marks for CAT & EYE
2. To discuss about the Evaluation Systems
 - Question paper pattern
 - Classification of Degree
3. To approve the criteria for "Pass" in a subject
4. To approve the dates of Model & EYE Examination
5. Any other with the approval of the Chairman of the Programme

MINUTES OF THE MEETING

Dr.R.Gopal, Dean School of AHS, initiated the meeting by a warm welcome and introduced the External Members, the Internal and Co-opted Members and thanked them for accepting the invitation of 2nd BOS meeting. The Chairman proceeded with the presentation to deliberate on agenda items.

Item 1:	The Meeting Confirmed the Minutes of the First BOS Meeting with following changes: Revised curriculum for all the courses : The Chairman & Members of the BOS of the respective Programmes approved the changes made in the Curriculum including teaching hours and distribution of the Marks for CAT and EYE as enclosed(Annexure -I) The minimum marks for pass in Ancillary Subjects for which only CAT Examination will be held viz English, Computer Science, Environmental Science & Community Medicine, Biostatistics & Ethics, Pharmacology is 50% (Annexure-I)
Item 2:	The BOS members have approved the Evaluation Systems and recommended to Academic Council
Item 3:	The members have approved the minimum pass percentage as 40% for Theory & Practical separately and the aggregate of both Theory & Practical is 50 %.
Item 4:	Dates of Model Examination and EYE Examination The Members have approved the tentative dates of Model and EYE Examination fixed for the Month of July and August 2021 respectively (Annexure - II)

Item 5:	The Members have approved the lateral entry of Diploma holders to the Second Year of the B.Sc Programme, subject to fulfillment of the General Rules for Admission
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The meeting for 1st, 2nd and 3rd year and syllabi approval was concluded at 1.00 pm with vote of thanks by Dr.R.Gopal, Dean School of AHS Sri Manakula Vinayagar Engineering College.


DEAN - AHS



Sri Manakula Vinayaga Engineering College
(An Autonomous Institution), Puducherry
School of Allied Health science
Minutes of the meeting of Board of Studies

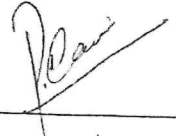
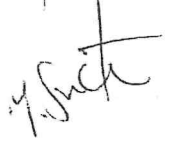
Course: B. Sc. (Accident & Emergency Medicine Technology)

Date: 20.03.2021

Time: 10:00 to 11:00am


The Second meeting of the B.O.S was held on 20.03.2021 at the Academic council hall of SMVEC. The meeting was attended by internal members in person and externals in person or by Google meet. The following persons participated in the meeting.

Sl. No.	Name and designation	Responsibility in BOS	Signature
1	Dr. Badrinath Professor Department of General Medicine (Sri Manakula Vinayagar Medical college & Hospital) 9894442647 akbsts@yahoo.co.in	Chairman	
2	Dr. Manikandan Assistant Professor of Orthopedics (Sri Manakula Vinayagar Medical college) & Hospital 9944228581 manikandan7008@gmail.com	Member	
3	Dr. Duvuru Amareswar Reddy Assistant Professor of Emergency Medicine (Sri Manakula Vinayagar Medical college) & Hospital 989491872	Member	
4	Dr. Nithiyaraj. R Assistant Professor of Emergency Medicine (Sri Manakula Vinayagar Medical college) & Hospital 9791919491 nithiyaraj.srmc@gmail.com	Member	
5	Dr. Suman Babu Assistant Professor of General Medicine (Sri Manakula Vinayagar Medical college) & Hospital 8098031591/ 9866884184 drsuman423@gmail.com	Member	
6	Dr. Ezhilrajan. Professor of Anaesthesiology Aarupadai Veedu Medical college & Hospital, Puducherry 9843030074 ezhilrajan96@gmail.com	Member (External)	

7	Dr. Navin puttum Assistant Professor of Emergency Medicine Aarupadai Veedu Medical college & Hospital, Puducherry 9176183029 navin.puttum@gmail.com	Member (External)	
8	Dr. M. Sudhakar Professor of Medicine Pondicherry Institute of Medical Sciences, Puducherry 9944667893 drsudhagar7893@gmail.com	University Member	

A. K. Badrinath
Chairman




Director & Principal
Sri Manakula Vinayagar Engineering College



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
(Accredited by NBA-AICTE, New Delhi & Accredited by NAAC with "A" Grade)
Madagadipet, Puducherry - 605 107



SCHOOL OF ALLIED HEALTH SCIENCES

B.Sc.IN EMERGENCY MEDICINE TECHNOLOGY

CURRICULLUM & SYLLABI

(R-2020)

DISTRIBUTION OF TEACHING HOURS FOR 2ND YEAR COURSES

Course	Lecture	Practicals	Total
INTRODUCTION TO EMERGENCY MEDICAL SERVICES	60	40	100
EMERGENCY DEPARTMENT EQUIPMENT	60	40	100
PATIENT EXAMINATION AND NURSING	60	40	100
PHARMACOLOGY	30	-	30
ENVIRONMENTAL SCIENCE AND COMMUNITY MEDICINE	30	-	30
CLINICAL POSTING	-	1200	1200
TOTAL	240	1320	1560

DISTRIBUTION OF MARKS FOR 2ND YEAR COURSES

Course Code	Course	Theory								Practicals						Grand Total	
		*EYE		**CAT		Viva		Total		*EYE		***CAT		Total		Theory+ Practical	
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
U20EMTT21	INTRODUCTION TO EMERGENCY MEDICAL SERVICES	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20EMTT22	EMERGENCY DEPARTMENT EQUIPMENT	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20EMTT23	PATIENT EXAMINATION AND NURSING	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT21	PHARMACOLOGY	-	-	50	25	-	-	50	25	-	-	-	-	-	-	50	25
U20CTAT22	ENVIRONMENTAL SCIENCE AND COMMUNITY MEDICINE	-	-	50	25	-	-	50	25	-	-	-	-	-	-	50	25
TOTAL		-	-	-	-	-	-	400	170	-	-	-	-	180	72	580	290

*EYE Examination, **CAT Internal Assessment in Theory (Test 15 marks + Attendance 5 marks)

***CAT Practicals (Test 10 marks + Attendance 5 marks+ record books 5 Marks)

Minimum Marks for Pass is (i) 40% in Theory & Practicals separately.

(ii) 50% in aggregate of both Theory & Practicals combined.

Minimum Marks for Pass in Ancillary Subjects is 50%.

DISTRIBUTION OF TEACHING HOURS FOR 1ST YEAR COURSES

Course	Lecture	Practicals	Total
ANATOMY	60	40	100
PHYSIOLOGY	60	40	100
BIO-CHEMISTRY	60	40	100
MICROBIOLOGY	60	40	100
PATHOLOGY	60	40	100
ENGLISH	25	25	50
COMPUTER SCIENCE	25	25	50
CLINICAL POSTING	-	300	300
TOTAL	350	550	900

DISTRIBUTION OF MARKS FOR 1ST YEAR COURSES

Course Code	Course	Theory								Practicals						Grand Total	
		*EYE		**CAT		Viva		Total		*EYE		***CAT		Total		Theory+ Practical	
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
U20CTAT11	ANATOMY	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT12	PHYSIOLOGY	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT13	BIO-CHEMISTRY	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT14	MICROBIOLOGY	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT15	PATHOLOGY	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20CTAT16	ENGLISH	-	-	-	-	-	-	-	-	-	-	50	25	50	25	50	25
U20CTAT17	COMPUTER SCIENCE	-	-	-	-	-	-	-	-	-	-	50	25	50	25	50	25
TOTAL		-	-	-	-	-	-	500	200	-	-	-	-	400	170	900	450

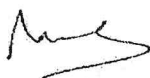
*EYE Examination, **CAT Internal Assessment in Theory (Test 15 marks + Attendance 5 marks)

***CAT Practicals (Test 10 marks + Attendance 5 marks+ record books 5 Marks)

Minimum Marks for Pass is (i) 40% in Theory & Practicals separately.

(ii) 50% in aggregate of both Theory & Practicals combined.

Minimum Marks for Pass in Ancillary Subjects is 50%.



COLLEGE VISION AND MISSION

VISION

To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society.

MISSION

M1: Quality Education:

To provide comprehensive academic system that amalgamates the cutting edge technologies with best practices.

M2: Research and Innovation:

To foster value based research and innovation in collaboration with industries and institutions globally for creating intellectuals with new avenues.

M3: Employability and Entrepreneurship:

To inculcate the employability and entrepreneurial skills through value and skill based training.

M4: Ethical Values:

To instill deep sense of human values by blending societal righteousness with academic professionalism for the growth of society.

DEPARTMENT OF EMERGENCY MEDICINE TECHNOLOGY

VISION AND MISSION

VISION

Health science aspires to be the college of choice for students seeking to serve on interprofessional teams as Health Educators, Administrators, Health Promotion Specialists, Physician Assistants, and Physical Therapists, who will contribute to the body of evidence and enhance patient –centered care.

MISSION

M1: knowledge sharing:

- To prepare graduates who are committed in health care to excellence and innovation in health care.

M2: Collaborative learning:

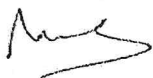
- Our mission is to develop and foster educational excellence and opportunity for all learners through collaboration and leadership.

M3: Career Development:

- A career mission statement's purpose is to provide a clear and inspiring direction for your future.

M4: Consistent Improvement:

- Our mission is to lead the world in transforming lives to create a healthy future for all individuals and communities through premier educational programs, innovative research and extraordinary patient care."



DISTRIBUTION OF TEACHING HOURS FOR 3RD YEAR COURSES

Course	Lecture	Practicals	Total
MEDICAL EMERGENCIES	60	40	100
TRAUMA AND SURGICAL EMERGENCIES	60	40	100
LEGAL MEDICINE	20	10	30
BIostatISTICS AND ETHICS	30	-	30
CLINICAL POSTING	-	1200	1200
TOTAL	170	1290	1460

DISTRIBUTION OF MARKS FOR 3RD YEAR COURSES

Course Code	Course	Theory								Practicals						Grand Total	
		*EYE		**CAT		Viva		Total		*EYE		***CAT		Total		Theory+ Practical	
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
U20EMTT31	MEDICAL EMERGENCIES	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20EMTT32	TRAUMA AND SURGICAL EMERGENCIES	60	24	20	8	20	8	100	40	40	16	20	8	60	24	160	80
U20EMTT33	LEGAL MEDICINE	-	-	50	25	-	-	50	25	-	-	-	-	-	-	50	25
U20CTAT31	BIostatISTICS AND ETHICS	-	-	50	25	-	-	50	25	-	-	-	-	-	-	50	25
TOTAL		-	-	-	-	-	-	300	130	-	-	-	-	120	48	420	210

*EYE Examination, **CAT Internal Assessment in Theory (Test 15 marks + Attendance 5 marks)

***CAT Practicals (Test 10 marks + Attendance 5 marks+ record books 5 Marks)

Minimum Marks for Pass is (i) 40% in Theory & Practicals separately.

(ii) 50% in aggregate of both Theory & Practicals combined.

Minimum Marks for Pass in Ancillary Subjects is 50%.

I-YEAR SYLLABUS

U20CTAT11

ANATOMY

L	P	Hrs
60	40	100

HUMAN BODY AS A WHOLE

1. Anatomical position
2. Fundamental planes of the body
3. Anatomical terms (superior, inferior, medial, lateral, proximal and distal)
4. Organization of human body
5. Parts of microscope and its functions
6. Epithelium
 - Types
 - functional importance with examples

LOCOMOTOR SYSTEM

Skeletal system

1. Bone composition
2. Long bone
 - Parts
 - blood supply with clinical implication
3. Identify major bones of the body and their parts
4. Classification of synovial joints with associated movements
5. Articular surface of key joints in human body
6. Parts of a muscle and its arrangement
7. Classification of muscles with functional importance
8. Muscles of upper limb, lower limb and head and neck with actions

NERVOUS SYSTEM

Classification and components of nervous system

1. Spinal cord
 - Coverings
 - Extent
 - Organization of grey matter and white matter with clinical implication
2. Brainstem
 - Parts
 - Location of cranial nerve nucleus with functions
3. Cerebellum
 - Location
 - Parts
 - Functional subdivisions
 - blood supply and functions



Curriculum Syllabi R-2020

4. Cerebrum
 - Surfaces
 - important sulci and gyro and functional correlation
5. Thalamus
 - location and functional correlation
 - Striatum, hippocampus and Amygdala – their location and function.
6. Cranial nerves
 - Names
 - location of nucleus with clinical correlation

CIRCULATORY SYSTEM

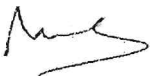
1. General plan of circulatory system
2. Difference between systemic and portal circulation
3. Microanatomy of artery and vein
4. Thoracic cavity
 - Bony cage
 - muscles – intercostal muscles, diaphragm
5. Mediastinum – sub-divisions, contents
6. Heart
 - Coverings
 - External features
 - Chambers
 - Blood supply
 - Nerve supply.
7. Major vessels of the heart
8. Veins of upper limb and lower limb - varicose veins and their importance
9. Lymphatic system – components, microanatomy of lymphoid organs(lymph node, tonsil, thymus, spleen)

RESPIRATORY SYSTEM

1. Nasal cavity, Para-nasal air sinuses, nasal septum, lateral wall of nose – location and functions
2. Pharynx – subdivision and structures present
3. Larynx – cartilages, muscles and nerve supply
4. Trachea and bronchial tree – extent, broncho-pulmonary segments and their clinical importance
5. Pleura – types, reflections, recesses and its clinical importance
6. Lung – location, relations, lobes, fissures, surfaces.

DIGESTIVE SYSTEM

1. Abdomen
 - Quadrants
 - Musculature of wall
 - Formation in guinal canal
 - Rectus sheath and their importance



Curriculum Syllabi R-2020

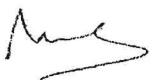
2. Components of digestive system.
3. Mouth - Tongue, palate – Structure of tongue
4. Salivary glands – parotid, sub-mandibular – Brief anatomy and structure
5. Stomach
 - Position
 - Parts
 - Blood supply
 - Nerve supply
 - Lymphatic drainage
 - Relations & structure
6. Small intestine – subdivisions
7. Large intestine in general - sub-divisions, microscopic structure. Specific - caecum and appendix
8. Accessory organs of digestive system
 - Liver
 - Pancreas
 - Extra hepatic biliary apparatus -Gross features, relations, blood supply

EXCRETORY AND REPRODUCTIVE SYSTEMS

1. Kidney
 - Location
 - Parts
 - Relations and blood supply
2. Ureter & urinary bladder
 - Location
 - Parts
 - Relations and blood supply
3. Male reproductive system
 - Testis
 - Spermatic cord and its coverings
4. Female reproductive system
 - Ovary
 - Uterus – parts and supports
5. Accessory organs of reproduction
 - Prostate gland
 - Mammary gland

ENDOCRINE SYSTEM

1. List the endocrine glands and their location
2. Thyroid and parathyroid glands
 - Location
 - Relations
 - Blood supply
 - Functions & clinical importance
3. Pituitary gland
 - Location

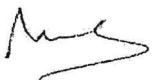


Curriculum Syllabi R-2020

- Parts
 - Relations
 - Blood supply
 - Functions & clinical importance
4. Supra renal gland
- Location
 - Parts
 - Relations
 - Blood supply
 - Functions & clinical importance

REFERENCE BOOKS :

1. Basics in human anatomy for B.Sc. Paramedical courses, second edition – Priya Ranganath and Leelavathy
2. Anatomy & Physiology in health & illness, 11th edition - Ross & Wilson
3. Vishram Singh, "Clinical and Surgical Anatomy", Elsevier Health Sciences, 2nd Edition, 2019.
4. Sampath Madhyastha, "Manipal Manual of Anatomy For Allied Health Sciences", CBS Publishers & Distributors, 3rd Edition, 2020.
5. Richard Drake A. Wayne Vogl Adam Mitchell, "Gray's Anatomy for Students – Companion Work Book", Churchill Livingstone Publications, 4th Edition, 2019.
6. A K Datta, "Principles Of General Anatomy", Current Books International , 8th Edition, 2018.
7. Nafis Ahmad Faruqi, "Human Osteology", CBS Publishers & Distributors, 3rd Edition, 2018.
8. Inderbir Singh, "Human Histology", Jaypee Publications, 9th Edition, 2019.



ANATOMY LAB

PRACTICALS - 40 hrs

1. Identification of the parts of the microscope.
2. Identification of the epithelium in a given histological slide.
3. Demonstrate the parts of the long bone.
4. Identification of the bones and joint of the body with the articular surfaces (skeleton or X-rays)
5. Identification of the important muscles in upper limb, lower limb and head and neck.
6. Identification of the parts of the brain (cerebrum, cerebellum, brainstem, spinal cord)
7. Identification of the cardiac chambers in a specimen.
8. Identification of the major vessels of heart – aorta and pulmonary trunk.
9. Identification of the cardiac field in chest X-ray.
10. Identification of the nasal cavity, naso pharynx, trachea, lung and pleura in a given specimen.
11. Identification of the lung shadow, costophrenic angle in a chest X-ray.
12. Identification of the stomach, pancreas, liver, small intestine and large intestine specimens.
13. Identification of the stomach, intestinal shadows in plain or contrast abdomen X – ray.
14. Identification of the kidney, Ureter and urinary bladder in specimen.
15. Identification of the renal pelvis, Ureter and urinary bladder in intravenous pyelogram
16. Identification of the thyroid gland in cadaveric specimen



U20CTAT12

PHYSIOLOGY

L	P	Hrs
60	40	100

THE CELL

- Cell Structure and functions of the various organelles.
- Endocytosis and Exocytosis
- Acid base balance and disturbances of acid base balances (Alkalosis, Acidosis)

CARDIO VASCULAR SYSTEM

- Physiology of the heart
- Heart sounds
- Cardiac cycle
- Cardiac output.
- Auscultatory areas.
- Arterial Pressures,
- Blood Pressure
- Hypertension
- Electro cardiogram(ECG)

BLOOD:

- Composition of Blood, functions of the blood and plasma proteins, classification and protein.
- Pathological and Physiological variation of the RBC.
- Function of Hemoglobin
- Erythrocyte Sedimentation Rate (ESR).
- Detailed description about WBC •Total count (TC), Differential count (DC) and functions.
- Platelets–formation

RESPIRATORY SYSTEM:

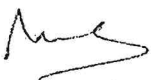
- Respiratory movements.
- Definitions and Normal values of Lung volumes and Lung capacities.

EXCRETORY SYSTEM

- Normal Urinary output
- Micturition
- Renal function tests, renal disorders.

REPRODUCTIVE SYSTEM

- Formation of semen and spermatogenesis.
- Brief account of Menstrual Cycle ,oogenesis



CENTRAL NERVOUS SYSTEM

- Functions of CSF
- Reflexes.
- Sympathetic and parasympathetic outflow Impulse conduction
- Structure of neuron
- Degeneration and regeneration of nerve fibers Cerebral blood flow

ENDOCRINE SYSTEM

- Functions
- Pituitary
- Thyroid
- Parathyroid
- Adrenal
- Pancreatic Hormones

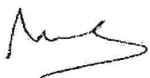
DIGESTIVE SYSTEM

- Physiological Anatomy of the GIT.
- Food Digestion in the mouth, stomach ,intestine
- Absorption of foods
- Role of bile indigestion.

SPECIAL SENSES

REFERENCE BOOKS:

1. Raj Kapoor, " Physiology Practical Manual for Allied Health Sciences", CBS Publishers and Distributors Pvt Ltd, 3RD Edition.
2. Marya, "Medical Physiology", CBS Publishers and Distributors Pvt Ltd, 4th Edition.
3. CL Ghai, "Text Book of Practical Physiology", Jaypee Brothers Medical Publishers, 9th Edition.
4. Vidya Rattan, "Hand Book of Human Physiology", Jaypee Brothers, 7th Edition.
5. Robin R. Preston & Thad Wilson, " Lippincotts Illustrated Reviews in Physiology", Lippincott Williams and Wilkins, 2nd Edition.



PHYSIOLOGY LAB

PRACTICAL – 40 hrs

1. Microscope
2. Estimation Hemoglobin
3. Blood grouping
4. BT and CT
5. RBC count
6. WBC count
7. PCV
8. ESR
9. Osmotic fragility
10. DLC
11. Measurement of Pulse,HR,RR, Temperature, SPo2
12. Measurement of Blood pressure and auscultate Heart sounds
13. Spotters



U20CTAT13

BIOCHEMISTRY

L	P	Hrs
60	40	100

CELL AND CELL ORGANELLES

Structure and functions of Cell organelle, membrane structure and transporters

CARBOHYDRATES

Classification, properties and functions of carbohydrates, Glycolysis, Diabetes Mellitus

LIPIDS

Classification and functions of lipids, Normal value and functions of Lipoproteins, ketone bodies and ketosis, pathogenesis of Atherosclerosis, cardiac biomarkers

PROTEINS

Classification of Amino acids , Classification and properties of proteins, Normal value of plasma proteins and their functions.

ENZYMES

Classification, co-enzymes, Iso-enzymes, enzyme measurement units, enzyme profile in different disorders

VITAMINS

Functions and deficiency manifestations of fat soluble vitamins , Co-enzyme form , functions and deficiency manifestations of water soluble vitamins.

MINERALS

Functions and disorders related to minerals like calcium, iron, copper, zinc, iodine, sodium, potassium and chloride.

NUTRITION

Calorific value of foods, Basal Metabolic Rate , Protein Energy Malnutrition.

ORGAN FUNCTION TEST

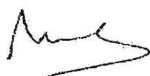
Liver function Test, Renal Function Test, Thyroid Function Test

ACID BASE BALANCE AND IMBALANCE

pH, Henderson- Hasselbalch equation, buffers, Disorders of Acid base imbalance

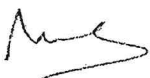
SAMPLE COLLECTION AND TRANSPORT

Types of samples, Anticoagulants, Phlebotomy, Sample Transport



REFERENCE BOOKS:

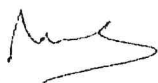
1. Allan Gaw, "Clinical Biochemistry – An Illustrated Colour Text", Churchill Livingstone, 3rd edition
2. Nanda Maheshwari, "Clinical Biochemistry", Jaypee brothers medical publishers, 2nd edition
3. Victor Rodwell, "Harper's Illustrated Biochemistry", McGraw-Hill Education, 31st edition
4. DmVasudevan, "Text Book of Biochemistry", Jaypee Brothers Medical Publishers, 9th edition
5. Harold Varley, "Practical Clinical Biochemistry", CBS, 6th edition



BIOCHEMISTRY LAB

PRACTICALS – 40 hrs

1. Common Laboratory equipments and glasswares
2. Good Laboratory practices and biomedical waste management.
3. General and colour reactions of carbohydrates.
4. General reactions of proteins .Colour reactions of amino acids.
5. Point of care testing
6. Normal and abnormal constituents of urine analysis



U20CTAT14	MICROBIOLOGY	L	P	Hrs
		60	40	100

GENERAL BACTERIOLOGY

- **History of Microbiology:** Theory of biogenesis and a biogenesis pioneers in Microbiology (Robert Koch, Louis Pasteur, Joseph lister, Paul enrich, and Koch Postulates.
- **Morphology of bacteria:** Classification based on shape, Anatomy of the bacterial cell, defective forms of bacteria, Bacterial appendages, Bacterial Spore
- **Physiology of bacteria:** Autotrophs, Heterotrophs, Bacterial growth and replication, Bacterial Growth curve, Bacterial count, Bacterial nutrition, Factors affecting the growth.
- **Sterilization & Disinfection:** Introduction, Physical methods, Chemical methods, methods of sterilization and disinfection of medical and laboratory equipments, Disinfection of clinical samples and environmental surfaces in laboratory and hospitals, Testing for infectant.
- **Culture media:** Introduction, basal media, synthetic media, special media with emphasis on their uses.
- **Culture methods:** Aerobic and Anaerobic culture methods.

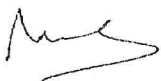
IMMUNOLOGY

- Infection - types, Route, source of infections, vector, factors affecting virulence, Exotoxins endotoxins
- Antigen – types factors affecting antigenicity
- Antibodies (Immunoglobulin's)- general properties, IGg, IGA, IGM,IGE,IGD
- Immunity- Innate immunity, Factor affecting & mechanisms of innate immunity Acquired immunity, active & passive
- Ag – Ab reactions – general properties, slide & tube agglutination, precipitation (slide flocculation) prozone phenomono, coombs test, immune fluorecence assay, Elisa (direct & Indtect) , Immuno chromatography , Applications of Antigen antibodies reactions
- Immune system - cells of lymphoreticular system- lymphocytes, phagocytes structure and functions
- Immune response – humoral& cell mediated immune response, monoclonal antibodies factor affecting anti bodies, adjuvants ,immuno suppressive agents, interleukins , immunological tolerance
- Hypersensitivity- Types- immediate & delayed , Type I, IV Hypersensitivity

SYSTEMIC BACTERIOLOGY

Bacterial infections – morphology, pathology, clinical feature, lab diagnosis, treatment prevention including immune prophylaxis of the following pathogens. No description of culture characters and biochemical reactions

- Staphylococcus
- Streptococcus
- Enterococcus
- Pneumococcus
- C.diphtheriae
- Clostridium tetani
- Clostridium perfringens
- Mycobacterium tuberculosis



Curriculum Syllabi R-2020

- Mycobacterium leprae
- E.coli
- Klebsiella Pneumoniae
- Salmonella typhi
- Pseudomonas aeruginosa
- Treponema pallidum
- Vibrio cholera

VIROLOGY

- Introduction and General properties of viruses morphology and general characters susceptibility to physical chemical agents , viral hemagglutinations , cultivations of viruses , cytopathic effects
- Morphology, pathology, clinical feature, lab diagnosis, treatment prevention including immune prophylaxis of the following pathogens:
 - Herpes simplex
 - Varicella zoster
 - Dengue
 - Rabies
 - Hepatitis A,B,C
 - H.I.V
 - Influenza virus
 - Corona virus
 - Measles , mumps & rubella

MYCOLOGY

Introduction – Morphology, General characteristics, classifications, outline of lab diagnosis, Morphology Pathology, clinical feature, lab diagnosis, treatment prevention of the following pathogens

- Candida
- Cryptococcus
- Aspergillus spp

PARASITOLOGY

Introduction, General Characteristics ,Classifications, Brief description of Morphology, Pathogenesis, Lab diagnosis, Prevention of the following Parasites:

- E.Histolytica
- Giardia
- Malarial Parasite
- Roundworm
- Hookworm

APPLIED MICROBIOLOGY

- BMWM
- Immunization
- H.A.I & H.I.C
- Standard Precaution



REFERENCE BOOKS:

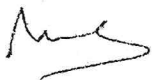
1. Richard A Harvey , "Lippincotts Illustrated Reviews In Microbiology", Lippincotts Williams & Wilkins, 3rd Edition.
2. Thao Doan, "Lippincotts Illustrated Reviews Immunology", Lippincotts Williams & Wilkins, 2nd Edition.
3. Apurba Sastry, "Textbook Of Essentials Of Practical Microbiology", Jaypee Brothers,
4. 1st Edition.
5. Baveja, "Textbook Of Practical Microbiology, Arya Publications", 4th Edition.
6. JayaramPanikar, " Textbook Of Microbiology", Orient Black swan Pvt Limited, 9th Edition.
7. Baveja, "Textbook Of Microbiology", Arya Publications, 6th Edition.
8. Baveja, "Textbook Of Parasitology" , Arya Publications, 4th Edition



MICROBIOLOGY LAB

PRACTICALS – 40 hrs

1. Microscope – compound ,DGM, Florescence Microscope
2. Morphology of bacteria
3. Motility – hanging Drop & WET MOUNT
4. Sterilization &Disinfection - Demonstration of equipments and methods
 - Hot air oven, autoclave, ETO, heap filter, syringe filter physical & biological indicators of sterility
 - Packing of glassware and instruments for sterilizations
 - Visit to CSSD
5. Demonstration and use of Centrifuge, & distillation still
6. Preparation of smear from specimen and simple staining
7. Grams stain
8. Culture media
9. Slide and tube agglutination
10. Immuno chromatography
11. Study of bacteria pathogens
 - Staphylococcus
 - Streptococcus
 - Pneumococcus
 - C.diphtheriae
 - Clostridium tetani
 - Clostridium perfringens
 - Mycobacterium tuberculosis
 - Mycobacterium leprae
12. Serological test (ASO, CRP, RAF, Widal, VDRL, HIV, HBV ,Dengue)
13. Study of fungal pathogens
 - Candida
 - Dermatophytes
14. BMWM
15. PPE
16. Standard precautions
17. Examination of stools for parasites
 - E. histolytica
 - G.lamblia
 - Roundworm
 - Hook worm
 - Strongyloides



U20CTAT15

PATHOLOGY

L	P	Hrs
60	40	100

Introduction to Pathological Terms, techniques
Cellular adaptations
Inflammation (Acute & Chronic) Transudate & Exudate
Wound healing and repair.

HEMODYNAMICS

- Oedema
- Thrombus
- Emboli
- Shock

IMMUNOLOGY

- Hypersensitivity reactions
- HIV
- Transplant rejection
- SLE

NEOPLASIA

- Benign and malignant tumors
- In situ growth
- Familial cancers
- Metastasis

GENETICS

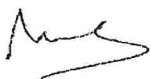
- Chromosome aberrations
- congenital & developmental anomalies

ENVIRONMENTAL

- Radiation injury
- Nutritional deficiencies

INFECTIONS

- Leprosy
- Syphilis
- Tuberculosis
- Malaria
- Filaria



Curriculum Syllabi R-2020

Anaemia and lab investigations
Blood grouping & cross matching
WBC disorders – Leukemias

BLEEDING AND PLATELET DISORDERS

- BT (bleeding time)
- CT (clotting time)
- PT (prothrombin time)
- APTT (activated partial thromboplastin time)

RESPIRATORY SYSTEM

- Asthma
- COPD
- Pneumonia & Lung tumours
- pneumoconiosis

CVS (CARDIO VASCULAR SYSTEM)

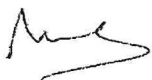
- Atherosclerosis
- Aneurysms
- Hypertension
- Myocardial Infarction
- Rheumatic heart disease
- Infective endocarditis

GIT (gastro intestinal tract)

- Peptic ulcer
- Carcinoma Stomach
- Amoebiasis
- Typhoid
- TB Intestine
- Carcinoma Intestine

HEPATOBIILIARY

- Liver abscess
- Hepatitis
- Cirrhosis
- Chole Cystitis
- Tumours of liver & gall bladder



Curriculum Syllabi R-2020

RENAL

- Nephrotic syndrome
- Nephritic syndrome
- Renal calculi
- Renal failure
- RCC (renal cell carcinoma)
- CPN (chronic poly nephritis)

BREAST

- Benign lesions of breast
- Carcinoma breast

FGT

- Carcinoma cervix and endometrium
- Ovarian tumours
- PCOD (polycystic ovarian disease)
- Leiomyoma

CNS (central nervous system)

- Hydrocephalus
- Meningitis
- Encephalitis
- Cerebro vascular Disease

ENDOCRINE

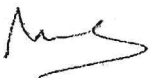
- Diabetes
- Thyroid disorders

EYE

- Infections
- Tumors
- Metabolic diseases

BONE

- Osteomyelitis
- Arthritis
- Osteoporosis
- Bone tumours



REFERENCE BOOKS:

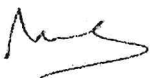
1. Nayak Ramadas, "Textbook Of Pathology For Allied Health Sciences" ,Jaypee Brothers 1st Edition.
2. Nanda Maheshwari, "Clinical Pathology/Hematology and Blood Banking" (For DMLT Students), Jaypee Brothers, 3rd Edition.
3. Nayak Ramadas, "Histopathology Techniques & Its Management", Jaypee Brothers, 1st Edition.
4. Ramnik Sood, "Concise Book of Medical Laboratory Technology Methods and Interpretations", Jaypee Brothers, 2nd Edition.
5. Dacie&Lewis, "Practical Hematology", Elsevier Health – Uk, 11thEdition.
6. Lippincotts Illustrated Reviews in Pathology.



PATHOLOGY LAB

PRACTICALS – 40 hrs

1. Urine Examination
2. Hemoglobin Estimation
3. Blood Grouping
4. Peripheral Blood Smear staining
5. Differential count
6. Gross Pathology
7. Microscopic Slides
8. Instruments



U20CTAT16

ENGLISH

L	P	Hrs
25	25	50

COMMUNICATION

- Communication at the workplace
- Human needs and communication "Mind mapping" Information communication

COMPREHENSION PASSAGE

- Reading purposefully
- Understanding what is read
- Drawing conclusion
- Finding and analysis

EXPLAINING

- How to explain clearly
- Explaining procedures
- Giving directions

WRITING BUSINESS LETTERS

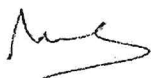
- How to construct correctly Formal language, Address, Salutation
- Body and Conclusion

REPORT WRITING

- Reporting an accident
- Reporting what happened at a session
- Reporting what happened at a meeting

PRACTICAL

- The clinical experience in the wards and bedside nursing will provide opportunity for students to fulfill the objectives of learning language
- Assignment on writing and conversation through participation in discussion debates seminars and symposia. The students will gain further skills in task oriented communication.



REFERENCE BOOKS:

1. Selva Rose. 1997, Career English for Nurses. Published by: Orient Blackswan Ltd
2. Oxford advanced Learners Dictionary, 1996
3. Quirk Randolph and Greenbaum Sidney, 1987. A University Grammar of English, Hong Kong: Longman group (FE) Ltd/Pearson.
4. Thomson A.J. and Maituiet A.V. 1987, A Practical English Grammar, Delhi: Oxford University Press.
5. Gimson A.C. 1989, An Introduction to pronunciation of English. Hodder Arnold; 4th Revised edition (1 May 1989).
6. O'Connor J.D, 1986. Better English pronunciation. Cambridge: University Press
7. By water F.V.A. 1982, Proficiency Course in English. London: 1- lodder and Stronglinton.
8. Roget S.P. 1960, Thesaurus of English Words & Phrases, London: Lowe & Brydone Ltd. 1960.



U20CTAT17

COMPUTER SCIENCE

L	P	Hrs
25	25	50

TYPING TEXT IN MS WORD

- Inserting tables in a document.
- Formatting the text—using different font sizes, bold, italics
- Bullets and numbering
- Pictures, file insertion
- Aligning the text and justifies
- Choosing paper size
- Adjusting margins
- Header and footer, Inserting page No's in a document Printing a file with options
- Using spell check and grammar

CREATING TABLE IN MS EXCEL

- Cell editing—Using formulas and functions Manipulating data with excel
- Using sort function to sort numbers and alphabets
- Drawing graphs and charts using data in Excel—Auto formatting—Inserting data from other work sheets.

PREPARING NEW SLIDES USING MS POWERPOINT

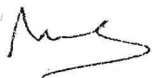
- Inserting slides – Slide transition and animation – Using templates
- Different text and font sizes – Slides with sounds – Inserting clipart, pictures, tables and graphs– Presentation using wizards

INTRODUCTION TO INTERNET

Using search engine –Google search–Exploring the next using Internet Explorer and Navigator – Uploading and Download of files and images – Email ID creation

- Sending messages – Attaching files in E-mail ID
- Typing a text and aligning the text with different formats using MS-Word
- Inserting a table with proper alignment and using MS-Word
- Create email merge document using MS-word to prepare greetings for 10 friends
- Preparing a Slides how with transition, animation and sound effect using MS-PowerPoint
- Customizing the slides how and inserting pictures and tables in the slides using MS-PowerPoint
- Creating a work sheet using MS-Excel with data and use of functions
- Using MS-Excel prepare a worksheet with text, date time and data
- Preparing a chart and pie diagrams using MS-Excel

Using Internet for searching, uploading files, downloading files and creating E-mail ID



Curriculum Syllabi R-2020

REFERENCE BOOKS:

1. Fundamentals of computers- V. Rajaraman-2004
2. Absolute beginners guide to computer basics-Michael Miller. Que Publisher, September 1, 2009.
3. Networking concepts and technology – by Deepak Kalkadia, Francesco DiMambro, Prentice hall publisher, May 25, 2007
4. Operation system concepts (8th edition) by Abraham Silberschatz, Peter Baer Galvin, Greg Gangne, Wiley Publisher, Feb 13, 2009.
5. Microsoft office 2013 for Dummies – by Wallace Wang, July 31, 2013.



II-YEAR SYLLABUS

U20EMTT21

**INTRODUCTION TO EMERGENCY
MEDICAL SERVICES**

L P Hrs
60 40 100

HISTORY OF EMS & CURRENT TRENDS

Understanding Emergency Medicine (the specialty, its pros & cons) Roles & responsibilities of emergency medical technician

- Medico - Legal issues
- Abandonment, sexual harassment, consent & referral Negligence
- DNR order, Coroner & medical examiner cases
- Principles of life support - Basic - Adult and Pediatric
- Triage
- Critical points in functioning of EMS at national level
- Required components of EMS system
- Existing EMS in India

HOSPITALS & PATIENTS: ORIENTATION

- History
- Classification
- Organization & structure
- Doorway to the hospital department Departments & Team
- Paramedical Staff
- Ancillary departments
- Lab
- Pharmacy
- Imaging Physio /speech/
- Patient support services
- Admission
- Medical insurance
- Dietary
- Social services
- Health information management
- Medical records
- Electronic Medical Records Medico legal issues
- Hospital safety

HEALTH ASSESSMENT

- Purposes
- Process of Health assessment
- Health history
- Physical examination:
 - Methods, inspection, Palpation, Percussion, Auscultation and Olfaction
- Consent counseling



PRE HOSPITAL TRANSPORT- ROLES & RESPONSIBILITIES

- Inter facility transport
- Types of Ambulance
- Ambulance - Communication system
- Communication Equipments Ambulance
- communication with base and physician
- Safety during transport
- Sequence of procedure for Emergency call - Preparation & scene management
- Confidentiality / privacy Documentation

EMERGENCY MEDICINE & EMERGENCY MEDICAL SERVICES II TRIAGE AND GENERAL EMERGENCIES

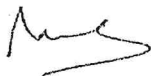
- Concepts and principles of Disaster Nursing Causes and Types of Disaster
- Natural and Manmade Earthquakes, Floods, Epidemics, Cyclones Fire, Explosion, Accidents, Violence, Terrorism; biochemical, War
- Policies related to emergency/disaster management; International, national, state, institutional Disaster preparedness
- Team, Guidelines, protocols, Equipments, Resources
- Coordination and involvement of; Community, various govt. departments, non government.
- Organizations and International agencies Legal Aspects of Disaster
- Impact on Health and after effects :Post Traumatic Stress Disorder Rehabilitation; physical, psychosocial, Financial, Relocation
- Concept, priorities, principles and Scope of emergency care Organization of emergency services: physical setup, staffing, Equipment and supplies, protocols,
- Concepts of triage and role of triage person
- Coordination and involvement of different departments and facilities Principles of emergency management

LIFE SUPPORT & RESUSCITATION

Basic life support in perspective Cardiopulmonary function and actions for survival Adult Basic life support, Advanced Cardiac life support Pediatric Basic Life support Special resuscitation situations (drowning, hanging, Pregnancy) Safety during CPR training and actual rescue

BASIC PRINCIPLES OF TRAUMA CARE

- The principles of kinetic energy Mechanism –Basic mechanics of Injury Pattern
- Primary survey
- Secondary survey as appropriate Reassessment
- Identification of Life threatening injuries
- Shock –different types
- Categories Revised trauma score
- Glasgow Coma Score
- Lifting & transporting of injured persons
- Splints and Immobilization



Curriculum Syllabi R-2020

PRACTICALS

- 12 Lead ECG and Interpretation of normal ECG• IV cannulation
- Blood sampling Triage
- Transportation of patients
- (Spine board and Scoop board)
- BLS
- ACLS
- Biomedical waste dispose Splinting Immobilization .

REFERENCE BOOKS:

1. Handbook of Emergency Care – Suresh David
2. Introduction to Clinical Emergency Medicine
3. Guide for practitioners in ED
4. Medicine Preparation Manual- George Mathew, KBI Churchil



U20EMTT22

EMERGENCY DEPARTMENT EQUIPMENT

L	P	Hrs
60	40	100

INSTRUMENTATION IN EMERGENCY SERVICES

- Introduction to Biomedical engineering (Man – machine relationship) ECG
- DC Defibrillator Intravenous pumps
- Laryngoscope, ambu bag, suction machine SPO2 monitoring, Temperature monitoring BP apparatus, BP monitoring • NIBP, IBP Ventilators •Intensive care, portable
- Manual resuscitator
- Radiology equipment & radiation hazards Suction machine
- Nebulizer Medical gases
- Ambulance and its power supply Dialysis machine
- Infant warmer & incubator

CLINICAL PROCEDURES IN EMERGENCY ROOM

VITAL SIGN MEASUREMENT:

- Pulse assessment
- Respiratory assessment
- Temperature assessment
- Blood pressure assessment
- SP02
- Pain score(VAS)

RESPIRATORY PROCEDURES:

- Endo tracheal intubation and extubation
- Drugs through ET tube
- Tracheostomy insertion and management
- Suctioning an artificial airway:
- Naso tracheal suctioning
- Insertion of nasopharyngeal and oropharyngeal airway
- Mechanical ventilation
- Intercostal drainage
- Thoracocentesis

INTERMEDIATE AIRWAYS:

- Laryngeal Mask Airway
- Esophageal – Tracheal Combitube

NON INVASIVE ASSESSMENT AND SUPPORT OF OXYGENATION AND VENTILATION:

- Pulse oximetry
- Carbon dioxide Monitoring



Curriculum Syllabi R-2020

- Capnometry and Oxygen therapy
- Delivery systems for Inhaled Medication
- Nebulizers
- Metered Dose Inhaler

CARDIOVASCULAR PROCEDURES (OBSERVATION):

- Cardiac Monitoring
- Central venous pressure monitoring
- Insertion of Arterial line:
- Central venous cannulation
- Transcutaneous cardiac pacing
- Transvenous cardiac pacing
- Peri cardio centesis
- Cardio version
- Defibrillation

CANNULATING UMBILICAL VEIN:

- Indication
- Procedure
- Drugs through umbilical vein
- Complication

INTRAOSSEROUS INFUSION:

- Indication
- Procedure
- Drugs through Intraosseous line
- Complication

GASTROINTESTINAL PROCEDURES:

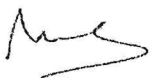
- Insertion of nasogastric tube
- Insertion of enteral feeding tube and initiation of feedings.
- Gastric lavage
- Upper gastrointestinal endoscopy Insertion of rectal tube Paracentesis
- Peritoneal lavage

POISON DECONTAMINATION:

- Activated charcoal
- Whole bowel irrigation

GENITOURINARY PROCEDURES:

- Urethral catheterization
- Peritoneal dialysis
- Placement and Management of external Arterio venous shunt (Assisting).
- Continuous Arterio venous hemo filtration(Assisting)



Curriculum Syllabi R-2020

INTRAVENOUS THERAPY:

- Insertion of intravenous catheter
- Administration of parenteral nutrition
- Blood and Blood product administration

NEUROLOGIC PROCEDURES:

- Lumbar Puncture

(Observation/Assisting)

PRACTICALS

- ECG Interpretation
- Spotter identification
- Thermometer
- BP apparatus
- Stethoscope
- Glucometer Intraosseous infusion MA
- Combitube
- ET intubation
- Nebulizer
- Ventilator
- Capnography
- Pulse oximeter
- Chest X-ray interpretation
- ABG – Interpretation ACLS
- ATLS

REFERENCE BOOKS:

1. Detroit Receiving Hospital Emergency Medicine Handbook, 5/E by Berk W.A., F.A. Davis
2. Tintinalli's Emergency Medicine: A Comprehensive Study Guide (English, Hardcover, Tintinalli Judith E.) (Hardcover)
3. Handbook of Emergency Care – Suresh David



U20EMTT23

PATIENT EXAMINATION & NURSING

L	P	Hrs
60	40	100

INTRODUCTION - PUBLIC HEALTH:

- Importance of Community Medicine
- Modes of Transmission of Diseases
- Principles of Prevention & Control of Diseases
- Hospital infections, disinfection, disinfection and sterilization
- Disposal of Hospital wastes
- Important Communicable diseases--Respiratory, Intestinal; contact--STD/AIDS
- Health education

INDIVIDUAL PATIENT CARE:

- The Art of History taking
- Physical examination (GPE & different systems)
- Care of Unconscious patient
- Diagnosis of Brain death

INTRODUCTION TO HEALTH AND HEALTH CARE SYSTEM:

- Definition and concepts of terms health, illness, mobility, mortality, patient Nature of disease pattern
- Impact to illness on individual, family and community
- Hospital (settings type and functions)

ADMISSION OF PATIENTS:

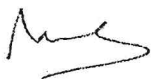
- Preparation of unit
- Admission procedure
- Medico legal issues

COMMUNICATION SKILLS:

- Process of communication
- Modes of communication
- Characteristics of effective communication
- Factors affecting communication
- Observing, listening and interviewing
- Nurse patient relationship
- Communication with other members of health team

COMFORT REST AND SLEEP NEEDS OF PATIENTS:

- Purposes of rest and sleep
- Factors affecting rest and sleep
- Common problems of sleep
- Use of comfort devices



PATIENT HYGIENE:

- Definition and principles relevant to hygiene Factors influencing hygiene
- Care of skin and its appendages, mouth, eyes, ear, nose, perineum and clothing
- Common health problems of poor personal hygiene

HOUSE KEEPING:

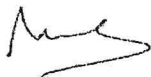
- Rubber Goods, Enamel Ware Plastic, Porcelain, Glass Articles etc.

VITAL SIGNS:

- Temperature
- Definition and normal body temperature
- Factors affecting normal body temperature
- Assessment of normal body temperature
- Pulse
- Definition and normal pulse rate
- Characteristics of normal pulse
- Factors influencing pulse
- Alterations in pulse
- Assessment of pulse Respiration
- Definition and normal respiratory rate
- Characteristics of normal respiration
- Factors influencing respiratory rate
- Alterations in respiration
- Blood pressure
- Definition and normal blood pressure
- Factors influencing normal blood pressure
- Assessment of blood pressure

FIRST AID AND NURSING EMERGENCIES:

- Principles Of First Aid Management Wounds
- Hemorrhage
- Shock
- Fracture
- Dislocations
- Muscle Injuries
- Splinting
- Respiratory Emergencies
- Unconsciousness
- Burns
- Scalds
- Foreign Bodies In The Skin, Eye, Ear, Nose, Throat, Stomach
- Frostbite
- Effects Of Heat Cramps
- Bites And Stings
- Poisoning
- Bandaging



Curriculum Syllabi R-2020

FLUID AND ELECTROLYTE BALANCE:

- Factors affecting fluid
- Electrolyte and acid base balance
- Care of patients with fluid and electrolyte imbalance
- Starting IV infusion

BODY MECHANICS:

- Movement of patient lifting and transporting

INFECTION CONTROL:

- Infection cycle
- Universal precautions
- Barriers technique

HEALTH EDUCATION:

- Aims and objectives of health education
- Principles of health education
- Methods of health education
- Audio visual aids – purposes, types, selection and use

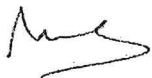
PRACTICALS

Use of comfort devices

1. Bandaging
2. Lifting and transporting of injured persons
3. Insertion of NG tube
4. Recordkeeping

REFERENCE BOOKS:

1. Tintinalli's Emergency Medicine. A comprehensive study Guide eighth edition by David cline; Garth Meckler; Judith E.Tintinalli.
2. Oxford Hand book of Emergency Medicine by Michael J. Clancy; Kerstin Hogg.
3. First aid by L.C.Gupta



U20CTAT21	PHARMACOLOGY	L	P	Hrs
		30	-	30

INTRODUCTION

Routes of administration, Pharmacokinetics, Pharmacodynamics, Drugs acting on Autonomic nervous system.

Parasympathetic agents and blocking agents. Sympathetic agents and blocking agents Autocoids and respiratory system

- Non-steroidal anti-inflammatory drugs.
- Drugs for cough and bronchial asthma
- Respiratory stimulants and antihistamines Drugs acting on CNS
- Sedatives and hypnotics and alcohol
- General anaesthetics
- Anti-epileptics and Opioids

DRUGS ACTING ON PNS

- Smooth muscle relaxants
- Local anaesthetics Drugs acting on CVS
- Drugs for congestive cardiac failure
- Anti-hypertensive drugs
- Anti-arrhythmic drugs
- Anti-anginal drugs and diuretics
- Drugs used in treatment of shock Drugs acting on blood
- Anti-thrombotic drugs
- Anti-coagulants
- Fibrinolytic drugs
- Lipid lowering drugs
- Antimicrobial drugs Drugs acting on GIT

DRUGS USED FOR ENDOCRINE DISORDERS

- Insulin, oral hypoglycemic drugs Corticosteroids
- Thyroxine and anti-thyroid drugs

General concepts and resistance. Antibacterial drugs Antiviral drugs Anti-fungal drugs .Antiseptics and disinfectants Management of poisoned patients

REFERENCE BOOKS:

1. Lippincott's Illustrated Review's in Pharmacology -Seventh edition
2. Medical Pharmacology by Padmaja Uday Kumar- Seventh edition
3. Pharmacology for medical graduates by Tara Shanbhag – Fourth edition



U20CTAT22	ENVIRONMENTAL SCIENCE & COMMUNITY MEDICINE	L	P	Hrs
		30	-	30

ENVIRONMENTAL SCIENCE (15 hrs)

1. Introduction to environment
2. Sources, health hazards and control of environmental pollution
3. Water
4. The concept of safe and wholesome water
5. The requirements of sanitary sources of water
6. Understanding the methods of purifications of water on small scale and large scale various biological standards, including WHO guidelines for third world countries
7. Concept and methods for assessing quality of water.
8. Domestic refuse, sullage, human excreta and sewage their effects on environment and health, methods and issue related to their disposal.
9. Awareness of standards of housing and the effect of poor housing on health.
10. Role of arthropods in the causation of diseases, mode of transmission of arthropods borne diseases, methods of control

REFERENCE BOOKS:

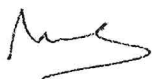
1. Text book of Environmental studies for Under Graduate courses by Erach Barucha

COMMUNITY MEDICINE (15 hrs)

1. Epidemiology and Epidemiological Methods AIM / Approach / Rates/
2. Mortality / Morbidity and Disease transmission
3. Epidemiology of Communicable diseases
4. Epidemiology of Non-communicable diseases
5. Bio-medical waste Management
6. Disaster Management
7. Information, Communication and Health Education.
8. Screening for disease
9. History of Public Health
10. Organization of Health services
11. Health Care Delivery system

REFERENCE BOOKS:

1. Park's text book of Preventive and social Medicine – 23rd Edition (2015)
2. Community Medicine with recent advances by A.H. SuryaKantha
3. Short text book of preventive and social medicine by G.N.Prabhakar
4. Text book of community medicine – By Sunderlal.



III-YEAR SYLLABUS

U20EMTT31

MEDICAL EMERGENCIES

L	P	Hrs
60	40	100

- Hypoglycemia
- Hyperglycemia
- DKA, HONK
- Poisoning
- Anaphylaxis
- Hypothermia
- Hyperthermia
- Mental illness

FLUIDS AND ELECTROLYTES

Fluid administration (Types of Fluids)

Formulas (Hypo and Hyper anthemia)

- Dehydration
- Over hydration

Electrolyte imbalance (Sodium, Potassium, Bicarbonate, Chloride)

ACID BASE EMERGENCIES: (Respiratory and metabolic Acidosis/Alkalosis) Interpretation

RESPIRATORY EMERGENCIES:

- Foreign body obstruction
- Chronic obstructive pulmonary disease(COPD) Asthma
- Pneumonia, Pulmonary edema, ARDS Common medication in respiratory problems (Meter dose inhaler, nebulizer)
- Mechanical ventilator – General principles, Basic modes of ventilation, NIV

GASTROINTESTINAL EMERGENCIES:

- Abdominal pain
- Peptic ulcer disease
- Cholecystitis
- Hepatitis
- Abdominal aortic aneurysm
- Bowel obstruction
- Hernias
- Gastro intestinal bleeding
- Pancreatitis

CARDIOVASCULAR EMERGENCIES:

- Angina pectoris
- Myocardial infarction (MI), Thrombolytic Therapy, Congestive Cardiac Failure (CCF)



Curriculum Syllabi R-2020

- Aortic Aneurysm ,Hypertensive Emergencies
- 12 lead ECG and Interpretation
- Heart Block and Cardiac Arrhythmias

CENTRAL NERVOUS SYSTEM EMERGENCIES:

- Meningitis Stroke Seizure
- Status epileptics Syncope

GENITO URINARY EMERGENCIES:

- Renal failure Urolithiasis
- Urinary tract infection Hematuria

HEMATOLOGICAL DISORDERS:

- Red blood cell disorders:
- Anemia and Types / Polycythemia White blood disorders Platelet abnormalities

ENDOCRINE AND METABOLIC EMERGENCIES:

- Diabetic Ketoacidosis
- Hyperosmolar
- Coma
- Thyroid crisis
- Diabetes insipidus
- Vomiting
- Diarrhea

EMERGENCY DRUGS:

Drug introduction, indication, contra-indications, side – effects and routes of administration with doses of following drugs:

- Adrenaline (Epinephrine), Aspirin
- Atropine Adenosine Amiodarone Antidotes Benzylpenicilin
- Beta blockers- Esmolol/Metoprolol/Lebatolol
- Calcium channel blockers - Verapamil / Diltiazem / Nifedipine / Amlodipine
- Calcium chloride Calcium gluconate
- Chlorpromazine Diazepam Dexamethasone
- Dextrose Dopamine Dobutamine Furosemide
- Flumazenil Fentanyl Glucagon Glyceryl trinitrate Hydrocortisone Lidocaine Lorazepam Mannitol
- Morphine Sulphate Midazolam
- Naloxone hydrochloride
- Norepinephrine Phenytoin
- Paracetamol Salbutamol Sodabibcarbonate Vasopressors
- Drugs in obstetrics – Oxytocin / Methergine / Carboprost IV fluid
- Potassium Chloride Succinyl choline Atracurium Vecuronium Propofol
- Ketamine Tranexamic acid
- Magnesium Sulphate



DERMATOLOGICAL EMERGENCIES:

Viral infections

- Varicella
- Herpes zoster
- Acute leprosy reactions

Autoimmune disorders

- Pemphigus vulgaris

Systemic lupus erythematosus Toxic disorders:

- Acute erythroderma
- Severe pruritus, Scabies
- Allergic reactions – Anaphylaxis/Angioedema

COMMUNICABLE DISEASE:

Causative organism, Mode of transmission, Signs and symptoms, Prophylaxis, Investigation and common treatment of following diseases:

- Meningitis, Hepatitis, Malaria, Tuberculosis, Dengue. Acquired Immuno deficiency syndrome(AIDS), Typhoid, Plague, Polio, Tetanus, Chicken pox, Cholera, Measles,

Category: - Ill infection, control measures, precautions during transfer

TOXICOLOGY:

- Define the term poison ,the four ways in which a poison may enter the body
- General principles of assessment and management of poison and overdose
- Opiates toxicity
- Organophosphates Carbon monoxide Cyanide
- Caustics
- Coppersulphate
- Digoxin toxicity
- Hydrocarbons
- Tricyclic antidepressant toxicity Metals – Arsenic/Iron
- Acetaminophen overdose
- Poisonous alcohols - Methanol
- Poisonous plants – Oleander

EMERGENCIES DUE TO VENOMOUS BITES AND STINGS

- Snakebite
- Scorpion stings
- Spider bite
- Bee and wasp stings
- Cat bite
- human bite
- Monkey bite
- Dog bite



INDUSTRIAL HAZARDS

- Electrocution
- Amputation
- Crush injury
- Fall from height
- Assaults

OBSTETRICAL EMERGENCIES

- Preeclampsia
- Placenta praevia
- Abruption
- Post Partum Hemorrhage
- Amniotic fluid embolism
- Cord prolapse
- Ectopic Pregnancy

MENTAL HEALTH EMERGENCIES

- Aggressive patient
- Suicide
- Deliberate self-harm

PAEDIATRIC EMERGENCIES

- Neonatal resuscitation Pediatric resuscitation
- Assessment of newborn and pediatric
- Meconium aspiration
- Diaphragmatic hernia
- Apnea
- Drowning
- SIDS(Sudden infant Death Syndrome)
- Neonatal Seizure
- Febrile convulsion
- Shock

REFERENCE BOOKS:

1. Handbook of Emergency Care – Suresh David
2. Introduction to Clinical Emergency Medicine
3. Guide for practitioners in ED
4. Medicine Preparation Manual- George Mathew, KBI Churchil
5. Fundamentals of Respiratory Care- Egan's – Craig I. Scanlon



U20EMTT32	TRAUMA & SURGICAL EMERGENCIES	L	P	Hrs
		60	40	100

PRINCIPLES OF ANAESTHESIA

- General Anaesthesia
- Local Anaesthesia
- Regional Anaesthesia

WOUNDS AND SUTURING

- Types of common wounds Treatment
- Cleansing the wound
- Wound healing
- Principles of incision and closure (including suturing)

BURNS

- Skin Anatomy
- Classification of Burn
- Special Burn considerations

Foreign body obstruction

GASTROINTESTINAL SYSTEM

- Acute Appendicitis
- Acute Pancreatitis
- Intestinal obstruction
- Upper GI Bleed
- Lower GI Bleed
- Duodenal and gastric ulcer
- Renal colic

TRAUMA

- Head injury
- Thoracic injuries
- Blunt trauma
- Penetrating trauma
- Torsion

PRACTICALS

Assisting in various procedures like:

- Central Venous Access
- Suturing of Wounds
- Tracheostomy

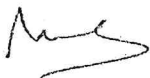


Curriculum Syllabi R-2020

- Inter costal Drainage
- Needle Thoracocentesis
- Cricothyroidectomy
- Skills of intubation in a Manikin

REFERENCE BOOKS:

1. Nancy Caroline – Paramedic text book
2. Tintinalli's Emergency Medicine. A comprehensive study Guide eighth edition by David cline; Garth Meckler; Judith E. Tintinalli.
3. Roberts and Hedge's clinical procedures in Emergency Medicine 6th edition by James R. Roberts.
4. Short Text books of Anaesthesia by Ajay Yadav 5th edition.
5. Lee synopsis of Anesthesia 13th edition by Davies.
6. Oxford Hand book of Emergency Medicine by Michael J. Clancy; Kerstin Hogg

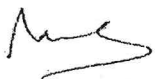


U20EMTT33	LEGAL MEDICINE	L	P	Hrs
		20	10	30

- Legal aspects of medical practice
- Medical evidence & witness
- Medical negligence
- Consent in medical practice
- Forensic laboratory investigations (blood, semen, saliva, hair , fibres, DNA profiling)
- Injuries & classification
- Human rights
- Sexual offenses
- Exhumation
- Forensic psychiatry

REFERENCE BOOKS:

1. Forensic Medicine –Ajiay Kumar ,published by Avichal publications
2. Parikhs TB of Medical Juirs prudence,Forensic Medicine and Toxicology- BV.Subrahmanyam,published by CBS



U20CTAT31	BIOSTATISTICS AND ETHICS	L	P	Hrs
		30	-	30

BIOSTATISTICS (15Hrs)

- Introduction to Statistics
- Scales of Measurement
- Collection and Presentation of data
- Measures of Central tendency
- Measures of Variation
- Probability
- Binomial and Normal distribution
- Sampling Methods
- Sample size determination
- Correlation and Regression
- Statistical Significance
- Non-Parametric tests
- Health Statistics including hospital statistics

REFERENCE BOOKS:

1. KR Sundaram, SN Dwivedi and V Sreenivas (2010): Medical Statistics, Principles and Methods, BI Publications Pvt Ltd, New Delhi, India.
2. A Indrayan (2008): Basic Methods of Medical Research, Second edition, AITBS Publishers, India.
3. NSN Rao and NS Murthy (2008): Applied Statistics in Health Sciences, First Edition, JAYPEE brothers medical publishers (P) Ltd, India.

MEDICAL ETHICS (15Hrs)

1. Medical ethics - Definition - Goal -Scope
2. Code of conduct - Introduction–Basic principles of medical ethics–Confidentiality
3. Malpractice and negligence
4. Rational and irrational drug therapy
5. Autonomy and informed consent Rights of patients
6. Care of the terminally ill-Euthanasia
7. Organ transplantation
8. Medico legal aspects of medical records – Medical legal case and type- Records and document related to MLC - ownership of medical records - Confidentiality Privilege communication - Release of medical information - Unauthorized disclosure- retention of medical records- other various aspects.

REFERENCE BOOKS:

1. Medical Ethics Manual-The Pocket Manual
2. The Medical Ethics Today The BMA's Handbook of Ethics and Law –The British Medical Association

