

# SYLLABUS

## FOR POST GRADUATE DEGREE M.D.(HOM.) :

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The following shall be syllabus for general and special subjects in M.D.(Hom.) course namely: -

### **A. GENERAL SUBJECTS (Common to all specialties)**

#### **(I) The Man in Health (Holistic Concept)**

Structural, functional and psychological organization of Man and his adaptation to the environment in health, and includes an integrated study of the following for practical application of this knowledge in clinical medicine

Concept of health – Different approaches – Holistic concept – Definitions, Dimensions & Determinants of health

#### **General Anatomy**

##### 1. Development Anatomy

2.(a)Genetics and individuality (b)Elementary principles of genetics(c )Applied Genetics

3. Interaction between organism and environment.

#### **1.Neuro Anatomy**

(a) Meninges and their functions

(b) Cerebellum - Areas, vascular supply and functions

(c) Cerebellum - functions

(d) Pons

(e) Midbrain

(f) Cranial Nerves

(g) CSF

(h) Spinal cord – segmental relations

(i) Nerve Distribution

Applied : Lumbar puncture, Referred pain, and Spinal Anesthesia.

## **2. Thorax**

(a) Skelton structure

(b) Diaphragm

(c) Pleura and Lungs

(d) Heart and Major vessels

(e) Mediastinum.

Applied : Surface making -Cardia, Lungs, Valves, Aorta, and Superior Vena Cava.

## **3. Abdomen and Pelvis:**

(a) Abdominal Muscles

(b) Peritoneum

(c) Blood Vessels

(d) Stomach and intestine

(e) Liver and Gall Bladder

(f) Pancreas

(g) Kidney & Urinary tract

(h) Uterus and Ovary.

Applied: Surface markings of organs, referred pain.

## **4. Head and Neck:**

(a) Scalp and its Vascular Supply

(b) Facial muscles

(c) Muscles of Mastication

- (d) Innervations of skin
- (e) Eye
- (f) Nasal cavity
- (g) Oral cavity
- (h) Larynx
- (i) Thyroid and Parathyroid
- (j) Esophagus and Trachea

### **Micro Anatomy**

Histology of -

- |                       |                 |                              |
|-----------------------|-----------------|------------------------------|
| (a) Nerve             | (b) Muscles     | (c) Bone                     |
| (d) Cardiac Muscles   | (e) Liver       | (f) Testis, Ovary            |
| (g) Uterus and Cervix | (h) Spinal Cord | (i) Lymph nodes :np` t Node. |
| (j) Thyroid           | (k) Lungs       | (i) Kidneys                  |

### **PHYSIOLOGY**

With the advent of latest physical principles physiology has made rapid progress in bringing' out hitherto unknown aspects of functions of human body. A renewed interest therefore is essential for all postgraduate in the medical field. Keeping this interest in sight the students may study the applied/clinical aspect of the following and any other important topic.

#### **1) Haematology**

- (a) Formed Elements
- (b) Plasma
- (c) Erythropoiesis
- (d) Leucopoiesis
- (e) Thrombopoiesis
- (f) Coagulations

(g) Blood Groups

(h) Leukemia

(i) Haemoglobinopathies

(j) immunological vascular flow

## **2) Cardio Vascular System**

(a) Structure of Heart and Cardiac muscles

(b) Electro physiology and ECG

(c) Cardiac cycle

(d) Cardiac output

(e) Blood Pressure

(f) Echocardiography

(i) Sonography

(j) Peripheral vascular flow

## **3) Respiratory System:**

(a) Structure of respiratory system (b) Mechanism of Respiration

(c) Lung volume capacity (d) Gaseous Exchange

## **4) Digestive System:**

(a) Esophagus and Stomach (b) Intestine and peristaltic activity

(c) Hepatobiliary system (d) Enzymatic activity of Gastrointestinal tract and Liver.

## **5) Urogenital System:**

(a) Structure of kidney and Blood supply (b) Formation of Urine

(c) Homeostasis and blood pressure

(d) Urinary, tract (Ureter, bladder, urethra) (e) Primary sex organs - male and female (f) Prostate

(g) Menstrual cycle (h) Spermatogenesis (i) Pregnancy, parturition, Lactation (j)

Contraception, menopause

(k) Libido.

**6) Skin and Integument System:**

(a) Skin - Microscopy

(b) Sweating Mechanism and other functions (c) Pigments.

**7) Nervous System:**

(a) Neuro anatomy

(h) Brain stem and Cranial nerves

(b) Nerve conduction

(i) Spinal cord functions

(c) Functions of cerebrum

(j) Vestibular apparatus

(d) Functions of cerebellum

(k) Autonomous nervous system

(e) Midbrain and pons

(l) Neurotransmitters- serotonin, endomorphines etc

(f) Basal Ganglion

(m) Special senses, Taste, smell, vision, hearing, touch.

(g) Limbic system

**8) Endocrine System:**

(a) General principles

(e) Pancreas

(b) Hypothalamus

(f) Suprarenal glands

(c) Pituitary gland

(g) Gonads.

(d) Thyroid and Parathyroid

## **BIO CHEMISTRY**

Biochemistry has made great advances in recent years. A postgraduate medical student is required to keep update with the important development relevant to therapeutics. Hence a comprehensive review of clinical aspect is to be kept in mind to cover the following topics.

### **1. Elementary constituents of cytoplasm.**

**2. Carbohydrates:** (a) Monosaccharides (b) Disaccharides (c) Polysaccharides (d) Mucopolysaccharides (e) Carbohydrate digestion, absorption and metabolism (f) Citric Acid cycle.

**3. Proteins:** (a) Amino acids (b) Structural Proteins (c) Plasma Proteins (d) DNA, RNA (e) Protein digestion, absorption and metabolism (f) End Products. (g) Urea Creatinine.

**4. Lipids:** (a) Saturated and unsaturated Fatty acids (b) Triglycerides (c) Lipoproteins (d) Esters (e) Fat Digestion (f) Absorption and metabolism (g) Ketone bodies (h) Hormone synthesis.

**5. Water and Electrolytes:** (a) water and electrolyte distribution (b) Starling's Principle (c) Functions of Electrolytes (d) Acid base equilibrium.

**5. Nutrition and B.M.R:** (a) Basic principles (b) Diet (c) BMR in health and disease (d) Obesity.

(a) Hormones, Enzyme activities (h) Neurotransmitters

## **E) PSYCHOLOGY**

1. Introduction:

a) Definition. b) Nature

(c) Subject matter. (d) Brain & Behavior

2. Methods of Psychology

a) Experimental.

b) Questionnaire. (Inventory)

3. Clinical

4. Survey.

5. Observation

6. Developmental Theories:

a) Psycho-analytical /neoFreudians.

b) Psycho social.

c) Behavioral.

d) Humanistic.

7. Motivation:

a) Classification- theories, Homoeostasis;

b) Cognitive approach, Frustration, Conflicts, Mental mechanisms.

c) Stress: Meaning, definition, types & its effects on body;

d) Mind - body relationship.

e) Sources of stress/ Coping Wth stress.

f) Stress management. (Relaxation, biofeedback)

8. Psychological Process:

a) Sensation, Perception, Attention- Study of disorders in each of them

9. Emotions

a) Characteristics , expression (vocal, nonverbal)

b) Internal physical changes

c) Emotions & Health.

10. Personality:

a) Definition, Characteristics, Traits. Factors influencing Personality

b) Assessment.

11. Intelligence

a) Definition, Nature, Growth determinants, Assessment, Application.

## 12) Learning

- a) Types – classical conditioning, Operant Conditioning
- b) Cognitive learning – application in medicine

## 13. Memory & forgetting

- a) Process, types, Causes of forgetting..
- b) Methods to improving memory.

## 14. Different approaches of psychology – Freud, Jung, Adler, Cattell, Horney

### **(II). The Man in Disease (Holistic Concept)**

Structural, Functional, and psychological organization of the sick and his/her deficient adaptation to his/her environment and includes the study of pathology (psychological, functional and structural deviations from the state of Health). A probe into the evolutionary phenomenon of disease, paying attention to the cause effect relationship (viz. the effects of extrinsic (micro organisms, parasites, viruses and other stimuli) and intrinsic (susceptibility based on miasmas) factors along with their current interpretations and abnormal expressions of the sick pervading his/her whole being.)

Concept of disease – Definitions – Holistic approach – Distinction between Disease, Illness & sickness

Causation of disease – Environmental, biological, intrinsic factors etc.

### **PATHOLOGY AND MICROBIOLOGY**

A thorough and comprehensive knowledge of disease processes is fundamental to any therapeutic approach with an aim of cure or palliation. Natural course of disease, prognosis are vital inputs for planning treatment strategies. The following topics need to be updated keeping Homeopathic orientation of practice in view

#### **PATHOLOGY**

##### 1. General Pathology:

- (a) Inflammation and repair
- (b) Immunity & Hypersensitivity
- (c) Coagulation, thrombosis
- (d) Neoplasm

- (e) Pigmentation disorders
- (f) Ionizing radiation
- (g) Genetic factors in disease
- (h) Degeneration and cellular death.

## **2. Regional pathology**

- (a) Cardio vascular system- disease of heart, blood vessels, congestive heart failure
- (b) Disease of trachea: airway obstructions, parenchyma disease of lungs, disease of pleura, allergic disease, and respiratory failure.
- (c) Disease of gastro intestinal tract: Oesophagitis, Peptic ulcer, malabsorption syndrome.
- (d) Disease of Hepatobiliary system: Hepatitis, Cirrhosis of liver, gall bladder disorders
- (e) Disease of kidney: Nephritis, Nephrotic syndrome, and Urinary tract disorders
- (f) Disease of endocrines: Growth hormone disease, Pituitary disease, Thyroid, parathyroid disease, diabetes mellitus, supra renal disease.

## **3. Hematological diseases:**

- (a) Anemia
- (b) Leukemia
- (c) Hemorrhagic diseases.

## **4. Neurological disease:**

- (a) Cerebro vascular diseases
- (b) Degenerative diseases of brain and spinal cord
- (c) Meningial disease
- (d) Cerebral palsies, congenital syndromes

## **5. Disease of Bones and joints:**

Rheumatoid arthritis, osteo- arthrosis, SLE and other connective tissue disorders.

#### **6. Disease of skin:**

Dermatitis, pigment disorders, hyperkeratonic disorders & Veneral diseases.

#### **MICRO BIOLOGY:**

1 .Infection and disease.

2. Microbial pathogenicity

- Bacterial

- Fungal

- Viral

- Parasitic.

3. Defenses of Host against infections

Components of defense.

Functional setup of immunity.

Antigens.

Antibodies.

Cells of immuneresponse.

Ag- Ab reaction.

Hypersensitivity.

Autoimmunity.

4.Diagnosis of microbial infections.

5.Preventive measures against microbial infections.

### **(III) History Of Medicine, Scientific Methodology Including Research**

## **Methodology And Statistics**

a) History of Medicine - evolution with special emphasis on Hahnemann's contribution to medicine in General.

b) Basic concept of Logic, Philosophy

1. Introductory analysis Subject matter & scope – question for philosophy – The branches of philosophy

2. Philosophy & the sciences – Logic, metaphysics, & theory of causation

3. Logic – Inductive & deductive (On the basis of Aristotle, Lord Bacon, & J S Mill)

4. The doctrine of Force – The Doctrine of monads – Life force (Note – Should be dealt in the context of Leibniz & Bergson )

5. Part & whole relation – Organic view – Philosophy of nature & Philosophy of mind ( Note – Should be taught on the basis of Hegal )

6. An outline treatment of the following recent trends : Existentialism, Realism & Phenomenology, Pragmatism, Positivism & Analytic Philosophy

### **C) Scientific Methodology Including Research Methodology & Biostatics**

1. Definition & scope of Statistics

2. Sources & presentation of Statistical data Primary data, Secondary data, Classification, Tabulation, Presentation of statistical data by diagrams, graphs, charts etc

3. Measures of Central tendency or averages

Introduction – Difference Averages – Definition – Merits & demerits – Partition values – Graphical location of the partition values

4. Measures of variation or dispersion

Introduction – definition of different measures of variation, Merits & demerits – Co-efficient of variation – Skewness , Kurtosis

5. Correlation & Regression Scatter Diagram – Correlation coefficient – Limits of correlation coefficient – Rank correlation – Lines of Regression Coefficient

6. Sampling Theory

Introduction – Advantages of sampling – Principal steps in a sample survey – Different methods of sampling – sampling & nonsampling error

## 7. Theory of probability

Introduction – Definition of various terms – Law of Addition of Probability – Multiplication – Law of Probability – Conditional Probability

## 8. Theoretical Distributions

Introduction – Binomial Distribution – Normal Distribution, Chi- square Distribution & T Distribution – Standard error

## 9. Tests of Significance

Introduction – Null Hypothesis – Alternative Hypothesis – Level of significance of test – Type I error – Test of single proportion – Test of significances for difference of proportions – Test of Significances for single means – Test of Significances for differences of means – Chi-square test – T test etc

## 10. Research Methodology

Introduction – Defining the research problem – research Design – Epidemiological studies – Clinic trials – Writing of Research reports