GUIDELINES FOR MEDICINE AND ALLIED

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Taken from the book "FCPS Pretest Series – Medicine And Allied"

Subjects can be done in any order. The recommended order is:

1. Physiology
2. General Pathology
3. Special Pathology
4. Gross anatomy
5. Important minors (Pharmacology, Neuroanatomy, Microbiology)
6. Unimportant minors (Embryology, Histology, Biochemistry, Biostatistics, etc)

PHYSIOLOGY

BOOKS: Both Kaplan and BRS are equally good. As compared to Kaplan, BRS is short but volatile and needs to be revised again and again. More than 90% prefer to do Physiology from BRS. The tables of BRS are very high yield and should be memorized on finger-tips. Regardless of which book you read for Physiology, the following chapters should be done from BRS: GIT, nervous system, and cell Physiology. Endocrinology is too long in Kaplan; so it can be done from BRS. The topic "cell organelles" is not present in either Kaplan or BRS; it can be done from guyton. Nervous system Physiology and neuroanatomy should be done together as both are correlated.

VIDEOS: Kaplan physiology videos are good but time consuming. You can watch them only if you have a lot of time. Dr. Najeeb's videos are too long and are not recommended.

IMPORTANT CHAPTERS: CVS Physiology is the most important chapter in terms of number of MCQs; expect 5 – 8 MCQs from CVS Physiology.

IMPORTANT TOPICS: At least one MCQ will come from the following topics in every attempt:

1. Cardiac cycle
2. Factors affecting left and right shift of oxygen-hemoglobin dissociation curve
3. Lesions of optic tract

GENERAL PATHOLOGY

BOOKS: The best book is Goljan, but it's not recommended as it's too lengthy. The second best book is BRS and is the book of choice. The third best book is pathoma; it is not as high yield as BRS but can be used. Kaplan is deficient and is not recommended. USMLE first aid is also deficient. Use Goljan as a reference book as 99% of MCQs are answered in Goljan.

VIDEOS: The best pathology videos are that of Pathoma. These videos are present in the CD which you will get when you purchase pathoma book. The videos are lengthy and should be watched only if the candidate has plenty of time.

IMPORTANT CHAPTERS: The most important chapter is "Genetics", and should be done very well.

IMPORTANT TOPICS: Carcinogens

SPECIAL PATHOLOGY

Special pathology is the most important part of paper "B" of medicine and allied.

BOOKS: The best book is Goljan but it is not recommended. The second best option is BRS and is the book of choice. A good alternative to BRS is USMLE first aid and can be used instead of USMLE first aid. As compared to first aid, BRS is more conceptual and retainable. Pathoma is a bit deficient but can also be used. Kaplan is deficient and is not recommended.

VIDEOS: The best videos are pathoma but should watched only if the candidate has got enough time.

IMPORTAANT CHAPTERS: Blood (anemias, neoplastic disorders such as leukemias, and hemorrhagic disorders) is the most important part.

IMPORTANT TOPICS: Hepatitis, jaundice, bronchogenic carcinomas, tuberculosis.

GROSS ANATOMY

BOOKS: Snell review is the book of choice. The second best choice is Kaplan. Some people who have passed in medicine and allied claim that they covered gross anatomy from "Kaplan + USMLE first aid + MCQs". Be aware that Kaplan is extremely deficient.

VIDEOS: Kaplan videos are short, and can be watched, but not necessary.

IMPORTANT CHAPTERS: Thorax is the most important and should be done well.

IMPORTANT TOPICS: At least one MCQ will be from "muscles involved in inversion and eversion of the foot". Other important topics are:

1. Arterial supply and venous drainage of the **heart**.
2. **Nerves** of upper and lower limbs and their lesions.
3. **Brachial plexus** and its lesions.

NEUROANATOMY

BOOKS: The best book is Kaplan. A good alternative is USMLE first aid; it is short but lacks concepts.

IMPORTANT TOPICS: Spinal cord tracts, basal ganglia, cerebral cortex areas, and blood supply of the brain.

EMBRYOLOGY

A total of two MCQs will be from embryology.

BOOKS: General embryo should be done from "High Yield Embryology", and special embryo from USMLE first aid.

IMPORTANT CHAPTERS: General embryology, CVS, placenta, nervous system.

IMPORTANT TOPICS

1. Derivatives of primary germ layers (ectoderm, endoderm, mesoderm, etc).
2. Pharyngeal pouches and pharyngeal arches.

HISTOLOGY

One question will be from histology. No need to read any book for histology; just do histology MCQs from "FCPS Pretest Series – Minor subjects". The most important topics are:

1. Location of different types of epithelium
2. Location of different types of collagen

So, it is advised to study just these topics from anywhere (Wikipedia, text book, google).

PHARMACOLOGY

Pharmacology is an important subject for paper "B" of medicine and allied. Approximately 13 MCQs will be from pharmacology in paper "B" and about two MCQs will be in paper "A".

BOOKS: For general pharmacology, the explanations given in "FCPS Pretest Series – Minor Subjects" are enough. For reference, you can use Lippincott or USMLE Kaplan. For special pharmacology, USMLE first aid is the book of choice. Kaplan is a good alternative but it is too lengthy and is not recommended.

IMPORTANT CHAPTERS: Autonomic nervous system, nervous stem (Neurology).

MICROBIOLOGY

Microbiology is another important subject which is usually considered a minor subject by candidates and most candidates make the mistake of skipping it.

BOOKS: The only recommended book is USMLE first aid.

HOW TO COVER MICROBIOLOGY: Don't do the whole microbiology. Mark all MCQS of microbiology from "FCPS Pretest Series – Minor Subjects" in USMLE first aid. First aid is quite deficient in microbiology; if some thing is missing from first aid, add it along side the topic. Then memorize just the marked stuff. Visit facebook.com/FCPSpretest for pictures of USMLE first aid with MCQs already marked in it.

BIOCHEMISTRY

One MCQ will be from biochemistry in Paper "A", no MCQ from biochemistry will be in paper "B". USMLE first aid is enough for biochemistry. If you are short of time, you can do just Biochemistry MCQs from "FCPS Pretest Series – Minor Subjects". The most frequently repeated MCQ from Biochemistry is "One molecule of glucose gives rise to how many ATPS?". The correct answer is "38".

BIOSTATISTICS

One MCQ will be from biostatistics. First read an MCQ from "FCPS Pretest Series – Minor Subjects", and then look for its answer in USMLE first aid or excel community medicine (this is called retrograde study).

MEDICAL ETHICS

Either one or no MCQ will be from medical ethics. No need to read any book for it; the MCQs in "FCPS Pretest Series – Minor subjects" are enough to cover medical ethics.

USMLE FIRST AID: I am not a great fan of USMLE first aid but those who have experience with this book claim that 50% of MCQs are from this book, especially in paper "A".

MISCELLANEOUS IMPORTANT TOPICS

Below are some important topics from all subjects which should not be missed by any candidate appearing in any speciality:

1. Types of joints with examples
2. Types of cartilages with examples
3. Types of epithelium with examples
4. Types of vaccines
5. Types of collagen (examples)
6. Skull foramina and structures passing through them
7. Important surface markings of the body
8. Oxygen-hemoglobin dissociation curve factors
9. Lung cancers
10. Acidosis and Alkalosis
11. Glomerular diseases
12. Casts in urine and diseases
13. Germ layer derivatives
14. Brachial arch derivatives
15. Brachial pouch derivatives
16. Vitamins and their functions
17. Specific antidotes
18. Drug side effects
19. P-450 reactions (Inducers and Inhibitors)
20. Heart murmurs
21. MI features and ECG findings
22. Vasculitis types
23. Hereditary hyperbilirubinemias
24. Autosomal dominant and recessive disorders (names and pattern of inheritance)
25. X-linked recessive disorders (names and pattern of inheritance)
26. Chromosomal abnormalities (names and features)
27. Names of essential and non-essential amino acids
28. Blood supply of brain and lesions
29. Diseases of basal ganglia
30. Areas of cortex and their functions
31. Intracranial hemorrhages
32. Brachial plexus and its lesions
33. Dermatomes
34. Epithelial cell junctions
35. Primary bone tumours
36. Types of nerve fibers and their characteristics
37. Types of mechanoreceptors and their functions
38. HLA subtypes associated with diseases
39. Types of immunoglobulins and their functions
40. Types of hypersensitivity and disorders
41. Tumor markers
42. Intrinsic and extrinsic pathways of coagulation

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MCQs Weightage From Different Subjects

The following table shows the approximate number of MCQs that come from each subject in "Paper B" of medicine and allied. There is no specific rule defined by CPSP as how many MCQs will come from each subject. Also, the number of MCQs from each subject differ in every attempt, but it will be very close to the numbers shown in the table below.

Subject	Number of MCQs
Gross anatomy	15
Neuroanatomy (+ Neurophysiology)	10 – 20
Special pathology	30
Microbiology	10
Physiology	25
Pharmacology	12 - 13

TIPS

1. The two most important components of FCPS part 1 exam preparation are:

(A) Concepts: Making good concepts is the basic requirement of this exam.

(B) MCQs: MCQs are important for two reasons:

- It's not enough to acquire knowledge. You must know how to apply knowledge. After making concepts, you must know how to solve MCQs by using those concepts. You acquire MCQs-solving skill by doing MCQs.
- The text books which we study for FCPS part 1 exam are written for USMLE step 1, and not specifically for FCPS part 1 exam. Though both exams have the same course, the pattern of both exams is slightly different. The books which we study are slightly deficient in "medical facts" and some important "concepts". MCQs fill this deficiency in text books.

2. Don't waste time on doing MCQs which are not FCPS part 1 exam recalls. You have enough pool of recalls. The style of these recalls will give you an idea which type of MCQs you will get in your exam.

3. Stay focused. Don't distract yourself by doing random stuff from here and there. If you do unimportant stuff, you will have to skip important stuff.

4. Be organized. Move to the next chapter only when you have mastered the previous one. Move to the next subject only when you have covered the previous one.

5. Limit your resources. Do as much as you can revise, and recall during the exam. It's better to read to read one book ten times than reading ten books one time.

6. Skip unimportant subjects (e.g., Biochem, histology, etc) and/or unimportant chapters if you are short of time. Don't try to do all if you feel you are unable to do it. Another good strategy is to do just MCQs of unimportant subjects and/or unimportant chapters if you are short of time. But remember that every MCQ counts, and every MCQ is a significant step towards your success.

7. No matter how hard you study, you will always feel you are deficient. Don't give up till the last. Keep studying till the last second, and keep struggling till the last MCQ of paper "B" even if you are 100% sure about your failure. Even if you fail, a good score in previous attempt is the best motivation for the next attempt. So, try to do your best.

8. If you are unable to pass this exam despite satisfactory study, try retrograde method, i.e., read MCQ first and then look for its answer in text book.

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Paper "A" Syllabus

ANATOMY

1. General Gross Anatomy (General outline):
- Muscles
- Joints
- Major blood vessels

2. Embryology - General aspects
- Histology - General
- Fibro fatty tissue
- Lymph glands
- Nerves
- Blood vessels
- Types of tissue
- Epithelia
- Muscles

3. Brain and spinal cord
- Gross structure
- Spinal nerves - origin and distribution
- Cranial nerves

4 Head and Neck - General aspects
5. Viscera: Gross structure
- Heart
- Lung
- Kidney

6. Anatomical outline
- Bronchial tree

7. Endocrine glands - anatomical structure
- Pituitary, Thyroid, parathyroid and adrenal glands

PHYSIOLOGY, PHARMACOLOGY & BIOCHEMISTRY

1. General Physiology
- Components of cell and cytoplasm with their functions (in general) & transport across cell membrane.
- Nerves and Muscles contraction
- Classification and properties of nerve fibres.
- Receptors (types, properties, functions).
- Function of motor & sensory area
- Cerebrospinal fluid (CSF) - formation, functions, drainage, lumbar puncture.

- Autonomic nervous sytem (outflow and responses of effected organs)
- General properties and composition of blood
- Normal counts and functions of RBCs, WBCs, and platelets
- Mechanism of coagulation factors and their functions
- Blood groups (types, antiogens, antibodies, phenotypes, genotypes and significance)
- Conducting tissues of the heart – Generation and propagation of cardiac impulses)
- Cardiac cycle (pressure, volumes, vulvular changes)
- Blood pressure and its regulations (general)
- Respiratory and non-respiratory function of respiratory tract.
- Body fluids, compartments and regulations of osmotic equilibrium and acid base balance.
- Regulation of ECF and blood volume.
- General functions of kidney.
- Regulation of body temperature.

Pharmacology
- General principles of rational drug therapy,
- Clinical pharmacolunetics.
- Adverse reactions of common drugs

3. Biochemistry
- Requisites of a balanced diet
- General principles of electrolyte balance
- Role and function of endocrine hormones
- Metabolism of carbohydrates, proteins, fats

PATHOLOGY INCLUDING MICROBIOLOGY

1 Effects of injury on cell by physical, chemical and biological agents.

2. Inflammation
- Acute
- Chronic including granulematous

3. Regeneration and Repair

4. Metabolic Response to trauma

5. Disturbance of homeostatic mechanism
- Haemorrhage and Shock - mechanism and types
- Oedema (disturbance of fluids & electrolytes)

6. Thrombosis and embolism. Infarction and gangrene.

7. Disorders of growth (Adaptation, Atrophy, hypertrophy, hyperplasia).

8. Carcinogens and pre-malignant lesions.

9. Neoplasia: General classification and its spread.

10. General aspects of tumour markers.

11. General characteristics of bacteria, viruses, Chlamydia, recketsia, parasites and fungi.

12. Immunology and immune system: General principle.

13. Medical genetics - basic concept.

14. Interpretation of routine Biochemical tests e.g. liver function test, glucose, urea, creatinine.

15. Nutritional disease: deficiency of vitamins and minerals

RESEARCH AND BIOSTATISTICS. BASIC CONCEPTS EPIDEMIOLOGY

- An iitroduction to Epidemiology and its role in understanding distribution and determinants of disease.
- Measures of disease occurrence
- Screening

Biostatistlcs:
- Introduction to Biostatistics
- Data and its kinds
- Summarization of data
- Normal Distribution
- Point and Interval estimation and Probability
- Hypothesis testing, significance level and power

BEHAVIOURAL SCIENCE AND MEDICAL ETHICS. GENERAL PRINCIPLES

- Medical Ethics
- Communication skills including Doctor Patient relationship and counseling
- Psycho social aspect of general health care

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SYLLABUS OF PAPER "B" (Medicine and Allied)

EMBRYOLOGY

- Development of C.V.S Brain, Kidney
- Common developmental defects

HISTOLOGY

- Liver
- Pancreas
- Spleen
- Kidney
- Brain
- G.I.T

REGIONAL ANATOMY

(A) STRUCTURE AND GENERAL DISPOSITION

(B) UPPER LIMB

- Pectoral girdle and axilla
- BreastArm
- Forearm
- Wrist
- Hand
- Innervation of muscles
- Osteology

(C) LOWER LIMB

- Gluteal region and hip joint
- Thigh
- Popliteal fossa and knee joint, leg
- Ankle and Foot
- Innervation of muscles
- Osteology

(D) THORAX

- Thoracic wall and diaphragm
- Heart

- Mediastinum
- Pleura
- Lungs

(E) ABDOMEN

- Anterior abdominal wall
- Peritoneum
- Gastro intestinal tract
- Liver and biliary tract
- Pancreas
- Spleen
- Kidney
- Ureters
- Suprarenal gland

(F) PELVIS

- Pelvic cavity
- Urinary bladder
- Male genital organs and urethra
- Female genital organs
- Pelvic vessels
- Nerves
- Pelvic joint and ligaments
- Lumber and sacral plexuses

(G) HEAD, NECK, SPINE

- Cranial cavity and meninges
- Vertebral column and vertebral canal
- Scalp
- Face
- Parotid glands
- Nose and sinuses
- Oral cavity
- Pharynx

NEUROANATOMY

- Cereberum - Internal structure
- Cortical areas
- Cerebellum
- Brain stern

- Descending and Ascond.ng tracts
- Special senses - Anatomical pathway
  - Visual
  - Taste
  - Olfactory
- Autonomic Nervous System

PHYSIOLOGY AND BIOCHEMISTRY

(A) KIDNEY

- Functions of kidney
- Glomerular filtration - determinants
- Tubular reabsorption and secretion
- Regulation of Sodium, Potassium, Calcium, Phosphate and Magnesium concentration
- Micturition

(B) THE HEART

- Physiology of cardiac muscle
- Cardiac cycle
- Relationship of the heart sound to heart pumping, cardiac output
- Electrical Activity of the Heart
- Electro cardiogram - characteristics
- Vectorial analysis of E.C.G.- Abnormalities
- Cardiac Arrhythmias

(C) THE CIRCULATION

- Capillary fluid exchange
- Interstitial fluid and lymph flow
- Nervous Regulation of the circulation
- Control of blood pressure
- Humoral control of circulation Circulation through special regions - Cerebral, Coronary, Pulmonary & splanchnic
- Cardiovascular changes in exercise

(D) GASTRO INTESTINAL SYSTEM

- Motility and propulsion - Nervous Control,
- Secretory function
- Digestion and absorption – Malabsroption syndrome
- Functions of liver - Metabolic functions
- Bilirubin formation and excretion – types of jaundice
- Energy Metabolism - Energy requirement
- Defecation

- Vomiting

(E) RESPIRATORY SYSTEM

- Pulmonary Ventilation: Ventilation – Perfusion ratio
- Principles of gas exchange - diffusion of cases
- Pulmonary Capillary dynamics
- Regulation of respiration, Lung function tests
- Respiratory insufficiency - Hypoxia
- Cyanosis
- Oxygen therapy
- Hypocopnia, Hypercapnia
- Respiratory changes in exercise

(F) CENTRAL NERVOUS SYSTEM

- Cortical and brain stem control of motor functions.
- Cerebellum - Functions in overall motor control
- Basal ganglia - Functions in executing pattern of motor activity
- Role in cognitive control of sequence of motor control:
    - Integration of total motor control systems
    - Control of posture and movement
    - Cerebral cortex - higher functions of the Nervous system:
        - Conditioned reflexes
        - Learning and Memory
        - Function of Neocortex
- The limbic system and the hypothalamus:
    - Behavioral and Motivational Mechanism
- Physiology of sleep and electric activity of the brain - E.E,G.
- Somatic sensations - pain, headache, thermal sensation.
- Speech mechanism

(F) PHYSIOLOGY OF SPECIAL SENSES

- Smell
- Taste
- Hearing
- Vision

(G) PHYSIOLOGY OF ENDOCRINE

- Mechanism of action of Hormones
- Pituitary Hormones – Hypothalamic control, growth hormone, ADH, oxytocin

- Adrenal glands – Adrenocortical hormones- functions and control of secretion
- Adrenal Medullary Hormones
- Thyroid Metabolic Hormones – Functions and control of secretion
- Parathyroid Hormone - Calcium and Phosphate Regulation
- Vit. D for development of bone and teeth.
- Insulin, glucagon.
- Reproductive System.
- Male reproduction.
- Female Hormones, Hypothalamic-pituitary and ovarian control of reproduction.
- Pregnancy and lactation.
- Neonatal physiology.

PATHOLOGY/MICROBIOLOGY/IMMUNOLOGY

1. Mechanism of immune mediated injury:
- Types of hyper-sensitivity reactions

2. Mechanism of auto-immune diseases:
- Immunologic tolerance
- Genetic factors in auto-immunity
- Major abnormalities of immune function in AIDS

3. Immuno-deficiency Diseases:
- Primary immuno-deficiencies
- Severe combined immuno-deficiency
- Genetic deficiencies of complement components
- Secondary immune-deficiencies

4. Neoplasia:
- Epidemiology
- Etiological factors
- Tumor Immunity-Host defense against tumour
- Effects of tumour on Host
- Para neoplastic syndrome
- Grading and staging of malignancy
- Laboratory diagnosis of cancer

5. Genetic Diseases:
- Transmission Pattern of single gene disorders
- Disorders of multi-factorial inheritance
- Cytogenetic disorders involving autosome and sex chromosome
- Single gene disorders with atypical pattern of inheritance
- Diagnosis of genetic disease
- Factors responsible for common environmental diseases
- Pathogenesis of Atherosclerosis and Ischaemic Heart Disease – Risk factors

6. Disorders of Haemopoietic and lymphoid systems:
- Non-neoplastic disorders of W B C
- Bleeding disorders - causes.

7. Pathophysiology of jaundice

8. Myco-bacteria:
- Tuberculosis
- Leprosy

9. Viruses
- Pathogenesis and diagnosis of viral diseases
- Hepatitis A,B,C.D.E.
- HIV / AIDS
- Rabies
- Herpes
- Influenza

10 Parasitology:
- Haemo-parasites - Malaria. Leishmania, filariasis
- Intestinal - Giardia, entamoeba, nematodes, cestodes
- Hydatid disease

PHARMACOLOGY

1. Antibiotics, Antifungal and Anti-Viral Drugs:
- Anti-tubercular drugs
- Anti-Malarial
- Anti-Amebic
- Anti-helmintic

2. Drugs used in peptic ulcer:
- Anti-emetics
- Purgatives
- Gastric anti-acid
- Drugs used in diarrhea

3. Analgesics - NSAIDs:
- Anti-rheumatic and anti-gout drugs
- Opioid analgesics
- Drugs used in Parkinsonism
- Drugs used in epilepsy
- Anxiolytics and hypnotics
- Anti-depressants
- Anti-histamines (Hi Blockers)
- Anti-hypertensive drugs

- Anti-anginal drugs
- Drugs used in congestive heart failure and arrhythmias
- Drugs used in hyper-lipidemia
- Drugs used in anemias
- Drugs used in coagulation disorders

4. Insulins and oral anti-diabetics

5. Thyroid and anti-thyroid drugs

6. Autonomic drugs

7. Vaccine and autonomic drugs

Good luck!
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