

# CENTRAL COUNCIL OF INDIAN MEDICINE

## SIDDHA MARUTHUVA PERARINGNAR (M.D. (SIDDHA) COURSE

### SYLLABUS FOR NOI NAADAL (PATHOLOGY AND DIAGNOSTIC METHODS) SPECIALITY

[UNDER THE INDIAN MEDICINE CENTRAL COUNCIL (POST GRADUATE SIDDHA EDUCATION) REGULATIONS, 2016.]

#### GOAL :

- The Goal of M.D (Siddha) Noinaadal Branch Post Graduate Programme shall be to produce competent specialists and experts in Siddha diagnostic methods and diseases through physical and laboratory diagnosis.
- And, this course aims at imparting knowledge to the PG Scholars about Research Methodology for engaging them in quality research.

#### OBJECTIVES:

At the end of the M.D (Siddha) course in Noinaadal, the student should be able to,

- Recognize the ways and means of diagnosing a disease through exclusive Siddha diagnostic methods.
- To understand the Siddha and Modern classification of diseases from a common standpoint with appropriate correlation.
- To acquire a sound knowledge and skill in the Ennvagai Thervu diagnostic methods.
- To be trained as experts in the field of Naadi (Pulse) diagnosis, Neerkuri and Neikkuri examination, Manikkadainool examination, Marana Kurikunangal (Grave signs) etc.
- To have detailed study of the general, geriatric, paediatric, gynaecological and surgical diseases with their physical, laboratory and imaging diagnostic methods.

<b>FIRST YEAR (Preliminary Examination)</b>					
<b>S.NO</b>	<b>SUBJECT</b>	<b>THEORY</b>	<b>PRACTICAL/ CLINICAL</b>	<b>VIVA</b>	<b>TOTAL MARKS</b>
1.	PAPER –I Research Methodology and Bio-Medical Statistics	100	Minor Project - 100 (Submission of report -60 marks, Publication /Presentation – 20 marks, Oral- 20 Marks)	--	200
2.	PAPER–II Siddha Diagnostic methods and application of basic principles	100	100 (Clinical 70+Oral-30)	50	250
<b>SECOND YEAR</b>					
	<b>Essential:</b> Obtain CME credit points through Seminars /Workshops /Conferences (National/ International) <b>Desirable:</b> Publication/ Visits or internship at Industry / Lab / Research institute / other AYUSH Institutions/Journal club/ Teaching Under Graduate Students				
<b>THIRD YEAR (Final Examination)</b>					
<b>S.NO</b>	<b>SUBJECT</b>	<b>THEORY</b>	<b>PRACTICAL/ CLINICAL</b>	<b>VIVA</b>	<b>TOTAL MARKS</b>
1.	PAPER –I Siddha Maruthuva Noinaadal and Clinical Applications -I	100	100 (Clinical 70+Oral 30)	50	250
2.	PAPER –II Siddha Maruthuva Noinaadal and Clinical Applications-II	100	100 (Clinical 70+Oral 30)	50	250
3.	PAPER –III Essentials In Pathology Including Clinical Pathology	100	100 (Clinical 70+Oral 30)	50	250
4.	PAPER –IV Recent Advances in Diagnostic Methods Radiology	100	100 (Practical 70+Oral 30)	50	250

**Dissertation:** Maximum marks will be 100 and Minimum marks for passing will be fifty percent.

## FIRST YEAR

### PAPER- I RESEARCH METHODOLOGY AND BIO-MEDICAL STATISTICS

#### CLINICAL RESEARCH METHODS UNIT-I

- Measures of disease frequency
- Measures of association/impact in clinical research
- Measurement errors in clinical research
- Validity in clinical research
- Bias in clinical research
- Descriptive bio-statistics
- Inferential bio-statistics
- Formulating research question
- Descriptive studies
- Analytical studies
- Pre-clinical studies
- Experimental studies
- Sampling and sample size estimation
- Survival analysis

#### CLINICAL RESEARCH METHODS UNIT-II

- Bio-medical literature search / Organization of Literature search (Zoteroetc)
- Developing data collection instruments/Case Record Form (CRF)
- Developing analysis plan
- Use of statistical software for data analysis
- Writing protocol: Principles and Guidelines
- Ethics in clinical research (Siddha, International/National)
- Scientific writing/ Writing the Dissertation (Including University Guidelines)
- Scientific presentation (oral/visual/poster)
- Case report writing / presentation
- Journal critique
- Writing research grants
- Comparative study of traditional medical systems (specifically Chinese, Ayurveda, Homeopathy, Unani)
- Mentorship
- Pedagogic methods

#### CLINICAL RESEARCH METHODS UNIT-III

- Introduction to National health programmes/health system including AYUSH
- Indian health/medical research systems/bodies including AYUSH ICMR, CCRAS, CCRS, Clinical Trials Registry of India etc
- Orientation to National clinical research guidelines/regulatory bodies CDSCO/DCGI/NABH/QCI Indian GCP for ASU
- Drug standardization as per Pharmacopoeial Laboratory for Indian Medicine (PLIM)
- International guidelines ICH-GCP; WHO guidelines for traditional medicine; WHO/OECD guidelines for animal studies

## CLINICAL RESEARCH METHODS UNIT-IV (MINOR PROJECT)

- Cross-sectional study (Hospital-based)
  - Patients; Care-takers; Physicians
  - Cross-sectional study (Community-based)
  - Local traditional health traditions, including traditional bone-setting
  - Community (including tribal populations)
  - Studies using qualitative research methods
  - Clinical epidemiological studies (Hospital-based)
  - Secondary data analysis of clinical data with report
  - Case report/Case-series writing
  - Systematic review
  - Literary research
  - Comparative study of traditional medical systems
  - Report on visit to industry / entrepreneurship ideas
- Publication of any of the above work will get 20 marks

### References:

S.No.	Name of the book, Language, Publishers & Year of publication	Author
1	Health research methodology: A Guide for Training in Research Methods, (English), Second Edition, World Health Organization, Manila, 2001	World Health Organization
2	General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine, (English), First Edition, World Health Organization, 2000	World Health Organization
3	Designing clinical research. (English), Third Edition, Philadelphia: Lippincott Williams and Wilkins; 2013	Hulley SB, Cummings SR, Browner SR, Grady D, Newman TB
4	Biostatistics – Principles and Practice, (English), Elsevier, 2017	B Antonisamy, Solomon Christopher, Prasanna Samuel

## PAPER- II SIDDHA DIAGNOSTIC METHODS AND APPLICATION OF BASIC PRINCIPLES

### APPLICATIONS OF BASIC PRINCIPLES:

- Importance of Noinaadal
- Pancha bootha theory
- Pathological view of 96 principles
- Ayulkalanirnayam ( life expectancy)
- Mani,Manthira,avizhtham
- Unavae noikaranam concepts of Thiruvalluvar
- Siddha concepts of embryogenesis
- Mukkutraiyaal (Three humoral theory)
- Udalthathukkal (Somatic components)
- Thodakurigal (signs and symptoms of fatal conditions)
- Diseases due to suppression of 14 vegangal(natural urges)
- Udalvanmai and Udal thee
- Ideal period for medication
- Thoothullakkanam
- Noimudharkaranam (Primary causes of diseases)
- Uyir anal

## **SIDDHA DIAGNOSTIC METHODS:**

### **1. Ennvagai Thervu**

- Naa (Tongue)
- Niram (Colour/complexion)
- Mozhi (Speech/Voice)
- Vizhi (Eyes)
- Sparisam (Tactile perception)
- Malam (Faeces)
- Moothiram (urine)
- Naadi (Pulse examination) - different schools of thought

### **2. Saram (Principles of Pranan)**

### **3. Dhasanaadikal & Dhasavayukkal**

- Pathways -Applications of Naadi principles--Concepts of Sadhaganaadi, boothanaadi-sathiyam, asaathiyam and marananaadigal
- Guru naadi -Development, functions and abnormal manifestations Guru nadi-Grave signs

### **4. ManikkadaiNool -(AgathiyarSoodamanikairunool)**

### **5. Panchapatchi Sasthiram**

- Definition
- PanchaPatchiPayanpaadu
- Formation of PanchaPatchi
- Identification of Patchi through samam
- Poorvapatchi, Boothapatchi
- Atcharapatchi, Amarapatchi,
- Functional variations of Panchapatchi in accordance with time
- Identification of Patchi in Individuals
- Natchthirapatchi, Amarapatchi
- Valarpirai/Theipiraipatchi, Chakara,amarapatchi,Natchthirapatchi,Patchimo oligagal, Noinilayil Panchapatchi.

### **6. Jodhidam (Medical Astrology)**

- Concept of Jodhidam in Diagnosis
- NatchathiraUtcham, Pagai, Neetcham
- Lagnam Kanippu with noilagnam
- LagnaPalan, Position ofNatchathiram
- Ayul Nilai , AthmaNilai
- NatchathiraThinai and Buthi, DhasabuthiPalangal
- Nimitham & Prasnnajothidam

### **7. AmirdhaNilai**

### **8. Angalatchanam and its diagnostic view**

### **9. Surakkol**

**References:**

<b>S.No</b>	<b>Name of Books, Language, Publishers &amp; Year of Publication</b>	<b>Author</b>
1.	Noinaadal Noimuthal Naadal – part I, (Tamil), Siddha MaruthuvaVariyaVeliyeedu , (1987).	Dr. Shanmugavelu H.P.I.M.,
2.	Noinaadal Noimuthal Naadal – part II, (Tamil), Siddha MaruthuvaVariyaVeliyeedu , (1987).	Dr. Shanmugavelu H.P.I.M.,
3.	Theriyar neerkuri & neikuri, Thamarai Noolagam	--
4.	Theriyaryamagam, Thamarai Noolagam	--
5.	Thirumoolar naadinool, Thamarai Noolagam	--
6.	Agasthiyar Gunavaagada Naadi, Thamarai Noolagam	--
7.	Pathinen siddhar naadi nool, Thamarai Noolagam	--
8.	Theriyar Maruthuva Bharatham, Thamarai Noolagam	--
9.	Sigicharathina Deepam	Kannusaamiyam
10.	Yugi vaithiya chindhamani, Thamarai Noolagam	--
11.	Siddha maruthuvaanga churukkam, (Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr. Ka. Su.Uthamarayan H.P.I.M.,
12.	Siddha maruthuvam	Dr. Ka. Na. Kuppusaamy muthalaiyar H.P.I.M.,
13.	Kannusamiyam - Vaithiya saarasangeeragam	Kannusamiyam - Rathina naayakkar & sons
14.	Pulipaani jothidam, Thamarai Noolagam	
15.	Panchapatchi Saasthiram	Kannusamiyam - Rathina naayakkar & sons
16.	Pathinen siddhargal panjapatchi saasthiram, Pulipaani - Sunthara varathasari (Saraswathi mahal - Tanjore)	--
17.	Saranool saasthiram	Kannusamiyam - Rathina naayakkar & sons
18.	Dhasanaadigal, Varmaniyam foundation, Kombavilai, K.K district	Dr. Arjunan M.A., Ph.D., M.Phill
19.	Secrets of pulse	Dr. Vasanth Dathatray
20.	Introduction to Siddha Medicine	Dr. Thirunarayanan
21.	Gurunaadi Saasthiram	Kannusamiyam - Rathina naayakkar & sons
22.	Theriyar segarappa, Central Research Institute (CRI)	--

### THIRD YEAR

#### PAPER- I SIDDHA MARUTHUVA NOINAADAL AND CLINICAL APPLICATIONS -I

**Verupeyar, Noivarumvali, Murkurigal, Vagaigal, kurigunangal, Pothukurigunangal, Mukkutriverupadu, Naadinadai, Theerumtheeranilaigal and Maruthuvanadai for the following diseases:**

Suram -MukkuTRANOI -Ammainoi -Kuralkammal -Mookkadaippu -Kuruthiazhalnoi - Rathakothippu- Erumalnoi - Erraippunoi - Ellaippunoi -Ulaimanthai -Thamaraganoi - Suvainmai -Neervetkai -Seriammai-Vikkal -Vaanthi -Maantham -Gunmam -Soolainoi - Manneeralnoi -Kaleeralnoi -Velluppu -Sobai -Kamalai -Peruvayiru -Kudarpidippunoi - PerunKazhichal -Nina kazhichal -Kaduppukazhichal -Oozhinoi- Kirumihal - Ottunoihal- EruvaiMulainoi -Pouthiram-Vishabhaham- Vathanoihal -Pithanoihal -Kabanoihal - Kudiverinoi -Valippunoi -Keezhvayu- Kankasam - Nagapadalam - Maalaikan -Akkaram - Nakkupilavai - Nakkuputru-Thabitham-Siruneernoihal- Neerinaiarukkalnoisuch as Kalladaippu- Neerchurukku-Neerkattu- Chottuneer - Vellainoi- NeeradaippuNeerinaiperukkal/Mehaneer such as Mega neer (Vathaneer, Pithaneer, Kabaneer)-Inippuneer-Thelineer-Venneer-Mehaneerkattihal

#### References:

S. No	Name of Books, Publishers & Year of Publication	Author
1.	Noinaadai Noimudhal Naadal part II, Siddha MaruthuvaVariyaVeliyeedu , (1987).	Dr. M. Shanmugavelu H.P.I.M.
2.	Yugi vaithiya chindhamani, Thamarai Noolagam	--
3.	Manmuruhiyam (Tamil Maruthuvanool), Senthamil pathipagam, Nagercoil.	Ramasubhramaniya Naavalar,
4.	Pararasa Seharan,Thamarai Noolagam	--
5.	Theraiyar vaahadam,Thamarai Noolagam	--

## PAPER – II SIDDHA MARUTHUVA NOINAADAL AND CLINICAL APPLICATIONS –II

**Verupeyar, Noivarumvali, Murkurigal, Vagaigal, Kurigunangal, Pothukurigunangal, Mukkutriverupadu, Naadinadai, Theerumtheeranilaigal and Maruthuvanadai for the following diseases:**

Kuttanoi - Venkuttam - Karappan - Kalanchagapadai -Vippuruthi-Aannkurinoihal-penkurinoihal- Pooppuththadai -Perumpaadu -Soothagavali -Nithambasoolai-Neerkumizhkazhalaikal-Yonikkasivu / Vellaipaduthal -KuharanaSoothagathadai-Piravikuraipaadu-Maladu -Pirappuuruppukalilthabitham -Punarchinoihal -VanKazhalaihal -Maravaikattihal -Karuppaiadithallal-Kongainoihal-Karbarohangal such as Nithambasoolai - Karpasoolai-Thoorasoolai Rathasoolai- Karaisoolai- Karpakirani-Karpapuzhu-Karpavippuruthi- Karpavayu- Karpasuram-Suthagavayu- Sooraigunmam- Karpasronitham- AndasoolaiSoolvanthi-Soolvali-Soolvalippu-Karuchchithaivu-purakkaruppaisool. Pirasavapinkalanoihal. Piravinoihal - Balavaatham -Kuthamadithalal - Kakkuvan -Kasam - Thondaiadaippan -Thodam -Maantham -Kanam -Akkaram - Kudarkirumihal.

### References:

S. No	Name of Books, Language, Publishers & Year of Publication	Author
1.	Siddhar Aruvai Maruthuvam (Tamil), Indian Medicine and Homeopathy Thurai, (2005)	Dr. Ka.Su. Uthamarayan
2.	Sirappu Maruthuvam, (Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr. R. Thiyagarajan
3.	Mahalir Maruthuvam(Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr. P.M. Venugopal
4.	Sool Maruthuvam(Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr. P.M. Venugopal
5.	Kuzhantai Maruthuvam	Dr. K.S. Murugesu muthaliyar
6.	Maathar Maruthuvam	Dr. MohanRaj, Mungirai college
7.	Theriyar venba	Rathina naayakkar & sons
8.	Arivayar Chinthamani	Dr. Mohanraj, Mungirai college
9.	Yugi Vaithiya Chinthamani	Thamarai noolagam
10.	Konghainoi Maruthuvam	Dr. Mohanraj, Mungirai college
11.	Text book of Surgery	S. Das
12.	Text book of Surgery	Bailey & Love
13.	Diseases of eye	Parson's
14.	Text book of ophthalmology	H.V. Nema, Nithn Nema
15.	Practice of dermatology	P.N. Behl's
16.	Illustrated text book of dermatology	J.S. Pasriche
17.	Text book of gynaecology	Shaw
18.	Text book of gynaecology & obstetrics	Shula Balakrishnan
19.	Text book of gynaecology	Dutta
20.	Text book of gynaecology	Muthaliyar
21.	Essential text book of Paediatrics	O.P. Ghai
22.	Text book of paediatrics	Nelson



## PAPER- III ESSENTIALS IN PATHOLOGY INCLUDING CLINICAL PATHOLOGY

### GENERAL PATHOLOGY:

#### 1. Cellular adaptation cell injury and cell death

Mechanism, morphology and examples of cell injury, necrosis and apoptosis. Sub cellular and cellular responses and adaptation to injury intracellular accumulations, pathological calcification and cell aging.

#### 2. Acute and chronic inflammation

Vascular and cellular events in acute inflammation, chemical mediators, outcome and morphological patterns of acute inflammation. Chronic inflammation with special reference to granulomatous inflammation. Systemic effects and effects of deranged inflammation

#### 3. Tissue renewal and repair: Regeneration healing and fibrosis.

Control of normal cell proliferation and tissue growth, mechanism of tissue regeneration, repair by healing and fibrosis. Extracellular matrix and cell matrix interactions.

#### 4. Hemodynamic disorders, thrombo embolic disease and shock.

Oedema, hyperaemia, congestion and haemorrhage. Normal Haemostasis, thrombosis, DIC, embolism, infarction and shock.

#### 5. Genetic Disorders

Principles of genetics, normal karyotyping. Mutations, Mendelian disorders, disorders with multi factorial inheritance. Cytogenetic disorders involving autosomes and sex chromosomes. Single gene disorders with non classic inheritance. Diagnosis of genetic disorders involving molecular and genetic techniques.

#### 6. Neoplasia

Definition, nomenclature and biology of tumour growth. Molecular basis of cancer with special reference to carcinogenic agents and molecular basis of multistep carcinogenesis

Epidemiology and clinical features of tumours. Metastasis, Grading, staging and laboratory diagnosis of cancer.

#### 7. Infectious Diseases

General principles of microbial pathogenesis, bacterial, fungal, parasitic and viral infections.

#### 8. Environmental and nutritional pathology

Common environmental and occupational exposures leading on to diseases. Nutritional deficiencies and obesity related disorders.

#### 9. Disease of Infancy and Childhood

Congenital anomalies, birth injuries, Diseases of neonates, Inborn errors of metabolism, Tumour and tumour like lesions of infancy and childhood.

### Systemic Pathology

#### 1. Blood vessels, lymphatic and veins

Normal morphology, congenital anomalies, atherosclerosis, hypertensive vascular disease.

Inflammatory and neoplastic diseases of all the vessels.

#### 2. Heart

Normal morphology, its blood supply and effect of aging on heart. Ischemic, hypertensive, valvular, congenital heart diseases and cardiomegaly Pericardial diseases. Tumours of the heart.

#### 3. Lungs

Congenital anomalies obstructive and restrictive pulmonary diseases. Diseases of vascular origin. Infections and tumours of lung, diseases of pleura.

4. **Head and Neck**  
Oral cavity: - inflammatory disease and tumours diseases of teeth and supporting structures.  
Upper airways and ear – congenital anomalies, infections and tumours. Salivary glands – Infections autoimmune disorders and tumours. Thymus – Developmental autoimmune and inflammatory disorder and tumours.
5. **Gastro Intestinal Tract**  
Congenital anomalies, infections inflammatory and vascular disorders and tumours of oesophagus, stomach, small and large intestines, appendix and anal canal. Diseases of the peritoneum.
  - i. **Liver**  
Normal morphology with general features of hepatic disease including LFTs. Infectious, autoimmune drug induced, metabolic and circulatory disorders of liver. Hepatic diseases associated with pregnancy, neonates. Nodules and tumours of liver.
  - ii. **Biliary tract**  
Congenital anomalies, injuries, Gallstones, cholecystitis and tumours of gallbladder and extra hepatic bile ducts.
  - iii. **Pancreas**  
Congenital anomalies, pancreatitis and neoplasm of pancreas.
6. **Kidney**  
Clinical manifestations of renal diseases, congenital anomalies diseases affecting glomeruli, tubules, interstitium and blood vessels. Cystic diseases of kidney. Tumours of kidney
7. **Male genital system.**  
Congenital anomalies, inflammation and tumours of ureter, urethra, penis, testis and epididymis. Inflammation, enlargement and tumours of prostate.
8. **Female genital tract**  
Congenital anomalies, inflammation and tumours of vulva, vagina, cervix, uterus, fallopian tubes and ovaries. Gestational and placental disorders.
9. **Breast**  
Inflammations, benign epithelial lesions and tumours of the breast. Diseases of male breast.
10. **The Endocrine System**  
Normal hormonal levels and functions of all the endocrine glands. Hypo and hyperactivity of glands of endocrine system i.e. pituitary, thyroid, parathyroid, pancreas, adrenals and pineal gland. Autoimmune diseases, inflammations and tumours affecting these glands.
11. **Skin**  
Disorders of pigmentation and melanocytes inflammatory, vesiculobullous and infectious disease tumours of the epidermis, dermis and skin appendage.
12. **Musculoskeletal system**  
Disorders of bone growth and development, Genetic and acquired abnormalities in bone cells, matrix and structure, Metabolic and endocrine bone diseases. Features necrosis and infections of bones, Tumours and tumour like lesions of bones and soft tissue, Bursitis, Arthritis.
13. **Peripheral nerves and skeletal muscles**  
General reactions of motor units. Inflammatory, infectious, hereditary, metabolic and traumatic neuropathies atrophy, dystrophy, myopathies of the skeletal muscles. Diseases of neuromuscular junction tumours of peripheral nerves and skeletal muscle bundles
14. **Central Nervous System**  
Degenerative, metabolic, toxic, demyelinating, infectious, cerebrovascular malformations and traumatic injuries of skeletal muscle bundles.

## 15. Tumours

## 16. Eye

Infections, inflammatory, congenital diseases and neoplasm of orbit, eyelid, conjunctiva sclera, cornea, retina and optic nerves

## 17. Cytopathology

### General Cytology

Origin and principles with stress on basic structure of a mammalian cell. Recognition and classification of different cell types. Fundamental concepts of neoplasia – Benign & malignant.

#### i. Cytology of Female Genital Tract

Normal FGT Intraepithelial lesions and squamous carcinoma of the uterine cervix adeno carcinoma and related lesions of the uterine cervix. Proliferative disease and carcinoma of the endometrium.

#### ii. Breast cytology

Cytological diagnosis of all breast lesions on FNA.

#### iii. Cytology of thyroid, lymph nodes, neck masses.

Aspiration cytology of all common lesions.

#### iv. Cytology of all effusions and fluids in the absence as well as presence of cancer.

#### v. Cytology of Skin, Bone and Soft tissue

Cytology of common lesions

#### vi. Cytology of Liver, Spleen, Pancreas, Retro peritoneum, Abdominal lumps

Cytology of neoplastic and non-neoplastic lesions

#### vii. Cytology of Testis and Prostate.

## 18. Haematology

## 19. Clinical Correlation

Signs and Symptoms (General and Systemic examination) with various haematological disorders.

### Immunopathology

Agglutination Reactions- Principle, Techniques & practical Applications

- All tests based on ELISA – Principle, Techniques & practical Applications
- Protein electrophoresis – Principle, Technique & practical applications
- Immunoelectrophoresis
- Detailed knowledge of ANA & ANCA profile

### References:

S.No	Name of Books, Language, Publishers & Year of Publication	Author
1.	Text book of pathology	Harsh Mohan's
2.	Practical pathology	Harsh Mohan's
3.	Clinical pathology	Harsh Mohan's
4.	Text book of Pathology	Robbinson's
5.	Text book of Pathology	Bold's
6.	Text book of Pathology	Anderson's
7.	Review in Pathology	Nitin Chawla, Sandip Kudesia

## **PAPER- IV RECENT ADVANCES IN DIAGNOSTIC METHODS INCLUDING RADIOLOGY**

Clinical examinations: Chest examination, abdominal examination, rectal examination, Cranial nerves examinations etc.

### **RADIOLOGICAL DIAGNOSIS:**

- Introduction to radiology
- Physics of radiology
- Radiation physics and medical physics
- Radio diagnosis
- Imaging technique
- Computed tomography
- Magnetic Resonance and imaging
- Ultrasound Imaging

### **LABORATORY DIAGNOSIS:**

- Haematology
- TC, DC, ESR, Hb, Total RBC, Blood group, BT,CT, PCV, Platelet count, peripheral smear,
- Smear for M.P, M.F.
- LFT, RFT
- Lipid profile
- Complete urine examination
- Albumin, Sugar, Deposits, Bile salts, Bile pigments, Acetone
- Stools examination – Physical and microscopic examination
- Vaginal smear
- Sputum Analysis
- Semen examination – Routine, Fructose level

### **Interpretation of a Haemogram:**

- Preparation & examination of blood with relevant special stains
- Reticulocyte count preparation & interpretation of smear for reticulocyte count

### **INSTRUMENTAL DIAGNOSIS:**

- ECG ,EEG
- Optical Fundoscopy
- Doppler –Venus And Arterial
- Arthroscopy
- Pulmonary Function Test (Plethysmography)
- Echo Cardiogram
- Coronary Angiogram
- Radio Nuclid Scanning
- Intravenous Neurogram
- Cystoscopy
- Colonoscopy
- Bronchoscopy
- Upper G.I Endoscopy
- Endoscopic Retrograde colongiopancreatography
- Eletroretinograme

## **PRACTICALS:**

### **CLINICAL PATHOLOGY:**

- Bleeding time, Cloting time,
- TC,DC,ESR
- Estimation of WBC count
- Haemoglobin level
- PCV,MCV,MCHC
- Estimation of Platelet count
- Estimation of Reticulocyte count
- Peripheral smear
- Liver function test
- Renal function test
- Pulmonary function test
- Complete urine examination with reference to its physical, chemical and special tests.
- Semen examination – Physical, chemical (pH, Liquefaction time) and microscopic examination.
- Stool examination – Physical and microscopic examination
- Vaginal Smear study
- Radiology (USG,CT,MRI)

### **References:**

<b>S.No</b>	<b>Name of Books, Language, Publishers &amp; Year of Publication</b>	<b>Author</b>
1.	Clinical Methods	Hutchinson's
2.	Clinical Examination	Macleod's
3.	Physical examination and health assessment	Jarvis
4.	Text book of radiology	David Sutton
5.	Clinical Pathology	Harsh Mohan's
6.	Practical Pathology	Harsh Mohan's
7.	Manual of Clinical Pathology	CMC vellore

### **DISSERTATION**

Kindly refer the regulation 11 of IMCC (Post-Graduate Siddha Education) regulations, 2016.