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Original Anesthesiology Syllabus by CPSP

- ✓ Clear FCPS-1 in **FIRST ATTEMPT**
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SYLLABUS

Candidates for the Fellowship of the College are expected to have a sound working knowledge of the structure and functions of the human body and the various mechanisms, whereby these structures and functions are altered leading to diseased states. The emphasis in the FCPS Part-I examinations is on comprehension of the various mechanisms by which the body works and adjusts to external and internal changes. Concepts of the integration and interrelationship of various parts of the body are to be given more importance than finer details of structure and function.

The outline of various topics given in this syllabus is a guide to what at the moment are considered to be important topics, which the candidate is expected to know. This is to help both the candidate and the examiner in defining the minimum boundaries of FCPS Part-I examinations.

PAPER I

I. ANATOMY

1. General Features:
   - Muscles
   - Joints
   - Blood vessels

2. General Embryology - General aspects

3. Histology - General Features:
   - Epithelia
   - Muscles
   - Nerves
   - Blood vessels
   - Connective tissue
   - Lymphoid tissue

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4. Brain and spinal cord - General Features:
   - Spinal nerves
   - Cranial nerves
   - Vertebral Column

5. Head and Neck - General Features:
   - Major blood vessels

6. Viscera: General Features: Blood & Nerve Supply:
   - Heart
   - Lung
   - Kidney
   - Liver

7. Endocrine glands – Gross structure and important relations of Pituitary,Thyroid, parathyroid and adrenal glands

II. PHYSIOLOGY,BIOCHEMISTRY AND PHARMACOLOGY

1. General Physiology:
   - Components of cell with their major functions. Transport across cell membrane
   - Action Potential, Muscle contraction
   - Classification and properties of nerve fibres
   - Receptors: types and functions
   - Somatic sensations, transmission of pain
   - Function of motor and sensory areas
   - Cerebrospinal fluid (CSF) - formation, functions, drainage
   - Autonomic nervous system: parts and their functions
   - General properties and composition of blood including Normal Cell counts and functions of RBCs, WBCs and platelets

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- Mechanism of homeostatic coagulation factors and their actions
- Blood groups
- Conducting tissues of heart: generation and propagation of cardiac impulse
- Cardiac cycle (pressure, volumes, valvular changes).
- Blood pressure and its regulations
- Respiration: Ventilation, transport of gases and regulation of respiration
- Body fluids: compartments and regulation of osmotic equilibrium
- Regulation of E.C.F, blood volume and flow
- Peripheral circulation.
- General functions of kidney.
- Regulation of body temperature.

2. Biochemistry:
   - Requisites of a balanced diet
   - General principles of electrolyte balance
   - Role and function of endocrine hormones - feed back mechanism.
   - Metabolism of carbohydrates, proteins, fats and vitamins

3. Pharmacology:
   - Clinical Pharmacokinetics
   - Adverse reactions of common drugs
   - General principles of rational drug therapy

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III. PATHOLOGY INCLUDING MICROBIOLOGY

1. Effects of injury on cell by physical, chemical and biological agents
2. Inflammation
   - Acute
   - Chronic including granulamatous
3. Regeneration and Repair
4. Metabolic Response to Trauma
5. Disturbance of homeostatic mechanism
   - Haemorrhage and Shock - mechanism and types
   - Oedema
   - Disturbance of fluids and electrolytes
6. Thrombosis and embolism, Infarction and gangrene
7. Disorders of growth - Atrophy, hypertrophy, hyperplasia
8. Carcinogens and pre-malignant lesions
9. Neoplasia: Types and spread of tumor
10. General characteristics of bacteria, viruses, parasites and fungi
11. Immune system: General principle
12. Medical genetics - basic concept
13. Interpretation of routine Biochemical tests e.g. liver function tests, glucose, urea, creatinine
14. Nutritional diseases, disorders due to deficiency of vitamins and minerals

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IV. RESEARCH AND BIOSTATISTICS BASIC CONCEPTS

Epidemiology:

- An introduction to Epidemiology and its role in understanding distribution and determinants of disease.
- Measures of disease occurence
- Study designs, their advantages / disadvantages
- Measures of association
- Chances, Bias and Confounding
- Screening

Biostatistics:

- Introduction to Biostatistics
- Data and its kinds
- Summarization of data
- Measures of Central Tendency and Dispersion
- Normal Distribution
- Point and Interval estimation and Probability
- Hypothesis testing, significance level and power
- Sampling and its Techniques

V. 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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PAPER II

ANESTHESIOLOGY (FCPS-I)

I. ANATOMY

Respiratory System:

- Mouth, nose, pharynx, larynx, trachea, main bronchi, segmental bronchi, structure of bronchial tree

Nervous System:

- Cervical plexus, Brachial plexus, nerves of arm Intercostal nerves
- Lumber plexus, nerves of abdominal wall
- Sacral and coccygeal plexuses, nerves of leg
- Autonomic nervous system, sympathetic innervations, sympathetic chain, ganglia & plexuses
- Stellate ganglion
- Parasympathetic innervations. Coeliac plexus

Cerebral Cortex:

- Gross organization of the cortex, location of motor and sensory cortical "areas" location of internal capsule.
- Functions of various regions.
- Blood supply.

Hypothalamus and thalamus:

- Afferent and efferent connections and their functional correlations nuclear groups.

Basal Ganglia:

- Subdivisions, connections and functions and effects of lesions.

Limbic System:

- Core structure function of the limbic system.
- Other nuclei and pathways associated with limbic system.

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Vertebral Column:

- Cervical, thoracic and lumbar vertebrae
  Sacrum, Sacral hiatus
- Ligaments of vertebral column

Musculo Skeletal:

- Identification of bony outlines on plain x-ray.
- Vertebral column, features of vertebrae of different regions.
- Thoracic cage, general form, parts of ribs and morphology of a typical rib.
- Respiratory movements of thorax.
- Morphology of the sternum. Muscles of the thorax, arrangement of intercostal muscles and their nerve supply.
- Diaphragm: development, functions, structures and attachments, openings and structures transmitted, nerve and blood supply, lymphatic drainage.

Gastro Intestinal System:

- Anatomy of oesophagus stomach, small and large intestine and rectum, liver spleem and pancreas

Areas of special interest:

- Base of skull
- The thoracic inlet and 1st rib
- Intercostals spaces including paravertebal space
- Abdominal wall (including the inguinal region)
- Antecubital fossa
- Large veins of neck
- Large veins of leg
- Diaphragm and muscles of respiration and their innervations
- Anatomy of tracheotomy, cricothyrocotomy
- Axilla

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II. PHYSIOLOGY

1. Body fluids and their functions and constitutions:
   - Capillary dynamics and interstitial fluid.
   - Osmolarity, osmolality, partition of fluids across membranes
   - Lymphatic system
   - Special fluids especially cerebrospinal fluid and ocular fluids. Also pleural, pericardial and peritoneal fluids

2. Muscle:
   - Action potential generation and its transmission
   - Neuromuscular junction and transmission
   - Muscle types

3. Gastrointestinal:
   - Gastric function; secretions, nausea and vomiting Gut motility, sphincters and reflex control Digestive functions

4. Vascular System:
   - Laws of haemodynamics governing flow, pressure and resistance in blood vessels. Arterial blood pressure measurement and regulation. Vasomotor system and control of blood vessels. Characters of arterial pulse and venous pulse. Significance of central venous pressure. Structure and functions of the arteries, arterioles, capillaries and veins.
   - Mechanism of haemorrage and shock coronary, cutaneous, splanchnic and peripheral circulation.

5. Respiration:
   - Pulmonary ventilation: volumes, flows, dead space. Effect of IPPV on Lungs Mechanism of respiration: ventilation/perfusion abnormalities.

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6. Nervous System:

   Motor function: spinal and peripheral

   - Senses: receptors, nociception
   - Pain: afferent nociceptive pathways, dorsal horn, peripheral and central mechanisms, Neuromodulatory system, supraspinal mechanisms, visceral pain, neuropathic pain

7. Pregnancy:

   - Physiological changes associated with normal pregnancy
   - Functions of the placenta: dynamic of placental transfer
   - Fetus: changes at birth

III. PHARMACOLOGY

1. IV/Volatile anaesthetic agents
2. Local anaesthetics
3. Hypnotics, Sedatives
4. Opioids and other Analgesics
5. Non-steroidal anti-inflammatory drugs
6. Neuromuscular blocking agents/Anti cholinesterazes
7. Drugs acting on the autonomic nervous system: Cholinergic & Adrenergic agonists and Antagonist
8. Drugs acting on the heart (antiarrhythmics, chronotropes and ionotropes) cardiac glycosides
9. Vasodilators
10. Antihypertensive
11. Anticonvulsants
12. Antibiotic

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13. Corticosteroids and other hormone preparations
14. Antacids. Drugs influencing gastric secretion & motility
15. Antiemetic agents
16. IV fluids and Plasma volume expanders
17. Diuretics
18. Antidepressants
19. Anticoagulants
20. Drugs acting on the respiratory system
21. Drugs interaction
22. Anti-Diabetic drugs
23. Thyroid, anti-thyroid drugs
24. Disinfectants and antiseptics

IV. PHYSICS & CLINICAL MEASUREMENT

1. Fundamental and derived units: Simple mechanics Mass, force, work and Power Heat: conduction, convection,radiation. Laws of thermodynamics, physics of gases. Absolute and relative pressure. The gas laws triple point: critical temperature/pressure. Density and viscosity of gases. Laminar and turbulent flow. The Bernoulli principles freezing point, melting, latent heat. Vapour pressure. colligative properties

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2. Defibrillator, Diathermy, Electrical hazards: causes and prevention
3. Measurement of Blood pressure: Direct & indirect methods, Measurement of pulmonary pressure
4. Measurement of volume and flow in gases and liquids. The pneumotachograph and other respirometers, Peak flow measurement spirometry cardiac output absolute and relative pressure
5. Measurement of temperature and humidity
6. Measurement of gas concentrations, especially oxygen, carbon dioxide, volatile anaesthetic agents, capnography, pulse oximetry
7. Basic Concepts of Electricity, magnetism and resistance, capacitance, Sources and methods of reducing electrical interference and light sources

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Books Required

1. First Aid (no alternative for this)
2. Physiology → BRS physiology or Ganong
3. Anatomy → Small Snell
4. Neuroanatomy → Kaplan neuroanatomy
5. Pathology → FirstAid (first 8 chapters) or Goljan

Past Papers

Past papers are key. About 40% paper is repeated

1. GoldStandard FCPS (Key book, no alternative)
   (This is key book as it contains most authentic papers. You have to cram at least 5 pages each day. After your specialty is over move to other specialty. Give at least 20-30mins each day. This book will continue from day 1 of your preparation. It is not available in market so order it on 03100220370)
   After completing papers of your specialty, pick rafi or Sk and start doing mcqs(only if you want to). You will see that you will able to perform 99% of mcqs.
   p.s after your specialty papers are over start doing other specialty as paper 1 is same

2. Rabia Ali
   (do mcq at end of your each chapter)

3. Sk / rafiullah for practice

Study Plan

Anatomy (15 days)

- ❖ GoldStandard FCPS daily 4 pages

- ✓ Now you can join us Online for MD/MS & Fcps Preparation
- ✓ Complete course in 2months including Past paper discussion
- ✓ Join from anywhere using mobile/laptop using internet
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- ✓ www.fcpsworld.com or Contact: 03129684658
- ✓ Hostel Facility is also available (for those who want to join physical classes)

- ❖ do rabia ali Mcqs after completing topic

- 15 days complete
- Upper limb 2 days
- Lower limb 2 days
- Abdomen pelvis 2 days
- Head & Neck 2 days
- Neuroanatomy 4 days

Physiology (15 days)

- ❖ GoldStandard FCPS daily 4 pages
- ❖ do rabia ali Mcqs after completing topic

- Daily 1 chapter

General Pathology

GoldStandard FCPS daily 4 pages

- ❖ do rabia ali Mcqs after completing topic

- General pathology is enough from goljan / first aid

Minor Subjects: Do any book

❖ Histology	Goldstandard or first aid
❖ General embryology	any book
❖ General anatomy	any book
❖ Biostats	any book
❖ Biochemistry	any book

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- Microbiology first aid

Trick:

Study Smart

There are few specific topics which are always repeated in exams

Like foot drop wrist drop etc.

For example examiners won't ask you about 8 steps of kreb cycle.

So better to first read Mcqs to get an idea about important concept and then study for exam. After preparation you can

There is significant time in clearing part 1 exam and then FCPS induction. If you want to clear your exam in One Go, you may join FcpsWorld Online preparation classes.

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