ANATOMY

HNF

SN

1. All Triangles of neck - each separate SAQ*
2. Nasal Septum*
3. Thyroid Gland – Blood Supply*, Applied Anatomy
4. Carotid Sheath and contents*
5. Muscles of Mastication
6. Cavernous Sinus**
7. Little's Area of Nose – Clinical Significance
8. Extra Ocular muscles- Diagram and actions
9. Hyoid Bone
10. Palatine Tonsil – Applied Anatomy*
11. Dangerous Area of Face
12. Lateral wall of Nose
13. Tongue – Applied Anatomy
14. Ansa Cervicalis
15. Duralw venous sinuses
16. Lacrimal Gland
17. Submandibular gland

LAQ

1. Parotid Gland****
2. Tongue**
3. Scalp
4. Thyroid Gland**
5. Middle Ear
6. Larynx**
7. Fascias of the Neck
8. Temporomandibular joint
9. Maxillary artery

Viva and practical - Viva voce/Mitesh Dave

1. Specimen of Tongue and Larynx**
2. Lateral wall of nose
3. Sagital section
4. Osteo - Skull do only videos , Mandible** and nerve related to it, hyoid bone
5. Altas axis, pivot joint**

6. Typical cervical vertibra - Video

Upper Limb

SN

1. Cubital Fossa**
2. Klumpke's Paralysis*
3. Abduction at Shoulder Joint
4. Rotator Cuff
5. Carpal Tunnel Syndrome**
6. Mammary Gland – Lymphatic Drainage****, Applied Anatomy
7. Erb's Paralysis*
8. Pronation and Supination
9. Clavipectoral Fascia
10. Clawhand – Features and Causative Factors
11. Musculocutaneous Nerve
12. Deloid
13. Biceps
14. Elbow joint
15. Triangular and quadrangular spaces
16. Axillary nerve

LAQ

1. Shoulder Joint***
2. Ulnar Nerve*
3. Brachial Plexus
4. Cubital Fossa
5. Axillary Artery*
6. Mid-Palmar Space
7. Radial Nerve
8. Median Nerve**
9. Structures under Deltoid*

Courses and branches of nerves and arteries read frm appendix part frm BDC

Viva and practical - Viva voce/Mitesh Dave

1. Rough orgin and insertion , Nerve supply and action of muscles that are visible on dissection
2. Scapula and humerus are the easiest and commonly asked , radias ulna not tht commonly asked. 3-4 points abt attachment and bony prominence
3. Names of bones on hand and types of joints in hand, spiral law of ossification*

Thorax

SN

1. Thoracic Duct
2. Root of Right Lung and relations
3. Root of Left lung and relations
4. Azygous Vein
5. Arch of Aorta
6. Typical Intercostal Nerve
7. Bronchopulmonary Segments of Left Lung
8. Left Coronary Artery*
9. Bronchopulmonary Segments – Applied Anatomy**
10. Blocks in SVC
11. Typical intercoastal space- muscle and nuerovascular bundle
12. Inlet of the Thorax , Thorax outlet/inlet syndorme(same)
13. Oesophagus - Contrictions and applied

LAQ

1. Bronchopulmonary Segments
2. Right Atrium**
3. Arch of Aorta**
4. Superior Mediastinum

Viva and practical - Viva voce/Mitesh Dave

1. Lung and heart full from the videoes
2. Osteo- 1st rib**, typical rib*, thoracic vertebrae (attachment not to be read)

Neuroanatomy

SN

1. Medial Medullary Syndrome
2. Floor of Fourth Ventricle**
3. Circle of Willis
4. T.S. Medulla Oblongata - All 3*
5. T.S. Midbrain - both*
6. T.S Pons - both
7. Corpus Callosum**
8. Brown Sequard Syndrome
9. Inferior Cerebellar Peduncle*

10. T.S. Spinal Cord – Cervical Level
11. Internal Capsule**
12. Basal ganglia*
13. Papez circuit
14. Third ventrical
15. Vermis

LAQ

1. Glossopharyngeal Nerve*
2. Superolateral Surface of Cerebrum**
3. Internal Capsule***
4. Pons
5. Occulomotor Nerve
6. Midbrain
7. Functional Areas in Frontal Lobe
8. Thalamus
9. Facial nerve**
10. Trigeminal nerve*
11. Ascending tracks
12. Descending tracks

Viva and practical - Viva voce/Mitesh Dave

1. All the sections of the brain are very imp, try to learn 4-5 visible and imp structures of each surface
2. Cerebellum- fissure ,surface and vermis
3. Brain stem - external visible features

Abdomen & Pelvis

SN

1. Anal Canal- Applied*
2. Portacaval Anastomosis* – Applied Anatomy
3. Inguinal Hernia**– Direct, Indirect
4. Male Urethra
5. Caput Medusae
6. Uterus – Supports***, Applied Anatomy
7. Stomach Bed*
8. Meckel's Diverticulum
9. Inguinal Canal
10. Ischiorectal Fossa*
11. Lesser Omentum*
12. Rectus Sheath*

13. Inferior Vena Cava
14. Superficial Perineal Pouch
15. McBurney's Point
16. Interior of Urinary Bladder
17. Umbilicus - Anatomical and Clinical Importance
18. Perineal Body
19. Contraception – Anatomical Basis
20. Relations of Kidney – diagram
21. Hysterosalphingography
22. Spleen- relations
23. Lesser sac (Omental bursa)
24. Peritoneal reflections of liver
25. Appendix and it's applied
26. Ureter- Contrictions and relations
27. Types of incisions on Anterior abdominal wall
28. Deep perineal pouch

LAQ

1. Pancreas**
2. Ischiorectal Fossa
3. Kidney
4. Uterine Tube
5. Testes
6. Extra-Hepatic Biliary Apparatus*
7. Rectus Sheath
8. Urinary Bladder*
9. Prostate**
10. Suprarenal Gland*
11. Uterus*
12. Stomach**
13. Ovary
14. Duodenum – 2nd Part
15. Anal Canal*
16. Diaphragm*
17. Inguinal Canal*
18. Internal Iliac Artery
19. Portal vein- formation, tributaries and portocaval anastomosis
20. Liver*

in LAQs of organs generally gross , micro embryo and applied of the organ is asked
Small branches of arteries and nerves and not at all imp

Viva and practical

1. Videos of either Viva voce or Mitesh dave for all the organs and osteology
2. Osteology- Bony pelvis , Difference between male and female pelvis*, sacrum, typical lumbar

vertebra
3. Spleen and stomach are the commonest and easiest organs asked
4. Liver - Borders , peritoneal reflections and impression
5. Difference between ileum and jejunum**

Lower Limb

SN

1. Sartorius*
2. Medial Longitudinal Arch* – Factors Maintaining
3. Gluteus Maximus
4. Foot Drop* - Anatomical Basis
5. Femoral Sheath
6. Femoral Canal*
7. Popliteus
8. Inversion and Eversion* - Inverters and Everters with Nerve Supply
8. Femoral Hernia*
9. Longitudinal Arches of Foot
10. Gastrocnemius
11. Great Saphenous Vein*
12. Quadriceps femoris
13. Hamstrings
14. Femoral nerve*

LAQ

1. Hip Joint*
2. Venous Drainage of Lower Limb*
3. Intra-Articular Structures of Knee Joint*
4. Sciatic Nerve
5. Femoral Triangle**
6. Knee Joint**
7. Popliteal Fossa*
8. Lateral Longitudinal Arch of Foot*
9. Structures Under Gluteus Maximus – diagram*
10. Ankle joint

Viva and practical - Viva voce/Mitesh Dave
1. Rough orgin and insertion , Nerve supply and action of muscles that are visible on dissection
2. Identification of nerves and arteries, saphanous and femoral vein
3. Osteology -All bones are imp Hiip bone- Toughest, Femor easiest, fibula most confusion all three are commonly asked. The enitre bone is not asked, 3-4 points only
4. Name the bones of foot and arches

General Anatomy

1. Synovial Joint** - diagram, classification, examples
2. Classification of Fibrous Joint
3. Sesamoid Bone
4. Cartilaginous Joint - classification, example*
5. Epiphysis*
6. Secondary Cartilaginous Joint
7. Pivot Joint
8. Blood Supply of Long bone
9. Structural Classification of Muscle*
10. Classification of bones*

Histology - Diagrams only

1. Adrenal**
2. Muscular Artery*
3. Artery and vein
4. Difference between serious and mucous acini**
5. Difference between cardiac and skeletal muscle**
6. Stratified Squamous Epithelium
7. Testes**
8. Ovary
9. Compact Bone
7. Spleen**
8. Kidney
9. Lymph Node
10. Retina**

Embryology

1. Notocord
2. Mesonephric Duct
3. Primitive Streak*
4. Phases of Fertilisation
5. Twinning
6. Placenta*
7. Pancreas**
8. Neural Tube Defects*
9. Vitello-intestinal Duct

10. Urinary Bladder
11. Diaphragm**
12. Phases of lung development
13. Pharyngeal arches and pounches, their derivatives ****(not as a single que but must know topic)
14. Descent of Testes*
15. Developmental Anomalies of Kidney
16. Rotation of Gut**
17. Fate and Derivatives of Yolk Sac*
18. Setal defects of heart****
19. Arch of Aorta
20. Development of atria
21. Developmental detects in Great veins
22. Remenants - MCQS
23. Development of genitals

Genetics

1. Barr Body*
2. Lyons Hypothesis
3. Turner's Syndrome*
4. Karyotyping*
5. Monosomy of Sex Chromosome
6. Down's Syndrome*
7. Structural Chromosome Abnormalities
8. Autosomal Dominant Inheritance
9. Structural and Numerical Chromosome Abnormalities with example

PHYSIOLOGY

Paper 1

CVS - Guyton, more details in Ganong(Fact), Concept - Cheng

SN

1. Circulatory Shock - define, classify, stages, physiological principles of management
2. Connections of Unipolar and Bipolar Limb Leads while regarding ECG
3. ECG Trace in Lead II* - draw, label, mark intervals
4. CNS Ischemic Response
5. Baroreceptor Reflex Mechanism
6. Ventricular Diastole - events
7. Properties of Cardiac Muscle*, Ionic Basis of Autorhythmicity in SA Node, Why Heart Muscle Cannot be Tetanized
8. Role of JGA in Regulation of Blood Pressure
9. Coronary Circulation - peculiarities, Angina Pectoris
10. Renin-Angiotensin Mechanism
11. Heart Block - enlist types, explain AV Nodal Block
12. Heart Rate - explain increase in heart rate in muscular exercise
13. Fick Principle
14. ECG - diagram, Bipolar Limb Leads
15. Venous Return
16. Factors Affecting Stroke Volume
17. Effect of Isotonic Exercise on Blood Pressure

LAQ

1. Cardiac Cycle** - define, pressure and volume changes in left ventricle*, diagram; Third and Fourth Heart Sound*
2. Coronary Circulation - physiologic anatomy, factors affecting, special features; Angina Pectoris
3. Blood Pressure - define, long-term regulation
4. Circulatory Shock** - define, classify; Compensatory Stage of Circulatory Shock, Progressive Stage, Hemorrhagic Shock Physiological Basis of its

Management
5. ECG - define; Explain ECG in Lead II - diagram; Heart Block
6. Mean Arterial Blood Pressure - define, enumerate mechanisms regulating; Baroreceptor Mechanism - describe
7. Regulation of BP - classify mechanism; Short Term Regulation
8. Define - Stroke Volume, Cardiac Output, Cardiac Index, Stroke Volume Index; Factors Affecting Cardiac Output
9. Heart Rate - define, factors affecting and regulating

GIT- Guyton , for more concepts refer BRS

SN

1. Functions of Bile Salts**, Composition
2. Peptic Ulcer*** - etiology, physiological basis of treatment
3. Regulation of Gastric Emptying*
4. Phases of Deglutition - enlist, Pharyngeal Phase** - explain
5. Mechanism of Secretion of HCl by Parietal Cells, Gastric Glands
6. Movement of Small Intestine, Peristaltic Rush
7. Mechanism of Secretion of HCl*
8. Importance of Deglutition Reflex
9. Movement of Large Intestine, Defecation Reflex*
10. Enumerate GIT Hormones, Note on Gastrin, CCK**
11. Regulation of Gastric Motility
12. Absorption of Fat

LAQ

1. Deglutition, Achalasia Cardia
2. Pancreatic Juice - composition, function, regulation of secretion
3. Gastric Glands - enumerate, secretion, function; Treatment of Peptic Ulcer*
4. Gastric Juice - composition; HCl Secretion - mechanism, factors regulating***

Endocrine System- Guyton, more Details BRS, Ganong (Factual concepts)

SN

1. Functions of Insulin
2. Diabetes Mellitus and Insipidus* - compare and contrast

3. Parathyroid hormone - functions, regulation
4. Growth Hormone* - metabolic action
5. Insulin Secretion - factors increasing, effect in promoting growth
6. Diabetes Insipidus, Cushing Syndrome
7. Tetany, Signs of Tetany, Treatment
8. Cushing Syndrome*, Clinical Features

LAQ

1. Glucocorticoids - regulation of secretion, mechanism of action, function, effect of deficiency
2. Thyroid Hormone Synthesis and Release - enumerate steps, diagram; Anti-Thyroid Drugs - action
3. Hormonal Regulation of Growth*, Dwarfism, Pituitary & Thyroid Dwarf Differences
4. Thyroid* - synthesis, mechanism of action, regulation of secretion, function; Endemic Goitre, Hypothyroidism
5. Calcium* - importance, regulation; Tetany, Osteoporosis
6. Adrenal Cortex - enumerate hormones; Factors Regulating Secretion of Aldosterone
7. Anterior Pituitary - enumerate hormones secreted; Physiological Actions of Growth Hormone*, Dwarfism

Reproductive System - Guyton, more details Ganong/BRS

SN

1. Indicators of Ovulation, Clinical Significance
2. Methods of Contraception*** - temporary, Physiological Basis of Oral Contraceptives, Safe Period
3. Spermatogenesis* - describe stages, enlist factors affecting it
4. Physiological Changes in Pregnancy***
5. Maternal Changes in Last Trimester of Pregnancy
6. Mechanism of Ovulation, Contraception - rhythm method*
7. Menstrual Cycle - phases**
8. Circulatory Changes at Birth
9. Parturition - explain, role of oxytocin
10. Lactation of ejection of milk- role.of prolactin and oxytocin

LAQ

1. Menstrual Cycle - phases, hormonal control
2. Cyclical Changes in Uterus during Reproductive Life, Its Hormonal Regulation*

RS and Temp regulations - Guyton and PPT , more details BRS

SN

1. Oxygen-Hemoglobin Dissociation Curve** - draw, label, factors affecting, Bohr's Effect, factors shifting curve to right, what is P_{50}, role of 2,3-BPG
2. Characteristics of Pulmonary Circulation
3. Acclimatization to High Altitude - enumerate physiological changes, significance of changes
4. Heat Stroke
5. Heat Loss*** - enumerate methods, mechanism, mechanism of sweating
6. Peripheral Chemoreceptors - characteristics, functions
7. Factors Affecting Composition of Alveolar Air
8. Oxygen Debt*
9. Hypoxia*** - define, classify, describe Hypoxic Hypoxia
10. Ways of Heat Loss, Heat Stroke
11. Surfactant* - functions, note on RDS
12. Transport of Carbon dioxide, Haldane Effect
13. Response of Body when exposed to Extreme Cold**, Hypothermia, Use of Induced Hypothermia
14. Effect of Exercise on Respiration, what is VO2 max
15. Explain Work of Breathing*, Applied Importance, Enumerate Muscles of Respiration
16. Functional Residual Capacity - physiological significance
17. Acclimatization to High Altitude - various changes, Acute Mountain Sickness
18. Haldane Effect
19. Role of Hypothalamus in Temperature Regulation

LAQ

1. Neural Regulation of Breathing**, Periodic Breathing, Ondine's Curse*
2. Transport of CO2, Haldane Effect, Its Significance
3. Lung Compliance* - describe, factors affecting; Hyaline Membrane Disease
4. Respiratory Membrane* - describe, factors affecting gaseous exchange; Principle of CO Method
5. Pulmonary Ventilation - mechanism; Positive Pressure Breathing
6. Oxygen Transport - describe method
7. Chemical Control of Respiration

Paper 2 -

CNS- Guyton and VD joshi , more details Ganong

Properties of receptors, synapses, reflexs and postural reflex's are given well in VD

SN

1. Receptor** - enumerate properties, any two properties in detail
2. Referred Pain*, Enumerate Different Types of Pain
3. Lesions of Upper and Lower Motor Neuron
4. Functions of Basal Ganglia*
5. Middle Ear - functions
6. Parkinsonism**
7. i. Pathway of Proprioceptive Sensations from Periphery to Cortex ii. Sensory Ataxia - define, difference from Cerebellar Ataxia
8. REM Sleep**, Narcolepsy
9. Muscle Spindle* - diagram, function
10. Speech
11. Descending Pain Inhibiting System
12. Aphasia - define, different types
13. Different types of Pain, Transmission of Pain through Neospinothalamic Pathway
14. Ascending Tracts - name; Labelled Diagram of Pain Pathway
15. Lower Motor Neuron - define, features of LMN paralysis
16. Important Areas of Frontal Lobe - diagram, Functions of Prefrontal Lobe
17. Sensory Receptors, Adaptation and Intensity Discrimination
18. Fast and Slow Pain
19. Memory - define, types; Alzheimer's

LAQ

1. Ascending Tracts** - enumerate;
   i. Dorsal Column System - origin, course, termination; Phantom Limb
   ii. Pathway for Touch Sensation - describe
   iii. Pathway for Line Touch Sensation, Law of Projection
2. Muscle Spindle - diagram; Role of Stretch Reflex in Controlling Muscle of Tone
3. Functions of Hypothalamus** - enumerate, explain any three in detail
4. Basal Ganglia* - connections, functions; Parkinsonism - clinical features
5. Cerebellum** - functions, connections, applied importance
6. Complete Transaction of Spinal Cord - effects
7. Pyramidal Tracts* - origin, course, termination, function, applied

8. Lobes of Neocortex – functions

Renal Physiology- Guyton, BRS , More concepts- Cheng, Facts- Ganong

SN

1. JGA - diagram, functions**
2. Countercurrent Multiplier Mechanism
3. Role of Kidney in Acid-Base Balance**
4. i. Transport Maximum - define
   ii. Mechanism of Glucose Reabsorption in Renal Tubules
5. GFR - define, factors***; Tubular Glomerular Feedback, Glomerular Tubular Balance
6. Cystometrography*
7. PCT - functions
8. Countercurrent Mechanism
9. Innervation of Urinary Bladder, Micturition Reflex**

LAQ

1. GFR****- define, enumerate factors affecting, methods of measurement, regulation
2. Physiology of Micturition*; Cystometrogram
3. DCT - functions
4. Milleu Interior - define; Role of Kidney in Maintaining Osmolarity of Body Fluid** - Very imp concept read from BRS and Cheng

Special Senses

SN

1. Visual Pathway* *- diagram, lesions, heteronymous hemianopia
2. Dark Adaptation** - define, significance
3. Organ of Corti
4. Accommodation of Eye*, Accommodation Reflex* - describe, significance; Presbyopia
5. Place Principle, Explain Role of Basilar Membrane in Perception of Sound**
6. Colour Vision
7. Impedance Matching, Causes of Conductive Deafness
8. Olfactory Pathway*
9. Errors of Refraction; Myopia, Astigmatism - features, correction
10. Taste Sensation Pathway, Basic Modalities of Taste, Types of Papillae

LAQ

1. Mechanism of Hearing - describe; Pitch Discrimination**
2. Colour Vision - mechanism; Colour Blindness*
3. Accommodation* - define, mechanism, neural pathway; Presbyopia
4. Photochemistry of Vision*, Dark Adaptation
5. Middle Ear - role; Organ of Corti

Nerve- Guyton , more concepts Bern and Levy, Facts - Ganong Muscle- Indu Khurrana, more concepts Vander, Ganong

SN

1. Excitation-Contraction Coupling
2. Action Potential - define, compare ionic basis of large myelinated nerve fibre and SAN**
3. NMJ - diagram*, Myasthenia Gravis, End Plate Potential - define, generation
4. Properties of Never Fibres
5. Factors Regulating Force of Skeletal Muscle Contraction, Motor Unit - define
6. Refractory Period
7. Sarcotubular System
8. Red Muscle and Pale Muscle, Isotonic and Isometric Contraction
9. Saltatory Conductions, Factors Affecting Conduction Velocity
10. Compare, Contrast AP and Excitatory Post Synaptic Potential Neurons
11. RMP - define, explain ionic basis of RMP in nerve fibre**
12. Molecular Basis of Muscle Contraction
13. Neuron - diagram, Nerve Impulse - define
14. Types of Nerve Damage
15. Classification of Nerve fibre

LAQ

1. Genesis of Action Potential - describe; Properties of AP - enumerate***
2. Sarcomere* - define, diagram; Sliding Filament Theory - explain
3. RMP - define, factors contributing; Phases of AP
4. NMJ* - diagram; Describe Neuromuscular Transmission; Myasthenia Gravis**
5. Synaptic Transmission - mechanism; Synapse - two properties*
6. Molecular Basis of Skeletal Muscle Contraction*
7. Muscle Tone - define, regulation
8. i. RMP - define
   ii. Ionic Basis for Development of RMP and AP

Blood- - Indu Khurana, VD Joshi , plateles- Guyton, Indu Khurrana, VD

SN

1. Intrinsic Pathway of Coagulation
2. Role of B Lymphocytes
3. Blood Group - classify, Erythroblastosis Foetalis*
4. Mismatched Blood Transfusion*
5. Functions of Plasma Proteins
6. Immunity* - define, primary and secondary immune response and its role in vaccination, role of T cells
7. Landsteiner's Law, Importance of Rh Blood Group*
8. CD4 Cells
9. Platelets - normal count, functions
10. Erythroblastosis foetalis - features, treatment
11. Bleeding Time, Clotting Time - define, Intrinsic Pathway - describe

LAQ

1. Coagulation - define, flowchart; Bleeding and Clotting Disorders - differences, examples**
2. Immunity* - define, classify; Cell Mediated Immunity; Humoral Immunity, Vaccination
3. Clotting - define; Mechanism of Blood Coagulation - flowchart; Anticoagulants - name
4. WBC - classify, morphology, function
5. Erythropoiesis

General Physiology - Exams VD/Guyton , Quiz- Ganong

SN

1. Homeostasis** - define, compare between feedback systems
2. Transport Mechanism Across Cell Membrane, Secondary Active Transport*
3. Osmosis

LAQ

1. Transport Mechanism - describe, examples

Practicals

1. Refer to VD joshi practical book and Journal
2. More Details of Clinical physio - Pj Mehta

BIOCHEMISTRY

Clinical Biochem

Refer to All the cases given behind Satyanarayan, They come out of imps as well.

Refer to the Booklet that comes along with Singhal, Do all the cases from it

Paper 1

Protein Metabolism

SN

1. Metabolism of Tyrosine (pg 345)
2. Biogenic Amines (pg 375)
3. Metabolism of Glycine (pg 341)
4. Alkaptonuria (pg 352)

LAQ

1. Inborn Errors of Metabolism of Tyrosine* and Phenylalanine
2. Formation and Fate of Ammonia**
3. Urea Cycle and Abnormalities***
4. Alkaptonuria - Biochemical Basis, Tests for Diagnosis
5. Glycine - synthesis, inhibition, specialised products formed
6. Transamination, Deamination, Ammonia Toxicity

Nucleotide Metabolism

SN

1. Purine Salvage Pathway** (pg 391)
2. Hyperuricemia (pg 394)

3. Gout** (pg 394)
4. Catabolism of Purines (pg 392)

Hemoglobin

SN

1. Hemoglobinopathies and examples (pg 203)
2. Abnormal Hemoglobin** - changes in AA sequence (pg 202)

LAQ

1. Catabolism of Heme*, Hemolytic Jaundice
2. Formation and Fate of Bilirubin; Jaundice
3. Biosynthesis and Degradation of Heme
4. Heme - biosynthesis, regulation*; Intermittent Porphyria

Vitamins

SN

1. Coenzymes of Thiamine of Pyridoxine - two biochemical functions of each
2. Functions of Folic Acid (pg 150)
3. Deficiency Manifestation of Vitamin A (pg 118)
4. Coenzyme Function of Folic Acid and B12 (pg 150)
5. Wald's Visual Cycle (pg 129)
6. Activation of Cholecalciferol, Justification as a Hormone (pg 124)

LAQ
Vit- A C D B1,2,3,6,9,12

Enzymes

SN

1. Isoenzymes and Clinical Application*** (pg 109)
2. Enzymes and Isoenzymes in Myocardial Infarction** (pg 112)
3. Enzymes of Diagnostic, Analytic and Therapeutic Importance* (pg 105)
4. K_m Value (pg 88)
5. Activation Energy of Enzyme - E-S Complex (pg 98)

LAQ

1. Enzymes - definition, factors affecting enzyme activity*
2. Enzyme Inhibition - Competitive and Non-Competitive**
3. Enzymes - classification, examples, Isoenzymes
4. Types of Enzyme Inhibitors

Biological Oxidation

SN

1. Substrate Level Phosphorylation (pg 224)
2. Oxidative Phosphorylation*** and Thermogenin (pg 228)
3. Malate Aspartate Shuttle* (pg 234)
4. Inhibitors of ETC (pg 232)
5. Uncouplers of Oxidative Phosphorylation (pg 233)
6. Difference between Oxidative and Substrate Level Phosphorylation

LAQ

1. Explain ETC, Mention Sites of
1. ATP Synthesis and Inhibitors of ETC**
2. Oxidative Phosphorylation
3. Explain ETC, Inhibitors and Uncouplers of Oxidative Phosphorylation

Molecular Biology

SN

1. Genetic Code*** (pg 551)
2. Mutation* - Causes and Types (pg 535)
3. Recombinant DNA Technology Application*
4. Reverse Transcription (pg 550)
5. DNA Replication (pg 524)
6. PCR (pg 534)
7. Lac Operon (pg 567)

LAQ

1. Protein Biosynthesis* and Inhibitors, Regulation
2. DNA Replication, Two Inhibitors of Replication
3. Genetic Code- salient features, Wobble's Hypothesis
4. Transcription, Post-Transcriptional Modification, Two Antibiotics Inhibiting the process

Proteins

SN

1. Biologically Important Peptides* (pg 65)
2. Secondary and Tertiary Structure of Proteins** (pg 56)
3. tRNA And Its Functions*** (pg 81)
4. Secondary Structure of Protein (pg 56)
5. Functional Classification of Proteins (pg 63)
6. Conjugated Proteins (pg 64)

Nucleotides

SN

1. Four Biochemical Functions of Nucleotides*
2. Structure of DNA

Free Radicals and Antioxidants

SN

1. Antioxidants (pg 655)
2. Antioxidant Enzymes*, Vitamins and Minerals
3. Free Radicals and Antioxidants

Nutrition

SN

1. Explain the Role of Dietary Fibres* (pg 508)
2. BMR - definition, factors (pg 504)
3. Protein Energy Malnutrition*** (pg 516)
4. Kwashiorkor* - Biochemical Alterations and Treatment (pg 516)

Plasma Proteins

SN

1. Immunoglobulin - diagram, describe any one Ig in detail* (pg 186)
2. Functions of Albumin (pg 183)

Paper 2

Carbohydrate Metabolism

SN

1. Significance of HMP Shunt* (pg 270)
2. Rapaport Leubering Cycle, Significance (pg 251)
3. Glycogen Storage Disease* - enzyme defects, clinical manifestation (pg 269)

LAQ

1. Glycolytic Pathway in Erythrocytes, Significance, Difference from Glycolysis (pg 251)
2. Glycogenolysis, Regulation, Glycogen Storage Diseases* (pg 265)
3. TCA Cycle, Amphibolic Nature* (pg 252)
4. HMP Shunt*, Significance (pg 270)
5. Metabolism of Glycogen, Hormonal Regulation* (pg 263)

Lipid Metabolism

SN

1. Cholesterol - biomedical importance (pg 315)
2. Cholesterol - metabolism, function (pg 309)
3. Lipoproteins* (pg 317)
4. Fatty Liver* and Lipotroptic Factors* (pg 322)
5. Ketosis (pg 296)

LAQ

1. Cholesterol Synthesis*** - name regulatory enzyme, normal level, functions, explain role in Atherosclerosis (pg 308)
2. Ketosis, Synthesis and Fate of Ketone Bodies (pg 293)
3. Beta Oxidation of Palmitic Acid, Regulation, Energetics** (pg 290)

4. Roles of LDL, HDL in Cholesterol Transport, Role in Atherosclerosis (pg 320, 326)
5. Fate of Acetyl CoA, Fatty Acid Synthesis (pg 297)

Mineral Metabolism

SN

1. Regulation of Serum Calcium Level (pg 407)
2. Role of Calcium as Second Messenger (pg 405)
3. Absorption of Iron (pg 414)

LAQ

1. Plasma Calcium Level - hormonal regulation, function, deficiency manifestation (pg 407)***
2. Iron* (pg 414)
3. Calcium* (pg 404)
4. Calcium and Phosphorus (pg 404, 409)
5. Copper and Zinc (pg 416, 419)
6. Iron and Iodine (pg 414, 418)
7. Factors Influencing Calcium Absorption, Functions (pg 404)

Integration of Metabolism

SN

1. Short Term Starvation - metabolic changes (pg 383)
2. Biochemical Changes in Starvation** (pg 383)
3. Most Severe Phase of Starvation - biochemical changes (Pankaja - pg 276)

LAQ

1. Starvation Metabolism* (pg 383)

Acid-Base Balance

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1. Buffers** (pg 475)

2. Role of Kidney in Acid Base Balance (pg 477)
3. Any Two Buffer Systems (pg 475)
4. Metabolic Acidosis*, Its Compensation (pg 481)

LAQ

1. Metabolic Acidosis* - causes, explain compensatory role of blood buffers and kidney (pg 481)
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4. Acid Base Balance, Imbalance, Causes (pg 474)

Insulin, Glucose Homeostasis and DM

SN

1. DM - metabolic changes* (pg 681)

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1. Hormonal Regulation of Blood Glucose Level**, Significance, Note on Glycosuria (pg 674, 681)

Organ Function Tests

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1. Liver Function Tests** - enumerate, describe LFT based on excretory function (pg 453)

Carbohydrates

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2. GAGS, Significance*** (pg 25)

Lipid

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1. Phospholipids - classify, examples, one importance of each
2. Essential Fatty Acids (pg 31)

Digestion and Absorption

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1. Digestion and Absorption of Lipids (pg 173)

Hormones

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1. Group II Hormones - diagram, mechanism, example (pg 428)
2. Name Different Types of Messenger Hormones, Role of cAMP* (pg 430)
3. Mechanism of Hydrophilic Hormones
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Cancer

SN

1. Tumour Markers*** - four examples (pg 691)
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Detoxification

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2. Detoxification by Oxidation and Hydrolysis (pg 639)
3. Metabolism of Xenobiotics - phase 1 reaction* (pg 638)

LCD

SN

1. Electrophoresis* - application, principle
2. Chromatography* - principle, application, type*
3. Flame Photometer - principle, parts, importance

Overview of Biophysical Chemistry

SN

1. Radioisotopes - diagnostic, therapeutic significance, application** (pg 717)

Practical

Open the Journal just 2-3 days before the exam, mug it up.
Lab technician are very helpful during the exam, they will help you get the results.