



DETAILED SYLLABUS

(Diploma in Emergency & Trauma Care)

(YEARLY PROGRAMME)



Diploma (Emergency & Trauma Care)

COURSE TITLE: DETC

DURATION: 2 YEAR

FIRST YEAR

COURSE TITLE	PAPER CODE	Theory	Practical	Total
ANATOMY	DETC-110	100	100	200
PATHOLOGY	DETC-120	100	100	200
PHYSIOLOGY	DETC-130	100	100	200
MICROBIOLOGY	DETC-140	100	100	200
TRIAGE – TECHNOLOGY	DETC-150	100	100	200
EQUIPMENT IN EMERGENCY	DETC-160	100	100	200
TOTAL		600	600	1200

SECOND YEAR

COURSE TITLE	PAPER CODE	Theory	Practical	Total
ANATOMY II	DETC-210	100	100	200
PATHOLOGY II	DETC-220	100	100	200
PHYSIOLOGY II	DETC-230	100	100	200
CLINICAL MEDICINE	DETC-240	100	100	200
PHARMACOLOGY	DETC-250	100	100	200
BASIC OF CRITICAL CARE SERVICES	DETC-260	100	100	200
TOTAL		600	600	1200



DETC-110 ANATOMY

Maximum Time : 3 hrs
Total marks :100

University Assessment -70%
Internal Assessment – 30%
Minimum Pass Mark – 40%

COURSE CONTENTS – THEORY

1) Introduction of Bones of the Human Body of :

- Upper Limb : clavicle, scapula, humerus, radius, ulna, carpus, metacarpus & phalanges
- Lower Limb : hipbone, femur, tibia, fibula, tarsus, metatarsus & phalanges
- Skull : name the bone of skull and sutures between them
- Thorax : ribs and their articulations
- Vertebral Column : Cervical, thoracic, lumbar, sacral and coccyx vertebrae

2) Nine regions of the abdomen

3) Introduction of different Vital Organs :

A) Respiratory Organs : (Brief description)

- Nasopharynx
- Oropharynx
- Larynx
- Trachea
- Bronchi
- Lungs (and their lobular segments)
- Thoracic cavity
- Pleura and Pleural cavity

B) Circulatory Organs : (Brief description)

- Anatomical position of the heart
- Pericardium of the heart
- Chambers of the heart
- Great vessels of the heart
- Valves of the heart



C) Digestive Organs : (Brief description)

- Tongue
- Teeth
- Oral cavity
- Pharynx
- Oesophagus
- Stomach
- Small intestine
- Large intestine and its colons

PRACTICAL :

Labeled Diagrams of different organs and bones
Viva



DETC – 120

PATHOLOGY

Maximum Time : 3 hrs
Total marks :100

University Assessment -70%
Internal Assessment – 30%
Minimum Pass Mark – 40%

COURSE CONTENTS –

1) The Cell in health and disease

- a. Introduction of pathology
- b. Cellular structure and metabolism
- c. Inflammation – Acute and Chronic
- d. Derangement of Body Fluids and Electrolytes
 - Types of shocks
 - Ischaemia
 - Infection
- e. Neoplasia – Etiology and Pathogenesis

2) Introduction of hematology

- a. Formation of Blood
- b. Erythropoiesis
- c. Leucopoiesis
- d. Thrombopoiesis
- e. Collection of Blood
- f. Anticoagulants
- g. Red cell count – Haemocytometer, Methods and Calculation
- h. WBC Count -- Methods
- i. Differential Leucocytes Count (DLC)--
Morphology of White Cells, Normal Values
Romanowsky Stains : Staining procedures
Counting Methods, Principle of staining
- j. Hb estimation – Method
Colorimetric Method
Chemical Method
Gasometric Method
S.G. Method



Clinical Importance

I. Hematology :

- ESR
- Methods
- Factors – Affecting ESR
- Normal Values
- Importance
- RBC – Indices
- ❖ WBC
- Platelets

II. Body Fluids :

(a) Urine :

- Method of Collection
- Normal Constitutents
- Physical Examination
- Chemical Examination

(b) Stool Examination :

- Method of Collection
- Normal Constituents and appearance
- Abnormal Constituents (Ova, Cyst)

(c) C.S.F. Examination

- Physical Examination
- Chemical Examination
- Microscopy
- Cell 1 Count
- Staining

(d) Semen Analysis

- Collection
- Examination
- Special Tests

Practical : Urine, Stool, Semen and C.S.F. – Collection, Handling, Examinations

(a) Absolute Eosinophil Count, PCV, RBC indices, ESR Estimation, Platelet Count



- Collection of Sample
- Hb estimation
- TLC and DLC
- RBC Count
- Peripheral blood film – staining and study of Malarial Parasite

II. Laboratory management – Sample Collection, Labeling, Transport, Screening, Reporting and Dispatch of Reports.



DETC-130

PHYSIOLOGY

Maximum Time : 3 hrs

Total marks :100

University Assessment -80%

Internal Assessment – 20%

Minimum Pass Mark – 40%

COURSE CONTENTS

Brief Description of various organs systems:

1. Cell :
 - **Definition**
 - **Structure and functions the cytoplasmic Organelles**
 - **Reproduction : Meiosis, Mitosis**
2. The important physic-chemical laws applied to physiology
 - Diffusion
 - Osmosis
 - Bonding
 - Filtration
 - Dialysis
 - Surface Tension
 - Adsorption
 - Colloid
3. Fundamentals of different Organ Systems in brief.
 - Cardiovascular System
 - Respiratory System
 - Digestive System
 - Excretory System
 - Reproduction System
 - Endocrine System
 - Lymphatic System
 - Practical
 - Viva and diagrams of different Vital Organs

Practical :

Viva and diagrams of different Vital Organs



DETC – 140

MICROBIOLOGY

Maximum Time : 3 hrs

Total marks :100

University Assessment -70%

Internal Assessment – 30%

Minimum Pass Mark – 40%

COURSE CONTENTS –

- I. Introduction of brief history of Microbiology
 - Historical Aspect
 - Relationship of Micro-organism to men
 - Micro-organism in Disease and Health
- II. Requirement and uses of common Laboratory Equipments
 - Incubator, Hot Air Oven, Water Bath
 - Anaerobic Jar, Centrifuge, Autoclave
 - Microscope
 - Glassware – Description of Glassware, its use, handling and care
- III. Sterilization :
 - Definition
 - Classification and General Principal of Sterilization
 - Autoclave – its structure, functioning, control and indicator
- IV. Antiseptics & Disinfectants
 - Definition
 - Types
 - Mode of Action
 - Uses
- V. Collection, Transportation and processing of clinical samples for Microbiological Investigations

Bacteriology

- Definition
- Bacteria – General characteristics of Bacteria
- Classification and morphology of Bacteria
- Structure of Cell, Capsule, Flagella, and Spore
- Growth of Bacteria
- Nutrition of Bacteria

Virology :

- Definition
- General Introduction of Virus
- Physiochemical characteristic of Viruses



- Diseases caused by different Virus and mode of infection

Parasitology :

- Definition
- General Characteristics of Parasite
- Classification of Parasite
- Mode of transmission

Fungus :

- Definition
- Structure
- Classification

Practical :

Staining – Type of Staining, Principal, Procedure and Interpretation



DETC-150

TRIAGE – TECHNOLOGY

Maximum Time : 3 hrs
Total marks :100

University Assessment -70%
Internal Assessment – 30%
Minimum Pass Mark – 40%

COURSE CONTENTS –

TRIAGE AND GENERAL EMERGCIES

- Hospital infection
- Shock, dehydration
- Hypoglycemia & hyperglycemia
- Anaphylaxis
- Extremity trauma
- Head trauma
- General traumatic condition
- Spine injury
- Chest injury
- Abdomen trauma
- Bleeding condition
- Oxygen Therapy



DETC – 160 EQUIPMENT IN EMERGENCY

Maximum Time : 3 hrs
Total marks :100

University Assessment -70%
Internal Assessment – 30%
Minimum Pass Mark – 40%

COURSE CONTENTS –

- BP operatus
- Pulse Oximeter
- Thermometer
- Personal Protective equipment
- MPM monitor
- ABG Analyzer
- Syringe pump
- Infusion pump
- maintenance therapy



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DETC
IIND year



DETC – 210

ANATOMY

Maximum Time : 3 hrs
Total marks :100

University Assessment -70%
Internal Assessment – 30%
Minimum Pass Mark – 40%

COURSE CONTENTS

Introduction of various vital organs

(A) Reproductive Organs : (In Brief)

- Male & Female Conads : Testes, Epididymis, Ovary, Fallopian Tube, Uterus, Vagine etc.
- Introduction of male Genital Organs
- Introduction of female Genital Organs

(B) Liver and Spleen :

- Introduction
- Anatomical Position

(C) Gall bladder

- Introduction Anatomical position.

(D) Excretory Organs ;

- Cortex and medulla of kidney
- Ureter
- Urinary Bladder
- Urethra (male and female)

PRACTICAL

Labeled Diagrams of different organs and bones
Viva



DETC – 220

PATHOLOGY

Maximum Time : 3 hrs

Total marks :100

University Assessment -70%

Internal Assessment – 30%

Minimum Pass Mark – 40%

COURSE CONTENTS

- (a) Human blood group antigens and antibodies

- (b) ABO Blood group systems
 - Sub. – group
 - Source of antigens and types of antibodies
- (c) Rh Blood group System
 - Types of Antigen
 - Mode of Inheritance
 - Types of Antibodies

- (d) Erythroblastosis fatclis

- (e) Blood Collection
 - Selection and screening of donor
 - Collection of blood
 - Various anticoagulants
 - Sotrage of Blood
 - Changes in Blood on Sotrage

COOMB'S Test

- Direct and Indirect Test
- Titration of Antibody

HISTOPATHOLOGY (Theory and Practical)

- a) Fixation of tissues
 - Classification of Fixatives



- b) Tissue Processing
 - Collection
 - Steps of fixation
- c) Section Cutting
 - Microtome and Knives
 - Techniques of Section Cutting
 - Mounting of Section
 - Frozen Sections
- d) Decalcification
 - Fixation
 - Decalcification
 - End Point
- e) Staining Dyes and their properties, H & E Stain, Special Stains

IMMUNOLOGY AND SEROLOGY

Hormones –

- Thyroid Hormones
- Growth Hormones
- Insulin

Glycosylated Hemoglobin

COOMB'S Test

- Direct and Indirect Test
- Titration of Antibody

HISTOPATHOLOGY (Theory and Practical)

- a) Fixation of tissues
 - Classification of Fixatives
- b) Tissue Processing
 - Collection
 - Steps of fixation
- c) Section Cutting
 - Microtome and Knives
 - Techniques of Section Cutting
 - Mounting of Section
 - Frozen Sections



- d) Decalcification
 - Fixation
 - Decalcification
 - End Point
- e) Staining Dyes and their properties, H & E Stain, Special Stains



DETC – 230

PHYSIOLOGY

Maximum Time : 3 hrs

Total marks :100

University Assessment -70%

Internal Assessment – 30%

Minimum Pass Mark – 40%

COURSE CONTENTS

Brief description of various vital organ system:

1. Blood
 - Definition
 - Composition
 - Function
2. Formation of different type of blood cells
 - Erythrocytes
 - Leucocytes
 - Thrombocytes
3. Mechanism of Blood Clotting
4. Cerebrospinal Fluid
 - Formation
 - Composition
 - Function
5. Special Senses in brief
 - Hearing
 - Taste
 - Smell
 - Touch
 - Sight

PRACTICAL :

Viva and diagrams of Corpuscles



DETC - 240

CLINICAL MEDICINE

Maximum Time : 3 hrs

Total marks :100

University Assessment -70%

Internal Assessment – 30%

Minimum Pass Mark – 40%

COURSE CONTENTS

PUBLIC HEALTH

- Introduction of community medicine
- Transmission of disease
- Preventive of Disease
- Principle of prevention of control & disease
- Hospital infection and & control of infection Disease
- ospital west management
- Communicable disease
- Health education & promotion
- Accident as non communicable disease

PATIENT CARE

- History taking
- Physical examination
- The unconscious patient
- Diagnosis of emergency
- Diagnosis to brain death
- Case presentation



DETC-250

PHARMACOLOGY

Maximum Time : 3 hrs

Total marks :100

Minimum Pass Mark – 40%

University Assessment -70%

Internal Assessment – 30%

Defination , pharmacokinetics & pharmacodynamics, Adverse drug effects.

RESPIRATORY SYSTEM DRUG –

Drugs use for cough & bronehial asthma. Drugs used for nebulization.

DRUG ACTING ON CENTRAL NERVOUS SYSTEM –

General anaesthesia , sedative- Hypnotics, drugs.

DRUG ACTING ON KIDNEY –

Diuretics & Anti diuretics drugs

DRUGS AFFECTING BLOOD FORMATION –

anticoagulants, antithrombotic & antiplatelet drugs.

CARDIOVASCULAR DRUG –

Cardiac glycosides and drug for CHF, Antiarrhythmic drug, antianginal & anti ischemic drugs, antihypertensive drugs.

ESSENTIAL DRUG & DRUG USED IN EMERGENCY –

Cardiac glycosides and drug for CHF, Antiarrhythmic drug, antianginal & antiischemic drug, antihypertensive drugs.

EMERGENCY DRUGS

- Adrenaline : Mode or administration, dilution, dosage,
- Isoprenaline



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- Atropine, bicarbonate, calcium, ephedrine, xylocard,
- Ionotropes : dopamine, dobutamine, amidaron
- Aminophylline, hydrocortisone, antihistamlnics, potassium.



DETC – 260

BASIC OF CRITICAL CARE SERVICES

Maximum Time : 3 hrs

Total marks :100

Minimum Pass Mark – 40%

University Assessment -70%

Internal Assessment – 30%

BASIC OF CRITICAL CARE SERVICES

- Introduction
- Cardiopulmonary resuscitation- basic & advanced
- Advanced cardiac life support
- Oxygen therapy
- Aerosol therapy
- Mechanical ventilation
- Patient para monitoring
- Complication in ICU care
- Nutrition for critically ill patients
- ICU infection

Ethics & behavior in ICU