

ANATOMY & PHYSIOLOGY

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

Nine regions of the abdomen

Introduction of different Vital Organs:

Respiratory Organs: (Brief description)

Nasopharynx

Oropharynx

Larynx

Trachea

Bronchi

Lungs (and their lobular segments)

Thoracic cavity

Pleura and Pleural cavity

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

Digestive Organs : (Brief description)

Tongue

Teeth

Oral cavity

Pharynx

Oesophagus

Stomach

Small intestine

Large intestine and its colons

Brief Description of various organs systems:

Cell :

Definition

Structure and functions the cytoplasmic Organelles

Reproduction : Meiosis, Mitosis

The important physico-chemical laws applied to physiology

Diffusion

Osmosis

Bonding

Filtration
Dialysis
Surface Tension
Adsorption
Colloid
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

PATHOLOGY

The Cell in health and disease

Introduction of pathology
Cellular structure and metabolism
Inflammation – Acute and Chronic
Derangement of Body Fluids and Electrolytes
Types of shocks
Ischaemia
Infection
Neoplasia – Etiology and Pathogenesis

Introduction of hematology

Formation of Blood
Erythropoiesis
Leucopoiesis
Thrombopoiesis
Collection of Blood
Anticoagulants
Red cell count – Haemocytometer, Methods and Calculation
WBC Count -- Methods
Differential Leucocytes Count (DLC)-- Morphology of White Cells, Normal Values
Romanowsky Stains : Staining procedures Counting Methods, Principle of staining
Hb estimation – Method Colorimetric Method Chemical Method Gasometric Method
S.G. Method
Clinical Importance

Hematology :
ESR

Methods
Factors – Affecting ESR
Normal Values
Importance
RBC – Indices
WBC
Platelets
Body Fluids :
Urine :
Method of Collection
Normal Constituents
Physical Examination
Chemical Examination
Stool Examination :
Method of Collection
Normal Constituents and appearance
Abnormal Constituents (Ova, Cyst)
C.S.F. Examination
Physical Examination
Chemical Examination
Microscopy
Cell 1 Count
Staining
Semen Analysis
Collection
Examination
Special Tests
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

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

MICROBIOLOGY

Introduction of brief history of Microbiology
Historical Aspect
Relationship of Micro-organism to men
Micro-organism in Disease and Health
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

Sterilization :

Definition

Classification and General Principal of Sterilization

Autoclave – its structure, functioning, control and indicator

Antiseptics & Disinfectants

Definition

Types

Mode of Action

Uses

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 Viruse

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

TRIAGE – TECHNOLOGY

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

EQUIPMENT IN EMERGENCY

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

DIPLOMA EMERGENCY & TRAUMA CARE TECHNICIAN 2nd YEAR

ANATOMY

Introduction of various vital organs

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

Liver and Spleen :

Introduction

Anatomical Position

Gall bladder

Introduction Anatomical position.

Excretory Organs ;

Cortex and medulla of kidney

Ureter

Urinary Bladder

Urethra (male and female)

PHYSIOLOGY

Brief description of various vital organ system:

Blood

Definition

Composition

Function

Formation of different type of blood cells

Erythrocytes

Leucocytes

Thrombocytes

Mechanism of Blood Clotting

Cerebrospinal Fluid

Formation

Composition

Function

Special Senses in brief

Hearing

Taste

Smell

Touch

Sight

PATHOLOGY

Human blood group antigens and antibodies

ABO Blood group systems

Sub. – group

Source of antigens and types of antibodies

Rh Blood group System

Types of Antigen

Mode of Inheritance

Types of Antibodies

Erythroblastosis fatclis

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)

Fixation of tissues

Classification of Fixatives

Tissue Processing

Collection

Steps of fixation

Section Cutting

Microtome and Knives

Techniques of Section Cutting

Mounting of Section

Frozen Sections

Decalcification

Fixation

Declacification

End Point

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)

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CLINICAL MEDICINE

PUBLIC HEALTH

Introduction of community medicine

Transmission of disease

Prevention of Disease

Principle of prevention of control & disease

Hospital infection and control of infection Disease

hospital waste 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

PHARMACOLOGY

Definition, pharmacokinetics & pharmacodynamics, Adverse drug effects.

RESPIRATORY SYSTEM DRUG -

Drugs used for cough & bronchial 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

Atropine, bicarbonate, calcium, ephedrine, xylocard,
Ionotropes : dopamine, dobutamine, amidaron
Aminophylline, hydrocortisone, antihistamines, potassium

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