

CENTRAL COUNCIL OF INDIAN MEDICINE

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

SYLLABUS FOR PURA MARUTHUVAM (EXTERNAL THERAPY) SPECIALITY

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

GOAL:

The goal of MD Pura Maruthuvam shall be establishing the External therapies of Siddha System of medicine for treating various diseases affecting mankind and to getting global acceptance in the healthcare delivery system.

OBJECTIVES:

- To teach the importance of external therapeutic procedures for the betterment of the patients those undergoing treatment for various conditions along with internal medicines.
- To make aware of the contemporary and developments in External therapies to the Siddha students and graduates.
- To make the students for acquiring the advanced skills through teaching external therapies in the treatment of various ailments.
- To create potent resources for the teaching of 32 external therapies and other special therapies of Siddha System of Medicine.
- Developing professional and academic knowledge of external therapeutic expertise in academic arena, clinical practice and research aspects.
- Scientific study of external therapies and also along with internal medicines in treating various ailments.
- Providing World class hands on training and practice in 32 types of external therapies.
- To document the clinical practice of external therapies in line of global scientific research and global acceptance.
- To equip a graduate with the capacity for independent practice and application of external therapies for treating various ailments.
- To establish and develop the pharmacopeia and various Siddha external therapies and medications.
- Establishing the standard operative procedure (SOP) for external therapies of Siddha System of Medicine for treating many chronic conditions for a uniform care across the country and global level.
- Implementation of role and importance of external therapies in National Health Programmes.
- Establishing the selective external therapy procedures as a preventive and treatment tool for Non-communicable diseases (NCD).
- Documentation of External therapies for the evidence based medical science.

FIRST YEAR (Preliminary Examination)					
S. NO	SUBJECT	THEORY	PRACTICAL/CLINICAL	VIVA	TOTAL MARKS
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 Basic Principles of Siddha Adopted in Pura Maruthuvam and Clinical surgery	100	--	50	150
SECOND YEAR					
	Essential: Obtain CME credit points through, Seminars/Workshops/Conferences(National/International) Desirable: Publication/ Visits or internship at Industry / Lab / Research institute /other AYUSH Institutions/ Journal club/ Teaching under graduate students				
THIRD YEAR (Final Examination)					
S. NO	SUBJECT	THEORY	PRACTICAL/CLINICAL	VIVA	TOTAL MARKS
1.	PAPER –I Aruvai, Agni and Kaaram-Invasive and Non Invasive Procedures	100	100(Clinical 70+Oral 30)	50	250
2.	PAPER –II Thokkanam and Physical Medicine	100	100(Clinical 70+Oral 30)	50	250
3.	PAPER –III Preparation and Applications of Puramarunthukal	100	100(Practical 70+Oral 30)	50	250
4.	PAPER –IV Essentials in Orthopaedics and Traumatology	100	100(Clinical 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 CDSO/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 BASIC PRINCIPLES OF SIDDHA ADOPTED IN PURAMARUTHUVAM AND CLINICAL SURGERY

1. Definition for Pura Maruthuvam
2. Synonyms of Pura Maruthuvam
3. Importance of Pura Maruthuvam
4. Udalkoorgal and Udalthathuvam related with Pura Maruthuvam
5. Siddha pathology
6. Nadiyum Noikanippum and other diagnostic methods in siddha
7. Type of Pura Maruthuvam
 - Aruvai (Surgical)
 - Invasive
 - Non-Invasive
 - Others.

Siddha basic principles - Five element theory - Three vital humours - Seven physical constituents - Naadi - Siddha pathology - Siddha way of diagnosis - Treatment in Siddha medicine - Prevention of diseases - Life style mentioned in Siddha literatures - External therapies - Selection of patients for external therapies - Types of external therapies - Instruments used in external therapies - Pre requisite for external therapies - Diseases meant for external therapies - Medicines used in various external therapies.

CLINICAL SURGERY:

- 1. Surgical principles**
- 2. General scheme of case taking**
- 3. Special symptoms and sign**
- 4. Lump or swelling**
 - a. Examination
 - b. Investigation
 - c. Differential diagnosis
- 5. Ulcer**
 - a. Examination
 - b. Investigation
 - c. Differential diagnosis
- 6. Sinus and fistula**
 - a. Examination
 - b. Investigation
 - c. Differential diagnosis
- 7. Peripheral vascular diseases and gangrene**
 - a. Examination
 - b. Investigation
 - c. Differential diagnosis

8. Varicose vein

- a. Examination
- b. Investigation
- c. Differential diagnosis

9. The lymphatic system

- a. Examination
- b. Investigation
- c. Differential diagnosis

10. Peripheral nerve lesion

- a. Examination
- b. Investigation
- c. Differential diagnosis

11. Diseases of muscle, tendon, and fasciae

- a. Examination
- b. Investigation
- c. Differential diagnosis

12. Diseases of bone

- a. Examination
- b. Investigation
- c. Differential diagnosis

13. Bone and joint injury

- a. Examination
- b. Investigation
- c. Differential diagnosis

14. Head injury

- a. Examination
- b. Investigation
- c. Differential diagnosis

15. Intracranial space occupying lesion

- a. Examination
- b. Investigation
- c. Differential diagnosis

16. Spinal injury

- a. Examination
- b. Investigation
- c. Differential diagnosis

17. Spinal abnormalities

- a. Examination
- b. Investigation

- c. Differential diagnosis

18. Diseases and injury of hand

- a. Examination
- b. Investigation
- c. Differential diagnosis

19. Diseases and injury of foot

- a. Examination
- b. Investigation
- c. Differential diagnosis

20. Diseases and injury of head and face

- a. Examination
- b. Investigation
- c. Differential diagnosis

21. Diseases and injury of jaws and temporo mandipular joints

- a. Examination
- b. Investigation
- c. Differential diagnosis

22. Diseases of palate, tongue, cheek and floor of mouth

- a. Examination
- b. Investigation
- c. Differential diagnosis

23. Diseases of salivary glands

- a. Examination
- b. Investigation
- c. Differential diagnosis

24. Diseases of neck

- a. Examination
- b. Investigation
- c. Differential diagnosis

25. Disorder of thyroid gland

26. Injuries of chest

- a. Examination
- b. Investigation
- c. Differential diagnosis

27. Diseases of chest

- a. Examination
- b. Investigation
- c. Differential diagnosis

28. Diseases of breast

- a. Examination
- b. Investigation
- c. Differential diagnosis

29. Abdominal injuries

- a. Examination
- b. Investigation
- c. Differential diagnosis

30. Acute abdomen

- a. Examination
- b. Investigation
- c. Differential diagnosis

31. Chronic abdominal condition

- a. Examination
- b. Investigation
- c. Differential diagnosis

32. Abdominal lump

- a. Examination
- b. Investigation
- c. Differential diagnosis

33. Rectal diseases

- a. Examination
- b. Investigation
- c. Differential diagnosis

34. Urinary disorders

- a. Examination
- b. Investigation
- c. Differential diagnosis
- d. Hernia and other swelling in inguinal scrotal region
- e. Examination
- f. Investigation
- g. Differential diagnosis

35. External genitalia diseases

- a. Examination
- b. Investigation
- c. Differential diagnosis

References:

S.No	Name of the book, language, publisher, year	Author
1.	Siddha Maruthuvanga Churukkam, (Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr. Ka. Su.Uthamarayan
2.	Siddhar Aruvai Maruthuvam, (Tamil), Indian Medicine and Homeopathy Thurai, (2005)	Dr. Ka. Su.Uthamarayan
3.	Siddha Maruthuva Noinaadal Noimudhal Naadal (Part-II), (Tamil), Siddha Maruthuva Variya Veliyeedu, (1987).	Dr. M. Shanmugavelu HPIM
4.	Noilla Neri, (Tamil), Department of Indian Medicine and Homoeopathy, Chennai-106, (2004)	Dr. K. Durairasan H. P. I.M
5.	Thotrakirama Araichiyum Siddhamaruthuva Varalaarum, (Tamil), Department of Indian Medicine and Homeopathy, (2003)	Dr. Ka. Su.Uthamarayan H.B.I.M.
6.	A Complete Manual on Siddha External Therapies, Shanlax Publications, Maudurai, Tamilnadu, 2017	Dr. G. Senthilvel., M.D(S), Ph.D Dr. J. Jeyavenkatesh., M.D(S), Ph.D
7.	Therantharu, (Tamil), Siddha Maruthuv Aaraichi Nilayam-chennai 17, (1997).	--
8.	Therankarisalai-300, (Tamil), Govt Siddha medical college.	--
9.	Theraiyaryamagavenba, (Tamil), Indian Medicine and Homeopathy Thurai- Chennai 106, (2003).	--
10.	Udalkoorugal, (Tamil), Indian Medicine and Homeopathy Thurai	Dr. R. Thiagarajan H.I.M
11.	Udalthathuvam, (Tamil), Department of Indian Medicine and Homeopathy	Dr. P. M. Venugopal H.B.I.M.
12.	External Therapies of Siddha Medicine	Dr. T. Thirunarayanan, Dr. R. Sudha
13.	Manual of Clinical Surgery, (English), old mayors court	S. Das.
14.	Oxford hand Book of Clinical Surgery, (English), (English), oxford university press	Greg Mclatchie
15.	Essential surgery, (English), Churchill Livingstone	Clive R.R. Quick
16.	Anatomy of general surgical operation, (English), elsvier health science	Glyn G. Jamieson
17.	short practice of surgery, (English) Edward Arnold lid.	Bailey & Loves's
18.	Basic surgical techniques, (English), 6 th ed	R.M..Kirk
19.	Principle and practice of surgery, (English), Churchill livingstone	O James Garden

THIRD YEAR

PAPER-I ARUVAI, AGNI AND KAARAM - INVASIVE AND NON INVASIVE PROCEDURES

ARUVAI (EXCISION)

Definition
Materials and Methods
Preparation of Application
Literature Evidence
Therapeutic procedures for varies disease

OOTHAL (BLOWING)

Definition
Materials and Methods
Preparation of application
Literature evidence
Therapeutic procedures for various diseases

VARTHI VAITHAL (MEDICATED WICK)

Definition
Materials and Methods
Preparation of application
Literature evidence
Therapeutic procedures for various diseases

KEERAL (INCISION)

Definition
Materials and Methods
Preparation of application
Literature evidence
Therapeutic procedures for various diseases

ATTAI VIDAL (LEECH THERAPY)

Definition
Materials and Methods
Preparation of application
Literature evidence
Therapeutic procedures for various diseases

KURUTHI VANGAL (VENESUCTION)

Definition
Materials and Methods
Preparation of application
Literature evidence
Therapeutic procedures for various diseases

PEETCHU (DOUCHE)

Definition

Materials and Methods

Preparation of application

Literature evidence

Therapeutic procedures for various diseases

URINCHAL (SUCTION)

Definition

Materials and Methods:

Preparation of Application:

Literature Evidence:

Therapeutic Procedures for Various Diseases

SALAGAI (PROBE)

Definition

Materials and Methods

Preparation of Application

Literature Evidence

Therapeutic procedures for varies Diseases

MURICHAL (BONE RESTRUCTURING)

Definition

Materials and Methods

Preparation of Application

Literature Evidence

Therapeutic procedures for varies Diseases

KOMBUKATTAL (FRACTURE IMMOBILIZATION)

Definition

Materials and Methods

Preparation of Application

Literature Evidence

Therapeutic procedures for varies Diseases

AKKINI SUTTIGAI-CAUTERY

Definition

Materials and Methods

Preparation of Application

Literature Evidence

Therapeutic procedures for various Diseases

POTTANAM (MEDICATED POUCH/PACKS)

Definition

Materials and Methods

Preparation of Application

Literature Evidences
Therapeutic procedures for various Diseases
PUGAI(FUMIGATION)
Definition
Materials and Methods
Preparation of Application
Literature Evidences
Therapeutic procedures for various Diseases

KALIKAM (EYE DROPS)

Definition
Materials and Methods
Preparation of application
Literature evidences.
Therapeutic procedures for various Diseases

NASIYAM (NASAL DROPS)

Definition
Materials and Methods
Preparation of application
Literature evidences.
Therapeutic procedures for various Diseases

NASIKABARANAM (INSUFFLATION)

Definition
Materials and Methods
Preparation of application
Literature evidences.
Therapeutic procedures for various Diseases

KARAM (CHEMICAL CAUTERY)

Definition
Materials and Methods
Preparation of application
Literature evidences.
Therapeutic procedures for various Diseases

References:

S.No	Name of the book, language, publisher, year	Author
1.	Siddha Maruthuvanga Churukkam, (Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr.Ka.Su.Uthamarayan
2.	Siddhar Aruvai Maruthuvam, (Tamil), Indian Medicine and Homeopathy Thurai, (2005)	Dr.Ka.Su.Uthamarayan
3.	Siddha Maruthuva Noinaadal Noimudhalnaadal Thirattu (part-2), (Tamil), Siddha MaruthuvaVariyaVeliyeedu, (1987).	Dr.M.Shanmugavelu HPIM

4.	NoillaNeri, (Tamil), Department of Indian Medicine and Homoeopathy, Chennai-106, (2004)	Dr.K.Durairasan H. P. I .M
5.	Thotrakirama Aaraichiyum Siddhamaruthuva Varalaarum, (Tamil), Department of Indian Medicine and Homeopathy, (2003)	Dr. Ka.Su.Uthamarayan
6.	A Complete Manual on Siddha External Therapies,ShanlaxPublications,Maudurai,Tamilnadu,2017	Dr.G.Senthilvel.,M.D(S),Ph.D Dr.J.Jeyavenkatesh.,M.D(S),Ph.D
7.	Therantharu, (Tamil), Siddha Maruthuvaaraichi Nilayam-chennai 17, (1997)	
8.	Therankarisalai-300, (Tamil),	
9.	Theraiyaryamagavenba, (Tamil), Indian medicine and Homeopathy Thurai- Chennai 106, (2003).	
10.	Udalkoorugal,(Tamil), Indian Medicine and Homeopathy Thurai, (1992)	Dr. R.Thiagarajan H.I.M
11.	Udalthathuvam, (Tamil), Department of Indian Medicine and homeopathy, (2014)	Dr. P.M.Venugopal H.B.I.M.
12.	External Therapies of Siddha Medicine(English)	Dr. T.Thirunaraynan, Dr. R.Sudha

PAPER-II THOKKANAM AND PHYSICAL MEDICINE

Definition of Thokkanam
 General Procedures of Thokkanam
 Types of Thokkanam
 Diseases treated with Thokkanam
 Therapeutic benefits of Thokkanam

PHYSICAL THERAPEUTIC MODALITIES

a) Electrotherapy

Electrical stimulation
 Effects of Heat
 Effects of Cold
 Superficial Heat Therapy
 Deep Heat Therapy
 TENS / IFT
 UV irradiation
 Laser therapy
 Cry therapy

b) Therapeutic Exercises

Balance and Co-ordination exercises
 Strengthening exercises
 Mobilisation exercises
 stretching exercises

c) Traction

Methods of Traction,
Traction at different levels,
Indications and Contra-indications

d) Massage and Manipulation

Methods and techniques in different clinical conditions

e) Clinical applications

Therapeutic modalities in different clinical conditions
Indications
Complications
Contra-indications

ORTHOTICS

Principle and prescription of orthosis
Cervical and Thoraco-lumbar orthoses
Orthoses for Spinal deformities
Upper limb orthoses
Lower limb weight bearing orthoses
Orthosis for weakness and deformities
Foot wear modifications
Orthosis in Polio, Spinal cord injury, Stroke, Nerve injury, Cerebral Palsy,
Rheumatology & Sports
Ambulatory aids
Wheel chairs and Tricycles
Assistive devices

REHABILITATION OF NEUROMUSCULAR CONDITIONS

Neuro-muscular Conditions

a) CNS- Stroke

Traumatic Brain Injury
Multiple sclerosis

Parkinsonism

Spinal cord injury and diseases

b) Anterior horn cell diseases

c) Plexopathies

d) Nerve injuries and diseases

e) Muscular diseases – myopathies and dystrophies

8. Cancer, Geriatrics and Sports Rehabilitation

SPORTS REHABILITATION

Scope of sports medicine
Athlete and normal person
Type of muscle fibres in different sports activities
Methods of improving performance
Sports injuries
First-aid and rehabilitation management

Long-term disability in sports injuries

Stress fractures

VASCULAR DISEASES REHABILITATION

Arterial diseases

TAO

Diabetes Mellitus

Vasculitis

Occupational disorders

Rehabilitation management

Venous diseases

DVT

Varicose veins

Venous ulcers

Lymphatic diseases

Lymph oedema

Filiariasis

Rehabilitation management

REHABILITATION OF ORTHOPAEDIC AND RHEUMATOLOGIC CONDITIONS

Orthopaedics

Structure and development of bone

Osteoporosis, Scurvy, Rickets

Genu valgum and varum

Chondro-dystrophies

Gigantism, dwarfism

Osteomyelitis

Cervical rib,

Congenital Dislocation of Hip,

Arthrogyphosis,

Congenital limb deficiencies,

Spinal dysraphism

Osteogenesis imperfecta

Trauma- Fractures and complications,

Volkmann's ischemic contracture,

Delayed union, mal-union, non-union,

Post-operative management,

Post-traumatic management,

Post-burns management

Soft tissue conditions – Ganglion,

Bursitis,

Dupytren's contracture,

Muscle and tendon injuries,

Trigger finger,

Dequervain's disease,

Plantar Fasciitis,

Tennis elbow.

RHEUMATOLOGY

Study of Rheumatic diseases

Rheumatoid Arthritis & Juvenile Rheumatoid Arthritis

Ankylosing spondylitis

Psoriatic Arthritis

Rheumatic fever and others

Collagen diseases – SLE, Polyarteritis Nodosa, Scleroderma, Dermatomyositis

Degenerative diseases - Osteo arthritis

Metabolic bone & joint disorders – Gout, Pseudo gout, Alkaptonuria

Infections – Septic, Syphilitic, T.B., Gonorrhoeal, HIV

Affections of different joints

References:

S. No	Name of the book, language, publisher, year	Author
1.	Siddhar Aruvai Maruthuvam, (Tamil), Indian Medicine and Homeopathy Thurai, (2005)	Dr.Ka.Su.Uthamarayan
2.	Noilla Neri, (Tamil), Department of Indian Medicine and Homoeopathy, Chennai-106, (2004)	Dr.K. Durairasan H. P. I .M
3.	Therantharu, (Tamil), Siddha Maruthuvaaraichi Nilayam-chennai 17, (1997).	--
4.	Therankarisalai-300, (Tamil), Govt Siddha Medical College.	--
5.	Siddha medicine Volume - III - Special Areas (English) - Tamil Valarchi Kazhagam.2010	Dr.J.R.Krishnamoorthy et. Al.
6.	A Complete Manual on Siddha External Therapies, Shanlax Publications, Maudurai, Tamilnadu, 2017	Dr.G.Senthilvel.,M.D(S),Ph.D Dr.J.Jeyavenkatesh.,M.D(S),Ph.D
7.	External Therapies of Siddha Medicine(English)	Dr. T. Thirunarayan, Dr. R. Sudha
8.	Massage For Therapists, (English) published by Blackwell science.	Margaret hollies
9.	Tidy's Physiotherapy, (English), Elsevier publisher	Edited by stuart porter
10.	Muscle Energy Techniques: A Practical Handbook for Physical Therapist (English)	John Gibbons and Amanda Williams
12.	Neurological Rehabilitation (English), paperback publisher	Carr.
13.	Handbook of Physical Medicine and Rehabilitation(English) paperback publisher	Randall L. Braddom
13.	Orthopaedics and Traumatology (English)	Prof.M.Natarajan, Mayilvahanan Natarajan
14.	Textbook of Orthopaedics and Traumatology (English) Wolters Kluwer	Natarajan

15.	Essential Orthopaedics Including Clinical Methods, (English) Jaypee Brothers publisher	J Maheshwari
16.	Text book of Orthopaedics,(English) Jaypee Brothers publisher	John Ebenezer
17.	Varma Odivu Murivugal Maruthuvam (Traumatology in Varma Medicine), Vol-1, ElumbuMurivu, ATSVS Siddha Medical College (2010)	Dr.T.KannanRajaram
18.	Varma Odivu Murivu Maruthuvam (Traumatology in Varma Medicine), Vol-2, NarambuMurivu, ATSVS Siddha Medical College (2010)	Dr.T.KannanRajaram
19.	Varma Odivumurivu Maruthuvam (vol I fractures)ATSVS Siddha Medical College (2010)	Dr. Kannanrajaram Dr. Pelicitraalk.rajaram

PAPER III- PREPARATION AND APPLICATIONS OF PURAMARUNTHUKAL

This includes Materials used for the preparation of Puramarunthukal, preparatory methods, preservation, precautionary measures, application techniques and its therapeutic usage, contraindications etc.,

1. Herbs used in Pura Maruthuvam
2. Metals and minerals used in Pura Marthuvam
3. Animal products used in Pura Maruthuvam
4. Preparation from combination of Mineral and herbal, herbal and Animal Origin, Metals and Herbals etc.

References:

S. No	Name of the book, language, publisher, year	Author
1.	Gunapadam MooligaiVaguppu, (Tamil), Department of Indian Medicine and Homeopathy, (2003)	Dr. M. Murugesu Muthaliyar
2.	GunapadamThathu Jeeva Vaguppu (2 nd and 3 rd part), (Tamil), Department of Indian Medicine and Homoeopathy, (2004)	Dr. R.Thiyagarajan
3.	Therantharu, (Tamil), Siddha Maruthuva Aaraichi Nilayam-chennai 17, (1997).	--
4.	Therankarisalai-300, (Tamil), Govt Siddha Medical college.	--
5.	Siddha Maruthuvanga Churukkam, (Tamil), Department of Indian Medicine and Homoeopathy - Chennai.	Dr.Ka.Su.Uthamarayan

6.	Siddhar Aruvai Maruthuvam, (Tamil), Indian medicine and homeopathy Thurai, (2005)	Dr.Ka.Su.Uthamarayan
7.	T.V.Sambasivampillai Tamilagarathy, (Tamil), Directorate of Indian medicine an homeopathy, (1991)	T.V.Sambasivampillai
8.	A Complete Manual on Siddha External Therapies, Shanlax Publications, Maudurai, Tamilnadu, 2017	Dr.G.Senthilvel., M.D(S), Ph.D Dr.J.Jeyavenkatesh., M.D(S), Ph.D
9.	Agathiyarnayanavithi, (Tamil)	--
10.	Nagamuninayanavithi, (Tamil)	--
11.	Agathiyar Rana Vaithyam (Tamil)	--

PAPER IV - ESSENTIALS IN ORTHOPAEDICS AND TRAUMATOLOGY

ORTHOPEDICS: GENERAL

History- Orthopaedics In India- Emblem-Deformities-Acquired Deformities-Assessment-Principles Of Management- Gait- Walk Cycle- Abnormal Gait- Antalgic Gait- Unstable Hip- Gluteus Maximus Gait- Quadriceps Gait- High Stepping- Short Leg-Scissoring-stiff knee gait.

CONGENITAL DEFORMITIS:

Aetiology-lower limb-congenital talipesquinovarus-developmental dysplasia of the hip-congenital genu recurvatum- Upperlimb- Sprengel's shoulder-radio-ular synostosis-madelung's deformity-syndactylism- polydactylism-Congenital Skeletal Limb Deficiencies-congenital absence of the radius-congenital absence of fibula-Neck and Spine-congenital torticollis-spine bifida-congenital scoliosis.

GENERALISED DISEASES OF BONES:

Metabolic diseases-rickets-osteoporosis-scurvy-Endocrine Disorders- parathyroid osteodystrophy-secondary hyperparathyroidism- Disease Of The Reticulo Endothelial System-eosinophil granuloma of bone- hand Schuler Christian disease-Diseases Of The Haemopoietic System- Miscellaneous- Paget's disease- fluorosis- hypervitaminosis A- hypervitaminosis D- infantile cortical hyperostosis.

DISEASES OF JOINT:

Classification-rheumatoid arthritis-juvenile rheumatoid arthritis-sero negative spondylarthropathy-ankylosing spondylitis-reiter's disease-psoriatic arthritis-enteropathic arthritis-degenerative arthritis-osteoarthritis knee-Osteoarthritis of hip joint-neuropathic joints crystal synovitis gout -pseudo gout alkaptonuric arthritis-haemophilic arthritis-reactive arthritis-miscellaneous conditions -villonodularsynovitis-synovial chondromatosis-pulmonary hypertrophic osteoarthopathy-hysterical joint

AVSACULAR NECROSIS OF BONE AND EPIPHYSEAL OSTEOCHONDRITIS

Definition-pathogenesis-pathology-clinical features-radiological staging-other imaging techniques-functional exploration of bone- classification-treatment-specific types of avascular necrosis- fracture neck of femur with osteonecrosis-caisson's disease-drug induced osteonecrosis- sickle cell anaemia- epiphyseal osteochondritis- perthes'sdisease- Osgood-schlatter'sdisease – osteochondritis dissecans.

REGIONAL CONDITIONS OF NECK AND UPPER LIMB

Neck-brachial neuralgia-intervertebral disc prolapse-cervical spondylosis-cervical rib-torticollis-Shoulder-supraspinatus tendinitis-calcification-rupture of rotator cuff-periarthritis shoulder-deltoid fibrosis-Elbow-tennis elbow-recurrent subluxation of the ulnar nerve-cubitus valgus-cubitusvarus-Wrist and Hand- ganglion-de Quervain's disease-trigger finger-trigger thumb-carpal tunnel syndrome-dupuytren's contracture.

REGIONAL CONDITIONS OF THE SPINE AND LOWER LIMB:

The Spine- Kyphosis – Scoliosis – Spondylolisthesis – Backache – lumbosacral strain – Ftbrositis back – Sacralisation of 5th lumbar vertebra – Intervertebral disc prolapsed – Lumbar canal stenosis – Lower Limb- CoxaVara – Slipped upper femoral epiphysis – Idiopathic chondrolysis of hip – Knee – Genu valgum – Genu varum – Tibia varum – Genu recurvatum – Quadriceps fibrosis – Recurrent dislocation of patella – Bursae around the knee – Loose bodies in the knee – Anterior knee pain – Chondromalacia patella – Foot – Painful Heel – Plantar Fasciitis – Posterior heel pain – Rat foot – Foot strain – Pain in the fore foot – Hallux valgus – Anterior metatarsalgia.

TRAUMATOLOGY

INJURIES TO BONES AND JOINTS

Fractures – Types of fractures – Mechanism of fracture – Biology of fracture healing – Factors which influence fracture heal – General Principles of management of fractures – Diagnosis – Conservative management – Functional Cast Bracing – Open reduction and internal fixation.

Complications of fracture– Volkmann's Ischaemic contracture – Myositis Ossifians – Fat Embolism – Non union – Malunion – Cross union – Sudeck'sOsteodystrophy.

Fractures in children–Birth fractures – Battered baby Syndrome –Epiphyseal injuries – Pathological fracture – Dislocation of joints – Traumatic Dislocation – Pathological Dislocation – Paralytic Dislocation.

INJURIES OF THE SHOULDER AND ARM

Shoulder – Fracture clavicle – Dislocation of the Acromioclavicular joint – Dislocation of the shoulder joint – Recurrent dislocation of shoulder.

Arm – Fracture of the proximal end of humerus – Fracture of the greater tuberosity – Fracture neck of humerus – Fracture of the shaft of the humerus.

INJURIES OF THE ELBOW, FOREARM AND WRIST

Elbow – Supracondylar fracture – Inter condylar fracture – Fracture of the medial epicondyle – Fracture of the lateral condyle of the humerus – Fracture capitulum – Dislocation of the elbow – Pulled elbow – Fractures of the Proximal end of the Radius – Fractures of the neck of the radius – Fractures of the olecranon.

Forearm – Fracture both bones forearm – Monteggia fracture dislocation – Galeazzi fracture dislocation.

Wrist– Colles' fracture – Fracture separation of lower epiphysis of radius –Smith's fracture – Barton's fracture – Fracture of the Scaphoid – Dislocation of the Lunate bone.

INJURIES OF THE HAND

Closed injuries – Fractures of Metacarpal bones – Fractures of the phalanges – Dislocation of metacarpophalangeal joint – Bennett's fracture dislocation – Open injuries – Tendon injuries – Flexor tendon injuries – Extensor tendon injuries – Mallet finger.

INJURIES OF THE HIP AND THIGH

Hip – Dislocation of the hip joint – Posterior dislocation – Anterior dislocation – Central dislocation – Old unreduced dislocation of the hip – Intracapsular fracture neck of femur – Trochanteric fracture of femur.

Thigh – Fracture shaft of the femur – Proximal third – Middle third – Distal third – Fracture femur in children – Complications of Fracture Femur.

INJURIES OF THE KNEE AND LEG

Knee – Fracture of the Femoral condyles – Fracture of the tibial condyles – Fracture patella – Injuries of the extensor mechanism – Dislocation of the knee – Traumatic Dislocation of Patella.

Leg – Fracture of Tibia and Fibula – Fracture Fibula.

INJURIES OF THE ANKLE AND FOOT

Ankle- Fracture-dislocation of the ankle-epiphyseal injury lower end of tibia.

Foot-fractures of talus- fractures of calcaneum- fractures of metatarsals and phalanges- Jones fracture.

INJURIES OF THE SPINE

Classification- **Thoraco- Lumbar Spine**-mechanism and types of injuries-stable fractures-management of paraplegia-bed sore-bladder care.

Cervical Spine-lower cervical spine injuries-upper cervical spine injuries.

FRACTURES OF THE PELVIS

Fractures of the pelvis ring- mechanism- classification-management-fractures of the acetabulum-fractures and the sacrum-coccyx.

POLYTRAUMA

Polytrauma-Incidence-primary survey-Glasgow coma scale-triage-resuscitation-management.

COMPOUND FRACTURES Compound fractures- classification-emergency surgical treatment-management of wound- management of fracture- management of infected open fracture-complication of open wound-management-crush injury-gunshot injury.

SOFT TISSUE INJURIES INCLUDING SPORTS INJURIES

Injuries Of Ligaments-Ankle joint-knee joint-internal derangements-collateral ligament injuries-cruciate ligament injuries-injuries to semilunar cartilage.

Injuries Of Muscle-type and pathology-rupture of the biceps brachii-rupture of the supraspinatus –rupture of the tendoachillies.

NERVE INJURIES

Nerve injuries-injuries of peripheral nerves- classification- mechanism of closed nerve injuries-diagnosis of nerve lesion-clinical examination-management of nerve injuries-radial nerve injuries-median nerve injuries-ulnar nerve injuries-brachial plexus injuries erb's palsy-klumpke's palsy- sciatic nerve injuries-lateral popliteal nerve injuries.

VASCULAR INJURIES

Classification-etiology-pathology-clinical-presentation-management-subfascial compartment syndrome-brachial artery injury-popliteal artery injuries-injuries of tibia arteries.

AMPUTATION

Indication-types-selection of level of amputation-level of amputation-stump and its management-complication-amputation in children- prosthetic fitting and rehabilitation.

NEUROMUSCULAR SKELETAL DISORDERS

EXTRA PYRAMIDAL - Parkinsonism
Neurological features of Wilson disease
Huntington's disease
Tardive dyskinesia

Restless leg syndrome

DEMYLINATING LESION	-	Multiple sclerosis Schildre's diffuse cerebral sclerosis
MND	-	Amyotropic lateral sclerosis Spinal muscular atrophies Hemiplegia Bulbar palsy
DISEASE OF CEREBELLUM	-	Ataxias
DISEASE OF SPINAL CORD	-	Myelopathy
NERVE ROOTS AND PLEXUSES		
DISEASE OF VERTEBRAL COLUMN	-	Klippelfeil syndrome Arnold - chiari malformation Cervical spondylosis
PERIPHERAL NERVOUS SYNDROME	-	Guillianbarre's syndrome Diabetic neuropathy Neuralgic amyotrophy
DISEASE OF MUSCLES	-	Muscular dystrophy Polymyositis

References:

S.No	Name of the book, language, publisher, year	Author
1.	The Principles of Exercise Therapy, (English), CBS publisher	M.Dena Gardiner
2.	Massage for Therapists, (English),Paperback publisher	Margaret hollies
3.	Tidy's Physiotherapy, (English), Elsevier publisher	Stuart porter
4.	Orthopaedics and Traumatology, (English)	M.Natarajan
5.	Textbook of Orthopaedics and Traumatology (English) wolters Kluwer	Natarajan
6.	Essential Orthopaedics Including Clinical Methods, (English) Jaypee Brothers publisher	J Maheshwari
7.	Essentials of Orthopaedics, (English), Jaypee Brothers	R M Shenoy
8.	Essentials of Ortho physiotherapy for Upper and Lower Limb Fractures, (English), Jaypee Brothers publisher	Saurabh Garg
9.	Text book of Orthopaedics, (English),Jaypee Brothers publisher	John Ebenezer
10.	Orthopaedics and Traumatology, (English), hodder Arnold publisher	Apley

11.	Physical medicine and rehabilitation, (English), Georgefullk lid	Sullivan
12.	Adam's Orthopaedics and Traumatology, (English)	Adam
13.	Text book of Orthopaedics and Traumatology (English), Jaypee Brothers publisher	Kulkarni
14.	Textbook of Medicine, (English) Jaypee Brothers publisher	K.V. Krishna das

DISSERTATION

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

