

Pharmacology: Paper I

General Pharmacology

Introduction, Routes of Drug Administration

SN

1. Factors governing choice of Routes of Drug Administration - state, Transdermal Therapeutic Systems
2. Routes of Drug Administration - mention with one example for each route
3. Subcutaneous Route of Drug Administration - advantages and disadvantages, examples
4. Kinetics of Drug Administration
5. Intravenous Route - four drugs, advantages and disadvantages

Pharmacokinetics (Chapter 2)

LAQ

1. Bioavailability* - define*, factors* affecting with examples; Bioequivalence

Pharmacokinetics (Chapter 3)

SN

1. Prodrug - define, explain advantages with examples
2. Microsomal Enzyme Induction**, clinical consequences with two examples*; implications with examples
3. Therapeutic Drug Monitoring - define, significance, Four Drugs having Narrow Therapeutic Index - list
4. Plasma Half-Life - define, clinical significance, examples
5. Prolongation of Drug Action - four methods with examples

LAQ

1. Biotransformation* - define*, reactions involved with examples, enumerate factors affecting Biotransformation; Phase 1 and Phase 2 Drug Metabolising Reactions - enumerate with examples, Enzyme Induction and Enzyme Inhibition - clinical significance

Pharmacodynamics

SN

1. Drug Antagonism - with examples
2. Competitive Antagonism - describe features with examples
3. Four mechanisms by which a drug may alter the absorption of another drug - with examples

LAQ

1. Drug Interactions - classify, Beneficial Drug Interaction - note with examples
2. Mechanisms by which Drugs produce their Actions in Body - with examples
3. Drug Antagonism - various types with examples

Pharmacotherapy

SN

1. Define:
 - i) Tachyphylaxis or Acute Tolerance
 - ii) Reason for development
 - iii) Tachyphylaxis and Tolerance - three differences
2. Drug Tolerance - define, types, underlying mechanism, examples

LAQ

1. Factors affecting Drug Action** - describe with clinical relevance; enumerate, describe with examples*
2. Fixed Dose Combinations - pros and cons with examples

Adverse Drug Effects

SN

1. Adverse Drug Reactions - classify with examples

LAQ

1. Pharmacovigilance - define, Adverse Drug effects - discuss various types with examples

Autonomic Nervous System

Cholinergic System and Drugs

SN

1. Rationale behind use of atropine with neostigmine
2. Cholinergic Drugs - classify, Myasthenia Gravis - treatment
3. Anticholinesterases* - classify*, therapeutic indications with examples; three therapeutic uses
4. Reversible and Irreversible Anticholinesterase, Explain Why they are Classified as Reversible and Irreversible, State Conditions in which this Property is Exploited

LAQ

1. Organophosphate Compound Poisoning*** - management; drug treatment*; General Principles of Acute Poisoning Treatment
2. Anticholinesterases* - classify* [sub-question]
3. Cholinergic Drugs - classify, Neostigmine* - pharmacological actions, clinical uses*; MOA

Anticholinergic Drugs

SN

1. Atropine and Tropicamide as mydriatics - compare and contrast therapeutic use
2. Atropine substitutes** - important uses; therapeutic indications, drug of choice for each
3. Atropine - four clinical uses

Adrenergic System and Drugs

SN

1. Adrenaline in treatment of Anaphylactic Shock - pharmacological basis
2. Adrenaline** - four therapeutic uses* with justification*; with pharmacological basis; dose and route of administration
3. Vasopressor Agents - enumerate four, Adrenaline contraindicated in Hypotensive Shock - explain why

LAQ

1. Adrenaline** - pharmacological actions*, therapeutic uses**, adverse effects; precautions while administering

2. Classify Adrenergic Drugs [sub-question]

Antiadrenergic Drugs and Drugs for Glaucoma

SN

1. Drugs used in Glaucoma* - mention, MOA
2. Beta Adrenergic Blockers* - classify, Therapeutic Uses - enumerate; Non-Cardiovascular Uses
3. Propranolol and Atenolol - eight clinically relevant differences
4. Alpha Adrenergic Blocker - uses, adverse effects
5. Atenolol and Propranolol - compare and contrast

LAQ

1. Propranolol - therapeutic uses with rationale
2. Drugs used in Glaucoma* - classify, MOA, adverse effects of any one; pharmacological rationale for each drug
3. Beta Blockers* - classify, cardiac, non-cardiac uses, examples with rationale; therapeutic uses

Drugs Acting on Peripheral Nervous System

Skeletal Muscle Relaxant

LAQ

1. Skeletal Muscle Relaxants* - classify* on basis on MOA, Succinylcholine - MOA, adverse effects, therapeutic uses; Curare Alkaloids - uses

Cardiovascular Drugs

Drugs Affecting RAS and Plasma Kinins

SN

1. ARB with ACE Inhibitors - compare adverse effects
2. Drugs acting on RAAS - enumerate, note on any one
3. Use of ACE Inhibitors in CHF - rationale, four uses
4. ACE Inhibitors - adverse effects

5. Enalapril and Losartan - compare and contrast with respect to MOA, therapeutic indications, adverse effects
6. Enalapril - pharmacological basis for use in CHF

LAQ

1. ACE Inhibitors** - MOA, therapeutic uses, adverse effects**;
indications*, drug interactions*; contraindications

Cardiac Glycosides and Drugs for Heart Failure

SN

1. Use of Spironolactone in CHF patient - rationale, Possible Drug Interactions
2. Digitalis Toxicity - drug treatment
3. Use of Digoxin in CHF - pharmacological basis
4. Digitalis - MOA
5. CHF - enumerate drugs, Any two groups useful in CHF - MOA

LAQ

1. Treatment of CHF* - therapeutic objectives, drugs used**, pharmacological basis of use; Use of ACE Inhibitors and Cardiac Glycosides - pharmacological basis

Antiarrhythmic Drugs

LAQ

1. Antiarrhythmic Drugs - classify, MOA, Propranolol - antiarrhythmic effects, therapeutic uses

Antianginal Drugs

SN

1. Calcium Channel Blockers - mechanism of action in Angina Pectoris, adverse effects
2. Nitroglycerin - therapeutic uses, routes of administration, adverse effects
3. Coronary Steal Phenomenon - explain, clinical significance
4. Nifedipine and Verapamil - compare and contrast
5. Nitrates - MOA

LAQ

1. Calcium Channel Blockers* - MOA, adverse effects*, therapeutic uses*

2. Myocardial Infarction - drug management

Antihypertensive Drugs

LAQ

1. Antihypertensive drugs***** - classify*****, Management of hypertensive emergencies and urgencies - describe; Thiazide diuretics - MOA, Combination Therapy in Hypertension

Drugs Acting on Kidney

Diuretics

SN

1. High-Ceiling Diuretics - uses
2. Diuretic Therapy - therapeutic use, complications

LAQ

1. Furosemide* - MOA, indications, adverse effects*; four therapeutic uses
2. Use of Furosemide in treatment of Left Ventricular Failure - pharmacological basis

Drugs Affecting Blood and Blood Formation

Haematinics and Erythropoietin

SN

1. Parental Iron Preparations**** - enumerate*, indications****; adverse effects*; Iron Preparations - enumerate, uses, adverse effects, Iron Poisoning - antidotes
2. Two Oral, Two Parenteral Iron Preparations

LAQ

1. Oral Iron Preparations - enumerate, adverse effects, Iron Deficiency Anaemia - drug treatment
2. Oral and Parenteral Iron Preparations - enumerated, Parenteral Iron Therapy - indications, Treatment of Iron Poisoning

Drugs Affecting Coagulation, Bleeding, Thrombosis

SN

1. Conventional/Unfractionated Heparin and Low Molecular Weight Heparin - differences*
2. Warfarin - MOA, therapeutic uses
3. Low Molecular Weight Heparins - MOA, therapeutic uses
4. Streptokinase and Alteplase - compare and contrast
5. Anti-Platelet Drugs
6. Fibrinolytic Agents - mention, impotence in clinical use

LAQ

1. Thrombolytic Drugs - enumerate, Alteplase - indications, adverse effects

Hypolipidaemic Drugs and Plasma Expanders

SN

1. What are Plasma Expanders, uses
2. HMG-CoA Reductase Inhibitor

LAQ

1. Statins - MOA, therapeutic effects, adverse effects

Gastrointestinal Tract

Peptic Ulcer and GERD Drugs

SN

1. H. Pylori positive Gastric Ulcer - treatment regimens
2. Omeprazole as Anti-Ulcer Drug - MOA
3. Ranitidine - indications, adverse effects
4. Peptic Ulcer - drugs used
5. Omeprazole in treatment of Zollinger-Ellison Syndrome - pharmacological basis

LAQ

1. Drugs used in Peptic Ulcer** - classify*, pharmacological basis of use; Omeprazole* - MOA*, adverse effects

Antiemetic, Prokinetic, Digestant Drugs

SN

1. Metoclopramide - MOA, therapeutic use
2. Prokinetic Agents - define, examples, therapeutic uses, adverse effects

Laxatives and Purgatives

SN

1. Lactulose - mechanism of action, therapeutic uses
2. Ispaghula as laxative - MOA
3. Laxatives* - classify, therapeutic uses, contraindications*; indications

LAQ

1. Laxatives*-Purgatives - classify, MOA*, indications* of any two classes; contraindications

Miscellaneous Drugs

Chelating Agents

SN

1. Desferrioxamine - mechanism of action, therapeutic uses
2. Dimercaprol
3. Chelating Agents in clinical practice - list, elaborate briefly

Vitamins

SN

1. Antioxidant Vitamins and Uses
2. Vitamin A - daily requirement, therapeutic uses

Unspecified

SN

1. Explain why Folic Acid is started from First Trimester but Iron is started from Second Trimester of Pregnancy, even if Hb Level is normal

2. Catecholamines and Non-Catecholamines - compare and contrast
3. Drug Use in Children - general principles

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Pharmacology Paper II

Autacoids and Related Drugs

Histamine and Antihistaminics

SN

1. Second Generation Antihistaminics* and Conventional Antihistaminics - compare and contrast; Non-Sedative Antihistaminics - enumerate, advantages, two indications
2. H1 antihistaminics* - uses*, adverse effects*
3. Antihistaminics - classify, four uses

5-Hydroxytryptamine, Its Antagonists and Drug Therapy of Migraine

SN

1. Prophylaxis of Migraine* - enumerate four drugs*, adverse effects of any one of them; Sumatriptan – MOA, adverse effects

Prostaglandins, Leukotrienes and Platelet Activating Factor

SN

1. Prostaglandin Analogous* - therapeutic uses during pregnancy and labour; Conditions where Prostaglandins are preferred for Induction of Labour
2. Prostaglandins - four therapeutic uses with agents of preference for each

Nonsteroidal Antiinflammatory Drugs and Antipyretic-Analgesics

SN

1. NSAIDS - classify, important uses, two adverse effects
2. Opioids and NSAIDS - major differences depending on MOA, uses, adverse drug reactions
3. Diclofenac sodium - write in brief

LAQ

1. Aspirin and COX-2 Inhibitors - compare and contrast with respect to pharmacological actions, therapeutic uses, adverse effect profile
2. NSAIDS* - classify, Aspirin* - MOA*, uses*, adverse effects, contraindications; NSAIDS - MOA, Selective NSAIDS - advantages, disadvantages

Antirheumatoid and Antigout Drugs

SN

1. Gout - enumerate drugs used, MOA
2. Methotrexate in Rheumatoid Arthritis - pharmacological basis
3. Methotrexate - four uses with pharmacological basis of each

Respiratory System Drugs

Drugs for Cough and Bronchial Asthma

SN

1. Bronchial Asthma** - describe drugs, mechanism of action of any one drug; enumerate groups of drugs with one example and MOA; classify drugs, two adverse effects of any one of them
2. Beta 2 Agonists* - enumerate four, four important adverse effects*, MOA; Bronchodilators - classify*
3. Mucolytic Agents* - name two, indications, MOA; enlist, role as antitussive agents
4. Cough*** - four drugs**, pharmacological basis of their use*; Rationale for use of various drugs in management; Bromhexine - MOA, dose
5. Aminophylline - MOA, adverse effects
6. Budesonide/Inhalational Corticosteroids in Bronchial Asthma* - pharmacological basis
7. Antitussives - describe, Non-Opioid Antitussive Drugs - mention two, uses

Hormones and Related Drugs

Thyroid Hormone and Thyroid Inhibitors

SN

1. Propranolol in treatment of Thyrotoxicosis - pharmacological basis
2. Radioactive Iodine - advantages and disadvantages

LAQ

1. Antithyroid Drugs - classify, Carbimazole - therapeutic uses, adverse effects

Insulin, Oral Hypoglycemic Drugs and Glucagon

SN

1. Insulin Preparations and Analogues - enumerate, Diabetic Ketoacidosis - outline treatment
2. Metformin - MOA

LAQ

1. Oral Hypoglycemic Agents**** - classify****, Biguanides* - MOA*, adverse effects*, uses; Sulfonylureas* - MOA, adverse effects; Thiazolidinediones - MOA, pharmacological actions, adverse reactions
2. Insulin - name different sources, indications, Human Insulin over Conventional Insulin - advantages

Corticosteroids

SN

1. Corticosteroids - four therapeutic indications, four contraindications
2. Steroids - topical use in dermatological conditions

LAQ

1. Corticosteroids* - classify; describe anti-inflammatory and immunosuppressant actions, therapeutic uses, adverse effects

2. Glucocorticoids**** - therapeutic uses**, contraindications, adverse drug reactions**;
classify, precautions; actions

Estrogens, Progestins and Contraceptives

SN

1. Selective Estrogen Receptor Modulators* - therapeutic uses*; name, adverse effects
2. Progesterone - four uses, adverse effects
3. Emergency Contraception - enlist regimens, Mifepristone - MOA, uses

LAQ

1. Oral Contraceptive Pills* - classify, MOA*, four adverse effects, four non-contraceptive health benefits, dosage schedule; Postcoital Contraception - outline management

Oxytocin and Other Drugs acting on Uterus

SN

1. Oxytocics* - classify*, uses, adverse effects; enumerate, clinical indications of each agent; Oxytocin and Prostaglandin Analogue - compare and contrast as oxytocics
2. Ergometrine in PPH - pharmacological basis, Contraindications to use of Ergometrine
3. Oxytocin and Ergometrine - compare and contrast***
4. Why is Oxytocin used for Induction of Labour and not Methylergometrine

Drugs Acting on Central Nervous System

General Anaesthetics

SN

1. Pre-anaesthetic Medication*** - name drugs*, pharmacological basis* for use of any two agents; Purpose of each drug; Four examples from different classes; MOA of any two agents

Ethyl and Methyl Alcohols

LAQ

1. Drug Dependence, Chronic Alcoholism - management

Sedative-Hypnotics

SN

1. Benzodiazepines - why preferred over Barbiturates*** as sedative and hypnotic agents, four uses; Barbiturates - classification
2. Benzodiazepines and Barbiturates - compare and contrast

LAQ

1. Sedative and Hypnotic Drugs - classify, Benzodiazepines over Barbiturates - advantages, Benzodiazepines - MOA, therapeutic uses

Antiepileptic Drugs

LAQ

1. Antiepileptic Drugs***** - classify***** (on basis of clinical utility with examples; on basis of MOA), **Phenytoin***** - MOA**, uses*, adverse effects**, Status Epilepticus - outline management; **Sodium Valproate**** - MOA**, adverse effects** therapeutic uses*; important drug interactions; Principles of Treatment of Epilepsy - enumerate; Grand Mal Epilepsy/GTCS* - enlist drugs*, **Carbamazepine** - MOA, adverse effect, therapeutic uses

Antiparkinsonian Drugs

SN

1. Levodopa and Carbidopa combination in Parkinsonism* - two advantages* and disadvantages*; Parkinsonism - drugs used

LAQ

1. Antiparkinsonian Drugs - classify, Levodopa with Carbidopa - rationale of use

Antipsychotic and Antimanic Drugs

SN

1. Atypical Antipsychotics - enumerate, advantages over older neuroleptics

Antidepressant and Antianxiety Drugs

SN

1. Selective Serotonin Reuptake Inhibitors
2. Antianxiety Drugs - name, MOA

LAQ

1. Antidepressants - classify, SSRI - therapeutic uses, adverse effects

Opioid Analgesics and Antagonists

SN

1. Pethidine over Morphine - advantages
2. Morphine* and other Opioids - uses* (four), Why is Morphine contraindicated in Head Injury; Acute Morphine Poisoning - treatment
3. Opioids and NSAIDs - major differences depending on MOA, uses, adverse drug reactions
4. Opioid Antagonists* - classify*, therapeutic uses*

LAQ

1. Opium Alkaloids - enumerate, Morphine - MOA, adverse effects, clinical uses

Antimicrobial Drugs

Antimicrobial Drugs: General Considerations

SN

1. Antimicrobial Prophylaxis
2. What is Chemoprophylaxis, how is it achieved in Rheumatic Fever

LAQ

1. Various Factors involved in Selection of an Antibiotic for a given Infection

Sulfonamides, Cotrimoxazole and Quinolones

SN

1. Fluoroquinolones - classify, four therapeutic uses, two adverse effects
2. Cotrimoxazole - MOA, four therapeutic uses
3. Typhoid Fever - four drugs effective, Carriers - treatment

LAQ

1. Fluoroquinolones - classify, compare and contrast First and Second Generation with respect to spectrum of activity, advantages, adverse effects, indications

Beta Lactam Antibiotics

SN

1. Bacterial Resistance to Penicillin - mechanisms, Clavulanic Acid with Amoxicillin - basis of use

LAQ

1. Third Generation Cephalosporins - enumerate, Parenterally Used Third Generation Cephalosporins - therapeutic uses, adverse effect; Cephalosporins** - classify*, MOA*, adverse effects*, therapeutic uses*; enumerate generations with examples
2. Penicillins* - classify*, MOA, adverse effects, therapeutic uses; Ampicillin - MOA, adverse effects, therapeutic uses

Tetracycline and Chloramphenicol

SN

1. Macrolide and Tetracycline Antibiotics - compare and contrast depending on spectrum, uses, adverse reactions, precautions to be taken for use

Aminoglycoside Antibiotics

SN

1. Aminoglycoside Antibiotics* - enumerate, common features*; Streptomycin - four therapeutic uses

LAQ

1. Aminoglycosides** - enumerate*, MOA, clinical uses*, adverse effects*; describe common properties, shared toxicities
2. Streptomycin - MOA, adverse effects, therapeutic uses

Macrolide, Lincosamide, Glycopeptide and Other Antibacterial Antibiotics; Urinary Antiseptics

SN

1. Macrolide and Tetracycline Antibiotics - compare and contrast depending on spectrum, uses, adverse reactions, precautions to be taken for use

Antitubercular Drugs

SN

1. Antitubercular Drugs* - classify*; MOA, Indications for Chemoprophylaxis in Tuberculosis; XDR TB - list drugs
2. Tuberculosis - enumerate drugs, DOTS - describe in short

LAQ

1. Antitubercular Drugs* - classify*, Rifampicin - antimicrobial actions, pharmacokinetics, adverse effects*; Failure of Drug Treatment of TB - causes, MDR TB - treatment

Antileprotic Drugs

SN

1. Multibacillary Leprosy - treatment, Rifampicin - adverse drug effect, other therapeutic uses

Antimalarial Drugs

SN

1. ACT - indication, advantages over other antimalarial drugs, any one ACT regimen
2. Antimalarial Drugs - classify, Chloroquine - four therapeutic uses
3. Antimalarial Drugs - enumerate, Artemisinin Derivatives - MOA, uses, adverse effects

LAQ

1. Antimalarial Drugs - enumerate, Artemisinin Derivatives - MOA, adverse effects, Artemisinin Based Combination Therapy
2. Terms used to describe Antimalarial action of Drugs in relation to Life Cycle of *P. vivax*, Uncomplicated *P. falciparum* malaria - various ACT regimens, Combining two drugs together in ACT regimens - justification
3. ACT in Acute Uncomplicated *Falciparum* Malaria - rationale, ACT regimens - describe any three
4. Malaria - name drugs useful, Chloroquine - MOA, therapeutic uses

Antiamoebic and Other Antiprotozoal Drugs

SN

1. Metronidazole** - four uses** and adverse effects*; Four therapeutic uses with respect to place in therapy, dose frequency, route of administration, duration of treatment

Chemotherapy of Neoplastic Diseases

SN

1. Alkylating Agents used in Cancer Chemotherapy
2. Methotrexate - four uses with pharmacological basis of each

Miscellaneous Drugs

Immunosuppressant Drugs

SN

1. Calcineurin Inhibitors - enumerate two, MOA, four indications
2. Immunosuppressants - enumerate four classes, MOA, examples, therapeutic uses
3. Methotrexate - four uses with pharmacological basis of each

Antiseptics, Disinfectants and Ectoparasiticides

SN

1. Scabies - four drugs, merits and demerits of each

Vaccines and Sera

SN

1. Antisera - define, four different antisera with indications
2. Vaccine* - define*, BCG Vaccine - write in brief; Viral Vaccines - four examples

Skeletal Muscle Relaxants

SN

1. Skeletal Muscle Depolarizing Blockers - enumerate four, MOA

LAQ

1. Neuromuscular Blocking Drugs - classify, Peripherally acting Neuromuscular Blocking Drugs - drug interactions, therapeutic uses

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Pathology: Paper I

General Pathology

Introduction to Pathology

SN

1. Telepathology (Pg. 7)

Injury, Cellular Adaptations and Cellular Aging

SN

1. Calcification*** - types*; Dystrophic Calcification; Dystrophic and Metastatic Calcification - differences*
2. Apoptosis*** - define**, examples, enumerate morphological changes; mechanisms; physiological and pathological causes
- * 3. Endogenous Pigments*
4. Necrosis*** - types***; examples, mechanisms; Caseous Necrosis - morphology; Coagulation and Liquefactive - write in detail with examples
5. Reperfusion Injury - define, mechanism
6. Define and give examples
 - a) Metaplasia
 - b) Hypertrophy and Hyperplasia
 - c) Atrophy
7. Atrophy - define, Brown Atrophy of Heart - morphology, causes

LAQ

1. Necrosis* - define*, types* with examples*
2. Fatty Change - etiopathogenesis, Fatty Liver - morphology
3. What are Free Radicals, Free Radical-Induced Cell Injury - describe
4. Pigments - classify, Disorders associated with Hemoprotein-derived Pigments - describe

Immunopathology Including Amyloidosis

SN

1. Hypersensitivity* Reactions - define*; classify, discuss; Type I Hypersensitivity Reactions - discuss
2. Amyloid***** - define, classify*, molecular structure, special stains***; physiochemical properties
3. Sago Spleen; Amyloidosis of Spleen - gross, microscopic features
4. Autoimmune Disorders - mechanisms
5. Neoplasms found in patients with HIV infection

LAQ

1. Autoimmunity - define, pathogenesis
2. AIDS - etiology, routes of transmission, natural history (phases), diagnosis

Derangements of Homeostasis and Haemodynamics

SN

1. Infarct - define, types
2. Oedema* - define*, classify, Transudate and Exudate - differences*
3. Virchow's triad* - role in thrombus formation; Thrombus - gross, microscopic features
4. Pathways leading to Systemic Oedema from Primary Heart Failure - draw figure
5. Embolism - define, Pulmonary Thromboembolism
6. Liver and Spleen in Right Sided Heart Failure - gross, microscopic features

LAQ

1. Oedema* - define*, types, pathogenesis, Pulmonary Oedema - pathophysiologic mechanism, gross, microscopic changes
2. Embolism** - define, types* with examples; pathogenesis, morphological appearance, fate; Embolus - define, types, Air Embolism
3. Thrombus - define, pathogenesis*, types, fate*, complications; Thrombosis - define
4. Normal Hemostasis - discuss, Thrombosis - factors causing

Inflammation and Healing

SN

1. Factors affecting Wound Healing*** - enumerate*; complications
2. Chemotaxis and Phagocytosis - describe
3. Lepromatous Leprosy* - gross, microscopic findings
4. Primary Tuberculosis - pathogenesis
5. Inflammation* - chemical mediators*
6. Ridley and Jopling Classification of Leprosy
7. Acute Inflammation*** - cellular events*; define, vascular events; types
8. Granulation Tissue - gross, microscopy, Delayed Wound Healing - enumerate causes
9. Wound Healing by Primary Intention [sub-question]; Wound Healing by Secondary Intention
10. Primary Tuberculosis - common sites, Primary Complex - components, Evolution of Tubercle - draw schematic diagram
11. Ghon's Complex - gross, microscopic features, fate

LAQ

1. Inflammation* - define*, enumerate cardinal signs, Acute Inflammation - describe vascular events; cellular events
2. Healing of Simple Fracture of Bone - describe, enumerate complications
3. Regeneration and Repair - explain, Factors affecting Wound Healing, Healing of Fracture - write in detail

Neoplasia

SN

1. Precancerous Lesions
2. Tumour Markers - role in diagnosis
3. Anaplastic Tumor Cells - morphology
4. Oncogenic Viruses - enumerate, example of cancer caused by each
5. Laboratory Diagnosis of Cancer - describe in brief

6. Paraneoplastic Syndromes*; examples
7. Chemical Carcinogenesis - explain process with examples

LAQ

1. Cancer - laboratory diagnosis
2. Benign and Malignant Neoplasms - differences****, Malignant Neoplasms - routes of spread* with examples; Neoplasia***** - define*****, classification, laboratory diagnosis*; Modes of Metastasis; Teratoma*; Chemical Carcinogenesis* -describe, steps with examples; Pathways of spread of Malignant Neoplasms* - discuss
3. Major Chemical Carcinogens* - enumerate*, MOA; classify
4. Metastasis - define, mechanism, routes

Genetic and Paediatric Diseases

SN

1. Down's Syndrome
2. Trisomy 21
3. Klinefelter's Syndrome

Haematology

Introduction to Haematopoietic System and Disorders of Erythroid Series

SN

1. Megaloblastic Anaemia - haematological findings
2. Megaloblast
3. Sickle Cell Anemia* - etiopathogenesis, laboratory investigations; peripheral blood smear findings

LAQ

1. Megaloblastic Anaemia** - laboratory investigations; peripheral blood smear**, bone marrow findings**

2. Anaemia***** - define**, classification*****, Iron Deficiency Anaemia**** - laboratory diagnosis****; Anemia - morphological classification with examples
3. Hemolytic Anaemia - laboratory investigations*
4. Macrocytic Anaemia - causes (sub-question)

Disorders of Platelets, Bleeding Disorders and Basic Transfusion Medicine

SN

6. Haemophilia
7. Prothrombin Time - principle of test, causes of increased PT
8. Causes of Thrombocytopenia - enumerate
9. Major Fractions of Blood - utility; Blood Components - name four

LAQ

2. Bleeding Disorders - define, classify, screening laboratory tests to investigate them
3. Write different Transfusion Reactions [sub-question]
4. Blood Component, Blood Transfusion Reactions - describe

Disorders of Leukocytes and Lymphoreticular Tissues

SN

1. Acute Lymphoblastic Leukemia - peripheral blood smear and bone marrow aspiration findings
2. Chronic Myeloid Leukemia* - peripheral blood picture*; clinical features
3. Acute Leukemias - FAB Classification
4. Acute Myeloid Leukemia - FAB classification, peripheral smear, bone marrow picture

LAQ

1. Leukemia* - define*, classify*, CML - peripheral blood smear, bone marrow findings; Acute Leukemia - FAB classification, cytochemical stains, laboratory findings

Unspecified

SN

1. Criteria for selection of Blood Donor****
2. Coomb's Test* - indications for direct and indirect
3. Postmortem changes in body after death
4. Investigation of suspected Blood Transfusion Reaction
5. Atherosclerosis - etiopathogenesis
6. Uterine Leiomyoma - gross, microscopic features, complications

LAQ

1. Investigations done in a case of Blood Transfusion Reaction [sub-question]

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Pathology: Paper - II

Blood Vessels and Lymphatics

SN

1. Atherosclerotic Plaque - risk factors, morphology (Pg 373, 377)
2. Aneurysm - types, causes, Abdominal Aortic Aneurysm - gross features (Pg 386)
3. Atherosclerosis* - complications; Risk Factors
4. Atherosclerosis of Aorta - pathogenesis, gross, microscopy

LAQ

1. Atherosclerosis* - pathogenesis, morphology, pathology, complications

Heart

SN

1. Acute Myocardial Infarction* - complications; Laboratory Diagnosis (Pg. 409, 414)
2. Hypertensive Heart Disease - morphology (Pg. 417)
3. Extracardiac Lesions in Rheumatic Heart Disease (Pg. 423)
4. Rheumatic and Bacterial Endocarditis - differentiate (Pg. 426)

LAQ

1. Rheumatic Heart Disease - etiopathogenesis, extracardiac lesions
2. [Define Infarct, enzymes used in diagnosis of MI, gross and microscopic features as per age of infarct]* (Pg. 412, 414)
3. MI** - laboratory evaluation, consequence, complications; morphological changes; pathogenesis, gross, microscopic appearance (Pg. 409-415)
4. Causes of Vegetations in Heart, Subacute Bacterial Endocarditis (Pg. 426)
5. Ischemic Heart Disease - classify, MI - gross, microscopy (Pg. 407)

Respiratory System

SN

1. Lung abscess* - etiology* and morphology; clinical features (Pg. 457)
2. Lung Carcinoma* - histologic classification, clinical presentations, Small Cell Carcinoma - morphology (Pg. 477, 480)

3. Pathogenesis of Emphysema*; Gross, Microscopic features (Pg. 459)
4. Bronchiectasis* - morphology, complications, gross, microscopic features (Pg. 465)
5. Lobar Pneumonia - stages, microscopy, gross of each stage (Pg. 449)

LAQ

1. Lung Tumors - WHO classification, etiopathogenesis, morphology (Pg. 477)
2. Lobar Pneumonia - etiopathogenesis, gross, microscopic features, complications (Pg. 419)

Oral Cavity and Salivary Glands

SN

1. Pleomorphic Adenoma of Salivary Gland (Pg. 516)

Gastrointestinal Tract

SN

1. Gastritis - classification, Acute Gastritis - etiologic agents
2. Gastric Carcinoma* - morphology; Gross, Microscopic appearance (Pg. 538)
3. H. Pylori Gastritis (Pg. 530, 531)
4. Ulcerative Lesions of Small and Large Intestine*
5. Chronic Peptic Ulcer - enumerate risk factors, pathogenesis (Pg. 533)
6. Difference between Ulcerative Colitis and Crohn's Disease* (Pg. 552)
7. Typhoid and Tubercular Ulcers of Intestine - differentiating features (Pg. 553, 554)
8. Benign and Malignant Gastric Ulcer - differentiate (Pg. 543)
9. Role of H. Pylori in Peptic Ulcer (Pg. 533)

LAQ

1. Ulcerative Lesions of Bowel* - list, morphology of any one; Ulcerative Colitis - gross, microscopic features (Pg. 550)
2. Carcinoma of Rectum (Pg. 570)
3. Carcinoma Colon - etiology, gross, microscopic findings, spread (Pg. 570)
4. Gastric Carcinoma* - etiopathogenesis, gross, microscopic features (Pg. 538)

Liver, Biliary Tract and Exocrine Pancreas

SN

1. Alcoholic Liver Disease - morphological lesions

2. Acute Viral Hepatitis - morphologic features (Pg. 595)
3. Tabulate differences in LFT in Hemolytic, Hepatocellular, Obstructive Jaundice
4. Primary Carcinoma of Liver - pathogenesis, morphological features (Pg. 618)
5. Obstructive Jaundice - laboratory findings
6. Fatty Liver - etiopathogenesis (Pg. 606)
7. Describe sequence of Serologic Markers for Hepatitis B Viral Hepatitis in Acute Infection (Pg. 592)
8. Amoebic Liver Abscess - clinical presentation, gross, microscopic features (Pg. 600)

LAQ

1. Define/Classify/Causes of Jaundice*, Obstructive Jaundice - laboratory diagnosis; Laboratory Approach* in a case of Jaundice
2. Alcoholic Liver Disease**** - pathogenesis*, morphology*, histology, complications; Cirrhosis - define, classify* (Pg. 603)
3. Post Necrotic Cirrhosis - etiopathogenesis, morphology (Pg. 609)

Kidney and Lower Urinary Tract

SN

1. Renal Cell Carcinoma* - gross and microscopic features (Pg. 681)
2. Classify Glomerular Diseases, describe morphology of Membranous Glomerulopathy (Pg. 647, 656)
3. Chronic Pyelonephritis* - gross, microscopic appearance of kidneys (Pg. 669)
4. Rapidly Progressive Glomerulonephritis - classification, pathogenesis (Pg. 654)
5. Nephrotic Syndrome - features (Pg. 648)
6. Post-Streptococcal Glomerulonephritis - etiology, gross, microscopic features (Pg. 652)

LAQ

1. Glomerulonephritis - classify, Rapidly Progressive Glomerulonephritis - types, gross, microscopic features (Pg. 652, 663, 654)
2. Glomerular Syndromes - enumerate, Acute Proliferative Glomerulonephritis etiopathogenesis, morphology, clinical course (Pg. 647)
3. Post-Streptococcal Glomerulonephritis - etiopathogenesis, morphology, clinical course (Pg. 652)

Male Reproductive System

SN

1. Teratoma of Testis - gross, microscopic features

2. Seminoma***** - gross and microscopic features; Labelled diagram; Classical Seminoma - morphology, modes of spread (Pg. 697)
3. Classify Testicular Tumors* (Pg. 695)
4. Teratoma - define, classify, Extragonadal sites of appearance (Pg. 699)
5. Testicular Germ Cell Tumors - enumerate, describe any one

Female Genital Tract

SN

1. Fibroid Uterus - gross, microscopic, complications
2. Germ Cell Tumors of Ovary - classify, Dysgerminoma - gross, microscopic findings (Pg. 735, 737)
3. Teratoma - define, classify, Extragonadal sites of appearance (Pg. 735)

Breast

SN

1. Fibroadenoma Breast** - gross and microscopic features (Pg. 748)
2. Prognostic, Predictive factors in Carcinoma Breast (Pg. 757)
3. Classify Breast Tumours* (Pg. 751)

LAQ

1. Breast Carcinoma* - classify*, Grading, Staging, Prognostic Factors; risk factors, Invasive Ductal Carcinoma (Pg. 750, 752)

Skin

SN

1. Squamous Carcinoma Skin - pathogenesis, morphology (Pg. 774)
2. Melanoma of Skin* (Pg. 777)

Endocrine System

SN

1. MEN Syndromes (Pg. 819)
2. Oral GTT (indications, interpretation of result) (Pg. 817)
3. Tumors of Thyroid - classify, Colloid Goitre (Pg. 800, 797)

4. Glycosylated Hemoglobin (Pg. 818)
5. Hashimoto's Thyroiditis - gross, morphologic features, complications (Pg. 795)

LAQ

1. Diabetes Mellitus - diagnostic criteria*, Diabetic Glomerulosclerosis - pathogenesis, morphology; Diabetic Nephropathy (Pg. 816, 664)
2. Oral GTT - indications, method, interpretation (Pg. 817)
3. Diabetes Mellitus*** - laboratory investigations**; etiology, classification; Investigations with their significance; Classify* (Pg. 816, 809)

Musculoskeletal System

SN

1. Osteogenic Sarcoma*** - radiologic, gross*, microscopic* findings (Pg. 832)

LAQ

1. Rheumatoid Arthritis (Pg. 843)
2. Primary Bone Tumours - classify*, Osteosarcoma* - morphology, clinical course (Pg. 832)
3. Osteomyelitis - define, Pyogenic Osteomyelitis - gross, microscopic features, clinical course (Pg. 822)

Nervous System

SN

1. Tabulate differences in CSF examination in Pyogenic, Tuberculous*, Viral Meningitis; CSF findings in Meningitis (Pg. 868)
2. Meningioma** - gross, microscopic features (Pg. 882)
3. Acute (purulent) Leptomeningitis - morphology, CSF findings (Pg. 868)

LAQ

1. Pyogenic Meningitis - aetiology, indication of CSF examination, CSF findings in Pyogenic and Tuberculous Meningitis (Pg. 867, 868)

Cell Injury, Cellular Adaptation and Cellular Aging

SN

1. Fatty Liver - etiopathogenesis (Pg. 19)
2. Classify Pigment, Disorders of Melanin Pigmentation - describe (Pg. 22)

Immunopathology Including Amyloidosis

SN

1. Classification of Amyloidosis (Pg. 70)

Inflammation and Healing

SN

1. Difference between Acute and Chronic Inflammation (Pg. 137)
2. Pulmonary Tuberculosis - morphological features of lesions (Pg. 143)

Neoplasia

SN

1. Paraneoplastic Syndromes (Pg. 225)
2. Utility of Frozen Sections (Pg. 227)

LAQ

1. Neoplasia - define, etiopathogenesis of Neoplasms (Pg. 184)

Disorders of Leucocytes and Lymphoreticular Tissues

SN

1. Classify Hodgkin's Lymphoma**, Mixed Cellularity type - two important features; Classify Lymphoma, Types of Hodgkin's Lymphoma - describe in short; Describe a Reed Sternberg Cell and its variants; Gross, Microscopic Features (Pg. 348)
2. Splenomegaly* - list associated diseases; Classification (Pg. 367)
3. Classify Non-Hodgkin's Lymphoma (Pg. 348, 352)

Microbiology: Paper I

General Microbiology

Introduction and Bacterial Taxonomy

SN

1. Robert Koch*** - four contributions**, Koch's Postulates - discuss
2. Eukaryotes and Prokaryotes - four differences
3. Louise Pasteur - contributions in Microbiology

Morphology and Physiology of Bacteria

SN

1. Types of Microscopes - enumerate, Dark Ground Microscope
2. Bacterial Growth Curve** - diagram
3. Bacterial Spore*
4. [Bacterial Capsule - describe, Capsulated Bacteria - name two, Detection of Capsule - two methods]*
5. Cell Wall of Gram Positive Organisms - describe, Functions of Cell Wall
6. Bacterial Flagella - define, types with examples, demonstration - two methods

LAQ

1. Bacterial Cell Wall - structure and function

Sterilization and Disinfection

SN

1. Gaseous Disinfectants - describe with uses
2. Tyndallisation - define, principle, when is it used

LAQ

1. Sterilization and disinfection - define****, enumerate methods*, **Dry Heat** sterilization - enumerate methods*, two methods with principles, **Hot Air Oven** - role in sterilization; **Autoclave**** - principle**, types, applications*, working, operational

complications, diagram, four items sterilized in autoclave; **Moist Heat** Sterilization - enumerate methods

2. Four Chemical Agents used for Disinfection, Properties of an Ideal Disinfectant

Culture Media

SN

1. Culture Media - classify* with examples, Enriched Media - examples; Selective Media
2. Enrichment Media* - describe with two examples; How it differs from Enriched Media, Solid Culture Media without Agar - two examples

Bacterial Genetics

SN

1. Mutational and Plasmid-mediated (Transferable) drug resistance*** -four differences, six differences
2. Transduction
3. Conjugation
4. Mutation - define [sub-question]

LAQ

1. Gene Transfer in Bacteria - enumerate methods, any one in detail

Bacteriology

SN

1. **Streptococcus*****: Streptococcus pyogenes infection - non-suppurative sequelae; non-suppurative complications*; S. Pneumonia and S. Viridans - differentiate* (8 differences)
2. **Clostridium*******: Clostridium botulinum infection - pathogenicity, prevention; Gas gangrene**** - pathogenesis**, laboratory diagnosis; Immunoprophylaxis of Tetanus; Nagler Reaction** - principle, procedure, use
3. **Salmonella****: Salmonella Typhi - Enteric Fever - laboratory diagnosis; Widal Test; Laboratory Tests to diagnose Enteric Fever in first week, Co-Agglutination Test - role in diagnosis
4. **Neisseria**: Non-gonococcal Urethritis [NIGU]
5. **Staphylococcus***: staphylococcal wound infection - laboratory diagnosis; Staphylococcus aureus - four diseases, staphylococcal food poisoning - describe

6. **Corynebacterium diphtheria***: Diphtheria - pathogenicity; Metachromatic Granules; Toxigenicity Tests
7. **Vibrio cholerae******: - Gardner and Venkataraman's classification; Classical vibrios and El Tor vibrios - differences*; Laboratory Diagnosis*; Halophilic Vibrios* - describe, two examples, Kanagawa Phenomenon*
8. **Chlamydia trachomatis**** : four diseases*, laboratory diagnosis of any one of them; Differentiate Chlamydia from virusus, Serotypes* of Chlamydia - enumerate, mention infections* caused by them
9. **Shigella***: Shigella dysentery - pathogenicity, laboratory diagnosis; Shigella - classify, how do these organisms produce dysentery
10. **Mycobacterium tuberculosis**: Four methods of detection with principles; Tuberculosis - pathogenesis
11. **Spirochetes*****: Leptospira - laboratory diagnosis; Syphilis - serological diagnosis; Leptosprosis - pathogenesis, laboratory diagnosis; VDRL - principle, applications, advantages, limitations
12. **Haemophilus***: X and V factors, Satellitism - describe with diagram; H. Influezae - four lesions
13. **E. Coli***: Enterotoxigenic E. Coli; E. Coli - types causing diarrhoea, one laboratory test to diagnose each type
14. **Streptococcus pneumoniae**: Pneumococcal vaccine; morphology, cultural characteristics
15. **Atypical Mycobacteria**: Runyun's classification, two examples of each
16. **Mycobacterium leprae***: Morphology, Tuberculoid and Lepromatous Leprosy - four differences; Lepromin Test - describe, four uses

LAQ

1. **Pulmonary Tuberculosis***** - laboratory diagnosis***; pathogenesis; with special reference to recent advances; M. Tuberculosis* - morphology*, cultural characteristics*; laboratory diagnosis
2. **Spirochetes***** - classification, Treponemal tests for diagnosis of Syphilis* - discuss; enumerate Spirochetes and diseases caused, Primary Stage Syphilis - lab diagnosis*; Diagnosis of Syphilis - specific and non-specific tests; Serological Diagnosis of Syphilis - describe, advantages, disadvantages of each test
3. **Chlamydiae**: classify, Chlamydial infections - pathogenesis, complications, laboratory diagnosis
4. **Enterobacteriaceae** - classify, Enteric Fever***** - laboratory diagnosis****; pathogenesis*; Salmonella - enumerate rate diseases caused
5. **Non Tuberculous Mycobacteria (NTM)** - classify with examples, Buruli's ulcer
6. **Vibrio cholerae*** - pathogenesis, laboratory diagnosis*
7. **Corynebacterium diphtheria*** - [organisms/four bacteria causing sore throat, Diphtheria - laboratory diagnosis]*
8. Anaerobes - define, classify [sub-question]
9. **Clostridium***: Gas Gangrene* - pathogenesis*, laboratory diagnosis*; Post-Operative Wound Infection - enumerate rate organisms causing
10. **Neisseria Meningitidis*** - Meningitis - laboratory diagnosis*

11. **Neisseria Gonorrhoeae** - morphology, cultural characteristics, pathogenicity, laboratory diagnosis

Applied Microbiology

SN

1. Biomedical wastes* - define, categories*, method of disposal; colour code system of bags for disposal
2. Hospital-Acquired Infections - define, mention two organisms
3. Segregation of Hospital Waste

LAQ

1. Hospital Acquired Infections

Clinical Microbiology

SN

1. **Zoonotic Diseases** - mention four with causative agents
2. **Urinary Tract Infection** - four organisms
3. **PUO** - list organisms that causes, Diagnosis of enteric fever in 1st week of infection
4. Pyogenic **Meningitis** - laboratory diagnosis*

LAQ

1. **Lower Respiratory Tract Infection***** - enumerate bacteria causing** [sub-question]
2. **Urinary Tract Infection****** - enumerate organisms causing****, laboratory diagnosis****; Significant Bacteruria - define
3. **Pyrexia of Unknown Origin (PUO)*** - define, enumerate etiological agents of infections of PUO, approach to diagnosis of PUO due to infectious causes; Four Bacteria Causing PUO
4. **Meningitis***** - organisms causing**, Pyogenic Meningitis*** - enumerate bacteria causing*, laboratory diagnosis**, Meningococcal meningitis - laboratory diagnosis; Acute Bacterial Meningitis - causative agents
5. **STD*** - enumerate organisms causing* [sub-question]
6. Bacterial **Food Poisoning** - bacteria responsible, pathogenesis, laboratory diagnosis

Immunology

Infection

SN

1. Exotoxins and Endotoxins* - four differences
2. Modes of Transmission of Infectious Agents - describe with examples

LAQ

1. Microbial Pathogenicity and Microbial Virulence - define, Determinants of Bacterial Virulence - discuss with examples

Unspecified

SN

1. Blood Culture
2. Swarming - explain, two bacteria producing it, two methods to inhibit Swarming
3. Universal Safety Precautions

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Microbiology: Paper II

Immunology

Infection

SN

1. Define: i) Carrier
ii) Contact carrier
iii) Paradoxical carrier
iv) Convalescent carrier

Immunity

SN

1. Innate Immunity*; mechanisms

Antibody – Immunoglobulin

SN

1. Immunoglobulin G* - structure, function
2. Immunoglobulin - labelled diagram, IgM*** - enumerate properties**;
functions; structure*
3. Define/classify Antibodies [sub-question]
4. IgA – diagram

LAQ

1. Antibody - define, Immunoglobulins - name classes, sub-classes, IgG - structure,
function

Antigen-Antibody Reactions

SN

1. Agglutination and Precipitation - difference with two examples of each test
2. ELISA with applications

3. Agglutination* reactions - enumerate, define*, Widal Test - describe; principle, application of Tube Agglutination
4. Passive Agglutination tests

LAQ

1. Antigen-Antibody reactions - name*, Prozone Phenomena, Agglutination Reactions - principle, applications
2. Antigen-Antibody reactions - types, Precipitation reaction* - principle, applications; describe with examples
3. Antigen-Antibody reactions - define*, Agglutination reaction - types with examples
4. Antigen-Antibody reactions - enumerate general features, Tube-Agglutination reactions - describe two

Complement System

SN

1. Classical Pathway of Complement*
2. Complement Cascade and its biological effects

Immune Response

SN

1. Cell Mediated Immunity - tests for detection*

Hypersensitivity

SN

1. Hypersensitivity reactions - classify, Type III* hypersensitivity - describe
2. Hypersensitivity - define*, Type IV hypersensitivity - describe
3. Anaphylaxis - briefly describe

LAQ

1. Hypersensitivity - define**, three types of Immediate Hypersensitivity reactions with examples
2. Type I hypersensitivity - describe
3. Hypersensitivity - classify, pathogenesis, Type IV hypersensitivity

Autoimmunity

SN

1. Autoimmune diseases - four features

LAQ

1. [Autoimmunity - define, Various Mechanisms of Autoimmunity]*

Virology

General Properties of Virus

SN

1. Egg Inoculation Method for Viral Culture
2. Methods of detecting viral growth in cell cultures/tissue cultures*** - different methods of observing growth of cell lines
3. Stages of Viral Multiplication
4. Embryonated Hen's Egg* - cross section, routes of inoculation, one example of each route; uses, Enumerate various methods of cultivation of viruses

Virus-Host Interactions

SN

1. Negri bodies - short note
2. Inclusion Bodies**** - short note, mention two intracytoplasmic and two intranuclear inclusion bodies

Viruses

SN

1. **Hepatitis B** - laboratory diagnosis
2. **Rhabdoviruses**** - immunoprophylaxis**, dosage schedule, non-neural vaccines and schedule
3. **Influenza Virus** and **HIV** - diagram
4. Type-A **Influenza Virus** - antigenic variations and significance
5. Merits and demerits of Salk's and Sabin's vaccines

6. Classify **Herpesviridae**, mention virus included in subfamilies and one infection caused by each
7. **HIV**** - pathogenesis, mention two opportunistic infections*; laboratory diagnosis; HIV Testing in India - strategies
8. Four **Oncogenic Viruses**
9. **Epstein-Barr Virus**

LAQ

1. **HIV**** - define window period, laboratory diagnosis**, etiology, pathogenesis, diagram of HIV; Enumerate organisms causing STDs*
2. **Hepatitis******* - classify, laboratory diagnosis****, pathogenesis of HBV*; morphology*, enumerate serological markers; enumerate viruses, mode of transmission; prophylaxis
3. **Herpes Virus*** - classification, Varicella zoster - clinical features, laboratory diagnosis; Herpes simplex - lesions, laboratory diagnosis
4. **Polio Viruses** - pathogenicity, immunoprophylaxis, laboratory diagnosis
5. **Influenza Viruses**** - morphology**, antigenic variations*, pathogenesis of Influenza; classification; Antigenic Shift - mechanism, significance

Mycology

General Aspects

SN

1. [sub-question] Classify medically important Fungi
2. Classify Fungi, one example each*; give morphological classification

LAQ

1. [sub-question] Morphological Classification of Fungi*, one example of each

Superficial and Subcutaneous Mycosis

SN

1. Subcutaneous mycosis
2. Mycetoma - enumerate causative agents, Eumycetoma - laboratory diagnosis
3. Dermatophytes* - classify*, Dermatophytosis - laboratory diagnosis* based on microscopic findings

LAQ

1. Dermatophytes** - classify, pathogenicity, laboratory diagnosis*; morphology, clinical presentation, pathogenesis

Systemic and Opportunistic Mycoses

SN

1. Histoplasma Capsulatum - morphology, growth characters, pathogenesis
2. Opportunistic mycoses* - short note
3. Candida albicans*
4. Aspergillosis in humans*
5. Describe Reynolds Braudes phenomenon
6. Cryptococcal meningitis** - laboratory diagnosis**
7. Fungi causing Opportunistic Infection in HIV infected individuals - enlist; Candida albicans - laboratory diagnosis

LAQ

1. Four fungi causing Opportunistic Fungal Infections, laboratory diagnosis of Candidiasis

Parasitology

Flagellates

SN

1. LD Bodies [Leishmania donovani]
2. Acute Giardiasis - laboratory diagnosis, findings

LAQ

1. Leishmania donovani - life cycle, Kala Azar* (visceral leishmaniasis) - pathogenicity, laboratory diagnosis*; life cycle

Sporozoa

SN

1. Malaria - laboratory diagnosis
2. Plasmodium falciparum* infections - complications*; laboratory diagnosis

LAQ

1. Malignant Tertian Malaria - life cycle of parasite, complications, laboratory diagnosis
2. Plasmodium vivax - morphology, life cycle, laboratory diagnosis

Cestodes or Tapeworms

SN

1. Hydatid Cyst** - causative agent, sites affected, cross-section structure
2. Echinococcus granulosus - life cycle
3. Taenia saginata and Taenia solium - four differences**, Taenia solium - tissue cyst; Why is it necessary to differentiate between them

LAQ

1. Cestodes - classify, Cysticercosis - pathogenesis
2. Cestodes affecting man - enumerate, Taenia solium - morphology, life cycle, pathogenesis, laboratory diagnosis

Nematodes

SN

1. Strongyloides stercoralis hyperinfection
2. Guinea worm - life cycle
3. Occult filariasis
4. Wuchereria bancrofti - morphology, laboratory diagnosis
5. Ectopic Ascariasis

LAQ

1. Intestinal nematodes - name***, [Ascaris lumbricoides - life cycle** and laboratory diagnosis*; pathogenicity, morphology, complications*]***
2. Enterobius vermicularis - life cycle, pathogenicity, laboratory diagnosis
3. Nematodes - classify [sub-question]
4. Hookworm* - life cycle, pathogenesis, laboratory diagnosis
5. Ancylostoma duodenale* - morphology, life cycle* (with diagrams), pathogenicity, laboratory diagnosis; four parasites causing anemia

Diagnostic Procedures

SN

1. Stool Concentration Methods (Pg. 240)

LAQ

Parasites detected in blood smear - name [sub-question]

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Forensic Medicine and Toxicology

Forensic Medicine

Introduction and Legal Procedures

Courts and Their Powers

SN

1. Subpoena* (Pg. 5)
2. Cross Examination (Pg. 7)
3. Recording of Evidence in a Court of Law (Pg. 6)

Inquest

SN

1. Inquest

LAQ

1. Inquest - types prevalent in India, Medical Examiners System (Pg. 10)

Medical Evidence

LAQ

1. Medical Evidence - define, types, Documentary Evidence - write in detail (Pg. 14)
2. Dying Declaration (Pg. 18)

Medical Jurisprudence

SN

1. Privileged Communication** - define, Circumstances where disclosure of professional secrets is justified*

2. Infamous Conduct* in professional respect (Pg. 36); Professional Misconduct - define, six examples
3. Functions of MCI (Pg. 28)
4. Euthanasia (Pg. 54)
5. Consent (Pg 50)
6. Vicarious Liability (Pg. 41)
7. Res Ipsa Loquitur* (Pg. 38)

LAQ

1. Negligence in Medical Practice*** - define, Civil and Criminal Negligence - differentiate**, Defences available to Medical Practitioner against Charge of Negligence**; Essential Elements, Defences against Medical Negligence
2. Duties of a Registered Medical Practitioner* (Pg 28)
3. Consent in Medical Care - define, classify, Doctrine of Informed Consent - describe in detail

Identification

Identification of Living and Dead

SN

1. Gustafson's Method of Dental Examination - age determination (Pg. 64)
2. Anthropometry System of Identification (Pg. 71)
3. Forensic DNA Fingerprint* - describe steps (Pg. 79)

LAQ

1. DNA test - four indications, material used, DNA Typing - describe procedure

Forensic Thanatology

SN

1. Adipocere Formation (Pg. 110)
2. Postmortem Cooling* - role in determination of Time since Death* (Pg. 95)
3. Brain Stem Death* - how to diagnose (Pg. 88 Singhal, Pg. 129 Reddy)
4. Cadaveric Spasm* (Pg. 103)
5. Stiffness in Dead Body - conditions causing, Instantaneous Rigor - describe (Pg. 100, 103)
6. Early Signs of Death - enumerate, Rigor Morris - factors affecting, medicolegal importance (Pg. 94, 100)

7. PM Changes seen by Examination of Eyes, give Medicolegal Importance
8. Suspended Animation (Pg. 87)
9. Late Signs of Death (Pg. 93)

LAQ

1. Estimating Time Since Death - different parameters

Violent Asphyxial Deaths

Hanging

SN

1. Sexual Asphyxia* (Pg. 125)
2. Ligature Mark in Hanging

LAQ

1. Violent Asphyxial Deaths* - define*, classify*, Complete Typical Hanging* - PM findings on Face and Neck; Hanging - define, types, PM features of each type
2. Complete Typical Hanging with a Drop using Soft, Stretchable Ligature material - describe

Strangulation

SN

1. Garoting - define, enumerate PM findings on Face and Neck (Pg. 129)
2. Death due to Strangulation by a ligature

LAQ

1. Strangulation - define*, types*, Throttling - PM findings (Pg. 127, 128); Ligature Strangulation - PM findings

Suffocation

SN

1. Choking - define, describe (Pg. 134)

Drowning

LAQ

1. Drowning - enumerate types, postmortem findings, medicolegal importance

Injuries

Mechanical Injuries

SN

1. Suicidal and Homicidal Cut Throat* - differentiate
2. Shotgun Cartridge - labelled diagram, Ricocheting of Bullet - describe
3. Split Laceration and Incised Wound* - differences (Pg. 182)
4. Ammunition used in Smooth Bore Guns (Pg. 190)
5. Entry and Exit Wound in Rifled Firearm - differentiate (Pg. 195)
6. Bomb Blast Injuries*; Mechanism of Injury in Bomb Explosions

LAQ

1. Section 44 IPC - define, Mechanical Injuries - classify, Stab Wounds - medicolegal importance
2. Entry Wound of Revolver in a Victim - specific features at different ranges
3. Mechanical Injuries - classify, Contusions

Thermal Injuries

SN

1. Joule Burn (Pg. 206)
2. Causes of Death due to Burns

LAQ

1. Burns - define, classify*, Ante-Mortem and (Post-Mortem Burns)** - differentiate, Causes of Death due to Burns* (Pg. 199); Medicolegal Aspects of Burns
2. Lightning Injury* - mechanism, Death due to Lightning - autopsy appearances (Pg. 208 Singhal, Pg. 312 Reddy); Lightning Fatalities

Regional Injuries

SN

1. Punchdrunk Syndrome (Pg. 268 Reddy)
2. Fracture of Skull* - classify*, describe*

LAQ

1. Skull Fractures - five types, causative mechanisms, Estimate Age of Fracture (Pg. 210)
2. Head Injury, Intracranial Injuries

Physical Torture

SN

1. Torture - various methods

Medicolegal Aspects of Injuries

1. Defence Wounds (Pg. 194 Reddy, Pg. 225 Singhal)
2. Grievous Hurt* (Pg. 229)
3. Homicide - define, types (Pg 223)

Medicolegal Aspects of Sex, Marriage, Family Planning and Infanticide

Impotence and Sterility

LAQ

1. Impotence and Sterility in both sexes - causes, Artificial Insemination - guiding principles (Pg. 240, 259)

Pregnancy

SN

1. Probable Signs of Pregnancy (Pg. 251)
2. Parous and Nulliparous Uterus - differentiate at Post-mortem Examination

3. Pseudocyesis (Pg. 252 Singhal, Pg. 371 Reddy)

Infanticide

SN

1. Battered Baby Syndrome (Pg. 280)
2. Sudden Infant Death Syndrome (Pg. 280)

LAQ

1. Live Birth - enumerate signs, Hydrostatic Test (Pg. 273, 275)

Abortion

1. MTP Act 1971 (Pg. 265)

Sexual Offences

SN

1. Consent in relation to Examination of Victim of Sexual Assault (Pg. 388 Reddy, Pg. 286)

LAQ

1. Amended Section 375 IPC - define*, How will you collect evidences in Victim of Rape* (Pg. 286)

Forensic Psychiatry

SN

1. Testamentary Capacity* (Pg. 320)
2. Delusion* - define, types* (Pg. 312)
3. True and Feigned Insanity* - differences (Pg. 317)
4. McNaughten's Rule (Pg. 321)
5. Mentally Ill Person - enumerate civil responsibilities, Testamentary Capacity

LAQ

1. Insanity and Murder (Pg. 320)
2. Personality Disorders - features, Mentally Ill Person - civil responsibilities (Pg. 319)

...

Exhumation

SN

1. Exhumation

Artefacts

SN

1. Post-Mortem Artefacts

Viscera Preservation

SN

1. Negative Viscera Report from Chemical Analyser (Pg. 35 Singhal, Pg. 474 Reddy)
2. Preservation of Viscera for Chemical Analysis (Pg. 35)

Unspecified

SN

1. Hyoid Bone - Medicolegal Importance (Pg. 72, 322, 441 Reddy)
2. Redressal Mechanisms for Civil Negligence - describe
3. "Ideal" Identification Mark
4. Radiography of a Dead Body - indications

Toxicology

General Toxicology

SN

1. Duties of Doctor in Poisoning Cases
2. Chelating Agents in Treatment of Poisoning (Pg. 21)
3. Antidotes (Pg. 20)

LAQ

1. Duties of Doctor in cases of Poisoning (Pg. 15)
2. Poisons - classify with examples, Factors Modifying Actions of Poisons on Body - describe (Pg. 9)

Corrosives

SN

1. Poisoning by Corrosive Mineral Acids - post-mortem appearance of Stomach
2. Carbolism*; Carboluria
3. Corrosive Poisons - classify, Vitriolage
4. Oxalic Acid Poisoning - describe

Irritants

SN

1. Plumbism*
2. Treatment of Snakebite Victim

LAQ

1. Chronic **Lead** Poisoning* - sources, clinical features*, management*
2. Poisons - classify, Venomous and Non-Venomous **Snake** - differentiate, Cobra Bite - treatment (Pg. 76); Manage a Case of Poisonous Snakebite; Steps for Identification of Poisonous Snake, Viperine Bite - features
3. **Aluminium Phosphide** Poisoning - clinical features, treatment, PM appearances, medicolegal aspects

Neurotoxic Poisons

SN

1. **Ethyl Alcohol** Poisoning - symptoms, PM appearances; Alcohol Intoxication - stages
2. Run Amok (Pg. 116)
3. Hallucinogenic Agents - name four, **Cocainism** - describe, medicolegal importance
4. **Methyl Alcohol** Poisoning

LAQ

1. Classify Poison*, **Opium** Poisoning** - clinical features**, treatment**, medicolegal importance*; differential diagnosis, PM features
2. Drunkenness - define, **Methanol** Poisoning - symptoms, treatment
3. **Strychnine** Poisoning - signs, symptoms, differentiate from Tetanus
4. **Barbiturate** Poisoning - symptoms, signs, treatment, medicolegal aspects (Pg. 111)
5. **Organochlorine** - discuss toxicology (Pg. 107)
6. **Organophosphorous** Compound Poisoning - clinical features, treatment, PM findings (Pg. 101)

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