SYLLABUS FOR POST GRADUATE COURSE IN AYURVED AS PER CCIM, NEW DELHI

M.D.(AYURVEDA) PRELIMINARY - PAPER-I

RESEARCH METHODOLOGY AND MEDICAL STATISTICS

PART-A

RESEARCH METHODOLOGY

Introduction to Research

A. Definition of the term research
B. Definition of the term anusandhan
C. Need of research in the field of Ayurveda

General guidelines and steps in the research process

A. Selection of the research problem
B. Literature review: different methods (including computer database) with their advantages and limitations
C. Defining research problem and formulation of hypothesis
D. Defining general and specific objectives
E. Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative
F. Sample design
G. Collection of the data
H. Analysis of data.
I. Generalization and interpretation, evaluation and assessment of hypothesis.
J. Ethical aspects related to human and animal experimentation.
K. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Procedure to obtain clearance from respective committees, including filling up of the consent forms and information sheets and publication ethics.

Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model.

Scientific writing and publication skills.

a. Familiarizationwith publication Guidelines-Journal specific and CONSORT guidelines
b. Different types of referencing and bibliography.

c. Thesis/Dissertation: contents and structure
d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)

Classical Methods of Research.

Concept of Pratyakshadi Pramana Pariksha, their types and application for Research in Ayurveda.
Dravya-, Guna-, Karma-Parikshana Paddhati Aushadhi-yog Parikshana Paddhati Swastha, Atura Pariksha Paddhati,Dashvidha Parikshya Bhava,
Tadvidya sambhasha, vadmarga and tantrayukti

Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.

Different fields of Research in Ayurveda

a. Fundamental research on concepts of Ayurveda
b. Panchamahabhuta and tridosha.
c. Concepts of rasa, guna, virya, vipak, prabhav and karma
d. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshtha.

Literary Research-

Introduction to manuscriptology: Definition and scope. Collection, conservation, cataloguing.
Data mining techniques, searching methods for new literature; search of new concepts in the available literature. Methods for searching internal and external evidences about authors, concepts and development of particular body of knowledge.

Drug Research (Laboratory-based)- Basic knowledge of the following:

Drug sources: plant, animal and mineral. Methods of drug identification.
Quality control and standardization aspects:
Basic knowledge of Pharmacopoeial standards and parameters as set by Ayurvedic Pharmacopoeia of India.
Information on WHO guidelines for standardization of herbal preparations.
Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).

Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.

Introduction to latest Trends in Drug Discovery and Drug Development
-Brief information on the traditional drug discovery process
-Brief information on the latest trends in the Drug Discovery process through employment of rational approach techniques; anti-sense approach, use of micro and macro-arrays, cell culture based assays, use of concepts of systems biology and network physiology

-Brief introduction to the process of Drug development.

Clinical research:

Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda
Basic knowledge of the following: -Observational and Interventional studies
Descriptive & Analytical studies
Longitudinal &Cross-sectional studies
Prospective & Retrospectives studies
Cohort studies
Randomized Controlled Trials (RCT) &their types
Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.
Errors and bias in research.
New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP)
Phases of Clinical studies: 0,1,2,3, and 4.

Survey studies - Methodology, types, utility and analysis of Qualitative Research methods. Concepts of in-depth interview and Focus Group Discussion.

Pharmacovigilance for ASU drugs. Need, scope and aims & objectives. National Pharmacovigilance Programme for ASU drugs.

Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases.

Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

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PART–B 40 marks

MEDICAL STATISTICS Teaching hours: 80

1. **Definition of Statistics:** Concepts, relevance and general applications of Biostatistics in Ayurveda
2. **Collection, classification, presentation, analysis and interpretation of data** (Definition, utility and methods)
3. **Scales of Measurements** - nominal, ordinal, interval and ratio scales. **Types of variables** – Continuous, discrete, dependent and independent variables. **Type of series** – Simple, Continuous and Discrete
4. **Measures of Central tendency** – Mean, Median and Mode.
5. **Variability:** Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation
6. **Probability**: Definitions, types and laws of probability,
7. **Normal distribution**: Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.
8. **Fundamentals of testing of hypotheses:**
   Null and alternate hypotheses, type I and type 2 errors. Tests of significance: Parametric and Non-Parametric tests, level of significance and power of the test, 'P' value and its interpretation, statistical significance and clinical significance
9. **Univariate analysis of categorical data:**
   Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals
10. **Parametric tests:** 'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance
11. **Non parametric methods:** Chi-square test, Fisher's exact test, McNemar's test, Wilcoxon test, Mann-Whitney U test, Kruskall – Wallis with relevant post hoc tests (Dunn)
12. **Correlation and regression analysis:**
    Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation. Regression- simple and multiple.
13. **Sampling and Sample size computation for Ayurvedic research:** Population and sample. Advantages of sampling, Random (Probability) and non-random (Non-probability) sampling. Merits of random sampling. Random sampling methods- simple random, stratified, systematic, cluster and multiphase sampling. Concept, logic and requirement of sample size computation, computation of sample size for comparing two means, two proportions, estimating mean and proportions
14. **Vital statistics and Demography**: computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics
15. **Familiarization with the use of Statistical software** like SPSS/Graph Pad

PRACTICAL 100 marks

RESEARCH METHODOLOGY Teaching hours: 120

PRACTICAL NAME

1. Pharmaceutical Chemistry

Familiarization and demonstration of common lab instruments for carrying out analysis as per API.

2. Awareness of Chromatographic Techniques

Demonstration or Video clips of following:

- Thin-layer chromatography (TLC).
- Column chromatography (CC).
- Flash chromatography (FC)
- High-performance thin-layer chromatography (HPTLC)
- High Performance (Pressure) Liquid Chromatography (HPLC)
- Gas Chromatography (GC, GLC)

3. Pharmacology

Familiarization and Demonstration of different techniques related to:- Drug administration techniques- oral and parenteral.

Blood collection by orbital plexuses puncturing.Techniques of anesthesia and euthanasia. Information about different types of laboratory animals used in experimental research Drug identification as per API including organoleptic evaluation

4. Pharmacology and toxicology

Familiarization and demonstration of techniques related to pharmacology and toxicology.

5. Biochemistry (Clinical)

Familiarization and demonstration of techniques related to basic instruments used in a clinical biochemistry laboratory – semi and fully automated clinical analyzers, electrolyte analyzer, ELISA- techniques, nephelometry. Demonstration of blood sugar estimation, lipid profiles, kidney function test, liver function test. HbA1, cystatin and microalbumin estimation by nephelometry or other suitable techniques. Interpretation of the results obtained in the light of the data on normal values.

6. Clinical Pathology

Familiarization and demonstration of techniques related to basic and advanced instruments used in a basic clinical pathology lab. Auto cell counter, urine analyzer, ESR, microscopic examination of urine.

7. Imaging Sciences

Familiarization and demonstration of techniques related to the imaging techniques. Video film demonstration of CT-Scan, MRI-scan and PET-scan.

8. Clinical protocol development

II. MEDICAL STATISTICS

Practical hours: 20Statistical exercises of examples from Topic number 4, 5, 8-12, 14, 15Records to be prepared.

Distribution of Marks:

1. Instrumental spotting test – 20 marks
2. Clinical protocol writing exercise on a given problem – 20 marks
3. Records:
4. Research methodology -10 Marks
5. Medical statistics -10 marks
6. Viva- Voce -40 Marks

M.D.-AYURVEDA PRELIMINARY

1. AYURVED SAMHITA & SIDDHANTA

(Ayurvedic Compendia & Basic Principles)

PAPER-II THEORY- 100 marks Practical-Viva-Voce – 100 marks

PART–A

1. Learning and Teaching methodology available in Samhita- Tantrayukti, Tantraguna, Tantradosha, Tachchilya, Vadamarga, Kalpana, Arthashraya, Trividha Gyanopaya, teaching of Pada, Paada, Shloka, Vakya, Vakyartha, meaning and scope of different Sthana and Chatushka of Brihatrayee.
2. Manuscriptology - Collection, conservation, cataloguing, Critical editing through collation, receion (A critical revision of a text incorporating the most plausible elements found in varying sources), emendation (changes for improvement) and textual criticism (critical analysis) of manuscripts. Publication of edited manuscripts.
3. Concept of Bija chatustaya (Purush, Vyadhi, Kriyakaal, Aushadha according to Sushrut Samhita).
4. Introduction and Application of Nyaya (Maxims) - Like Shilaputrak Nyaya, Kapinjaladhikaran Nyaya, Ghunakshara Nyaya, Gobalivarda Nyaya, Naprishtah Guravo Vadanti Nyaya, Shringagrahika Nyaya, Chhatrino Gacchhanti Nyaya, Shatapatrabhedana Nyaya, Suchikatah Nyaya.
5. Importance and utility of Samhita in present era.
6. Importance of ethics and principles of ideal living as mentioned in Samhita in the present era in relation to life style disorders.
7. Interpretation and co-relation of basic principles with contemporary sciences

PART – B **50marks**

1. Definition of Siddhanta, types and applied examples in Ayurveda.
2. Ayu and its components as described in Samhita.
3. Principles of Karana-Karyavada, its utility in advancement of research in Ayurveda.
4. Theory of Evolution of Universe (Srishti Utpatti), its process according to Ayurveda and Darshana.
5. Importance and utility of Triskandha (Hetu, Linga, Aushadh) and their need in teaching, research and clinical practice.
6. Applied aspects of various fundamental principles: Tridosha, Triguna, Purusha and Atmanirupana, Shatpadartha, Ahara-Vihara. Scope and importance of Pariksha (Pramana).
7. Importance of knowledge of Sharir Prakriti and Manas Prakriti.
8. Comparative study of Principles of Ayurveda and Shad Darshanas.

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M.D.-AYURVEDA PRELIMINARY

2. DRAVYAGUNA VIGYANA

(Materia Medica & Pharmacology)

PAPER-II **Theory 100 Marks**

PART – A **50 marks**

1. Panchamahabhuta siddhanta, Samanya Vishesha siddhanta, Tridosha siddhanta. Extensive study on classifications of Dravya as described in Brihattrayi.
2. Applied aspects of Rasa, Guna, Virya, Vipaka and Prabhava
3. Applied aspects of Aushdha karma with reference to Sharngadhara and Bhavaprakasha
4. Importance of Namarupa vigyan and concept of basonyms and synonyms of Dravyas
5. Applied knowledge of Bhaishajya Prayoga (marga, kalpana, matra, anupana, sevan, kala etc.)

PART – B **50 marks**

6. Basic principles of Desha pravichara, Dravya sangrahana (collection), Samrakshana (preservation)
7. Evolution of Dravyaguna vigyan with special emphasis on Nighantus
8. Prashasta bheshaj lakshana

9. Profound knowledge on applied aspects of Agrya aushadha
10. Methodology of studying controversial, pratinidhi (substitute), apamishrana (adulterant) and unidentified dravya
11. Pharmacognosy and its relevance in Dravyaguna vigyan
12. An integrated study of Charakokta Bheshaj pariksha and scientific method of drug evaluation with special reference to quality, safety and efficacy
13. Brief knowledge and importance of clinical pharmacology
14. General principles of various good cultivation practices, collection practices, storage practices and manufacturing practices
15. Pharmacovigilance and ADR issues
16. Knowledge on the Ayurvedic Pharmacopoeia of India, The Formulary of India and international pharmacopoeias

PRACTICAL 100marks

Contents:

1. Field visits for the Identification of important classical medicinal plants (Minimum two visits to neighboring forest areas)
2. Macroscopic and microscopic identification of minimum two plants of each of prayojyanga (useful parts of plants)
3. Preliminary study of pharmacoepial standards (API) of minimum 5 plants
4. Minimum two experiments on Animals.

Distribution of marks (Practical)

1. Herbarium sheets -10 Marks
2. Practical of macroscopic and microscopic identification of prayojyanga (one part of the plant) -30 Marks
3. Practical record book of pharamcopoeial standards and animal experimentations -10 Marks
4. Spotting -30 Marks

5. Viva-voce -20 Marks

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M.D.-AYURVEDA PRELIMINARY

3. ROGA NIDANA AVUM VIKRITI VIGYANA

(Pathology and Diagnostic Procedure)

PAPER – II **Theory - 100 Marks**

PART – A **50 marks**

1. Understanding of Samprapti of diseases in Charaka Nidana Sthana in contemporary context
2. Clinical aspects of Dosha, Dhatu, Upadhatu, Mala, Agni, Ama, Srotas and Indriya
3. Understanding of the role of Trividha Avasthapaka in the vitiation of Dosha
4. Concept of Nanatmaja and Samanyaja Vikara
5. Clinical application of Avarana in diagnosis of various diseases
6. Clinical application of Shatkriyakala in diagnosis of diseases.
7. Clinical and applied aspects of concept of Upadrava and Arista

PART – B **50 marks**

1. Ayurvedic interpretation of various laboratory investigations to derive treatment principles.
2. Interpretation of various Rogi Bala and Roga Bala technique to plan Chikitsa Sutra
3. Clinical examination of Deha Bala, Roga Bala, Agnibala And Chetas Bala
4. Kowledge of current diagnostic tools like ECG, X-Ray, CT scan, MRI and USG

PRACTICAL **100marks**

Contents:

1. Duty in hospital OPD and IPD.
2. Duty in pathology laboratory.
3. Case taking – 25 cases

4. Performance of pathology and biochemistry practical's – 10 cases
5. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG

Distribution of marks (Practical)

1. Case record (25 Cases) - 10 marks
2. Bed side clinical case taking
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Laboratory Practicals - 20 Marks
6. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG - 10 Marks
7. Laboratory experiment record - 10 marks
8. Viva-voce - 20 Marks

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M.D.-AYURVEDA PRELIMINARY

4. KAYACHIKITSA

(General Medicine)

PAPER – II **Theory - 100 Marks**

PART – A **50 marks**

1. Understanding of fundamental concepts of Kayachikitsa like Vriddhi and Kshaya of Dosha, Dushya, Mala with Amshaamsha Kalpana. Srotodushti, Khavaigunya, Agni, Ama (Saama and Nirama Dosha, Dhatu & Mala). Aavarana, Rogamarga, Ashayapakarsha, Dosha Gati, Kriyakala. Aushadha Sevana Kala, Anupana, Pathya-Apathya and their scientific relevance during health and disease.

2. Detailed knowledge of Rogi Roga Pariksha including detailed history taking and systemic examination of patient. Clinical implementation of Dwividha Pariksha, Trividha Pariksha, Chaturvidha Pariksha, Panchavidha Pariksha, Shadvidha Pariksha, Ashtavidha Pariksha, Dashvidha Parikshya Bhavas and Prakrityadi Dashvidha Pariksha.

3. Principles of Kayachikitsa in disease management including Shodhana, Shamana and Naimittika Rasayana.

4. Introduction of the basic principles of Modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga and Naturopathy and their relevance in light of the basic principles of Ayurvedic medicine.

PART – B 50 marks

1. Chikitsa Siddhanta of Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha & Manovaha Srotovikara.
2. Emergency medicine: Acute Severe Asthma, pulmonary oedema, myocardial infarction, cerebro-vascular accidents, water and electrolyte imbalance, haemorrhage, syncope, seizure, coma, hyperpyrexia, hypertensive encephalopathy.
3. Knowledge of conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle's tube insertion, catheterization, tractions, water seal drainage, Cardio Pulmonary Ressucitation.
4. Basic knowledge of underlying principles of ECG, TMT, echo cardiography, vascular doppler studies, EEG, EMG, X-Ray, USG, CT scan, MRI, PET and their interpretation.
5. Knowledge of common Ayurvedic formulations and preparations used in treatment:
6. **Churna**- Triphala, Sitopaladi, Lavanbhaskara, Hingvashtaka, Avipattikara, Gangadhara, Shaddharana, Sudarshana, Panchasakara, Ajmodadi.
   Kashaya- Dashamula, Rasnasaptaka, Asanadi, Pathyadi, Phalatrikadi, Punarnavashtaka, Gojivhadi, Mahamanjishthadi, Drakshadi Kashaya.
   Asavas-Arista- Amritarishta, Kanakasava, Chitrakasava, Saraswatarishta, Ashwagandharishta , Chandanasava.
   Vati- Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyoshadi, Shankha Vati, Shiva Gutika.
7. **Guggula-Kalpana**-Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradi guggula, Kanchanaraguggula.
   Rasaushadhi- Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa, Rasamanikya Rasa, Smritisagara Rasa, Lakshmivilasa Rasa, Sutshekhara Rasa, Pravala Panchamrita Parpati, Hemagarbhapottali Rasa.
   Taila- Mahanarayana Taila, Pindataila, Prasarinyadi Taila, Ksheerabala Taila, Brihat Saindhavadi Taila, Panchaguna Taila, Amritadi Taila, Marichyadi Taila, Mahamasha Taila.
8. **Ghrita**- Mahatriphaladi Ghrita, Brahmi Ghrita, Panchtikta Guggulu Ghrita, Sukumara Ghrita, Dadimadya Ghrita, Kantakari Ghrita, Kalyanaka Ghrita,**Lehya**-Chyavanaprasha Avaleha, Kushmanda Avaleha, Ashwagandha Avaleha, Agastya Hareetaki Rasayana, Drakshavaleha, Vasavaleha, Amrita-Bhallataka Rasayana.

PRACTICAL 100marks

Content:

Daily hospital duties in OPD, IPD and casualty

Bed-side case taking – 25 patients

Distribution of marks (practical):

1.Case records of 25 Patients in detail - 20 marks

2.Bed side clinical case taking-

Long case	20 marks
Short case	10 marks
3. Medicalprocedures/laboratorywork	15marks
4. Instruments and spotting	15 marks
5. Viva voce	20 marks

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M.D.-AYURVEDA PRELIMINARY

5. PANCHKARMA
(Five Therapeitic proedure)

PAPER-II **Theory- 100 marks**

PART A **50 marks**

Chikitsa and its classifications; Antah-Parimarjana and Bahir-Parimarjana Chikitsa

Principles of Chikitsa, Kriyakal, Shadvidha and Dvividha Upakrama and role of Panchakarma therein.

Applied aspects of Trividha, Shadvidha, Ashta Vidha and Dasha Vidha Pariksha.

Applied anatomy and physiology of cortex, cranial and peripheral nerves. Methods of physical examinations of central nervous system: sensory system, motor examination-muscle power and tone, superficial and deep reflexes, difference of upper and lower motor neuron lesions. Tremors and coordination.

Functions of various single muscles and groups of muscles, applied anatomy and physiology of joints. Methods of examination of locomotor system. Differential diagnosis of Amavata (rheumatoid arthritis), Vatarakta (gout) and Sandhivata (osteoarthritis). Examination of lumbar and cervical disorders including Gridhrasi (sciatica) and Vishvachi (Brachial neuralgia).

Applied anatomy and physiology of cardiovascular and respiratory systems, functions of capillaries and its permeability. Methods of examination of respiratory and cardiovascular system. Interpretation of spirometry and ECG findings.

Knowledge and method of examination of various skin lesions.

Applied anatomy of stomach, small intestine and large intestine. Detailed examination of gastro-intestinal system.

50 marks

PART B

1. Definition of Karma. Trividha Karma for Shodhana.
2. Importance of Panchakarma in health and disease.
3. Indications and contraindications for Shodhana. Applied aspects of Koshtha and Agni.
4. Importance of Purva and Pashchata Karma in Shodhana. Parihara Vishaya for Panchakarma.
5. Samsarjana Krama. General knowledge of various Aushadha and Ahara Kalpana used for Panchakarma.
6. Areas of research in Panchkarma.
7. Knowledge of equipments and instruments used in Panchkarma in ancient times and the possible modifications therein now.

Knowledge of quality standards of NABH (National Accreditation Board of Hospitals) f Ayurveda, guidelines for establishment and management of eco-friendly Panchkarma theatre includi management of biomedical waste.

100 marks

PRACTI CAL

Duty in Panchakarma ward and theatre.
Performance of 5 Cases each of Snehana, Svedana, Vamana, Virechana, Basti and Nasya with maintaining of detailed record.
Record of detailed examination of 25 patients treated with Panchakarma and effects observed thereon.

Distribution of marks (practical):

Case records of 25 patients in detail	20 marks
Performance of long Karma	20 marks
Performance of short Karma	10 marks
Panchakarmal procedures	15 marks
Instruments and spotting	15 marks
Viva voce	20 marks

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(Part- 2)

AYURVED SAMHITA &SIDDHANTA -PG Syllabus 2nd year

Theory- 400 marks (100 Each)Practical and Viva-Voce - 100 marks

PAPER –I Charak Samhita

1. Charak Samhita complete with Ayurved Dipika commentary by Chakrapani.
2. Introductory information regarding all available commentaries on Charak Samhita

PAPER –II Sushrut Samhita & Ashtang-Hridayam

1. Sushrut Samhita Sutra sthana and Sharir- sthana. with Nibandha Samgraha commentary by Acharya Dalhana.
2. Ashtang-Hridayam Sutra Sthanamatram with Sarvanga Sundara commentary by Arun Dutta.
3. Introductory information regarding all available commentaries on Sushrut Samhita and Ashtang Hridaya.

PAPER – III Ayurvediya and Darshanika Siddhanta

Introduction and description of philosophical principles incorporated in Charak Samhita, Sushrut Samhita, Ashtanga Hridya, shtang Samgraha.

1. Analysis of principles specially loka-purusha samya, Shadpadartha, Praman, Srishti Utpatti, Panchmahabhuta,Pilupaka, Pitharpaka Karana- Karyavada, Tantrayukti, Nyayas (Maxims), Atmatatva siddhant.
2. Importance of Satkaryavad, Arambhavada, Parmanuvada Swabhavoparamvada, Swabhava Vada, Yadricha Vada, Karmvada.
3. Practical applicability principles of Samkhya- Yoga, Nyaya-Vaisheshika, Vedanta and Mimansa.

PAPER – IV Ayurved Itihas and Prayogika Siddhant.

1. Post independent Development of Ayurveda: Education, Research.
2. Globalisation of Ayurved.
3. Introduction of department of AYUSH, CCIM, CCRAS, RAV.
4. Tridosh Siddhant.
5. Panchabhautik Siddhant
6. Manasa tatva and its Chikitsa Siddhanta.
7. Naishthiki Chikitsa.
8. Practical applicability principles of Charvak, Jain & Bauddha Darshana.
9. Journals, types of Journals review of Articles.

Practical- Viva-voce - 100 Marks (50 case sheets are to be filled from samhita siddhant IPD / OPD

2. DRAVYAGUNA VIGYAN PAPER-PG Syllabus 2nd year (Part- 2)

PAPER-I
Namarupa Vigyana 100 marks

1. Dravya and its classification, importance of Namagyana of Dravya, origin of Namarupagyana of Aushadhi in Veda, etymological derivation of various names and synonyms of Aushadhi.

2. Objective of Dravya – Rupagyana in relation with Aushadha. Sthula and Sukshma description (Macroscopic and Microscopic study) of different parts of the plant.

3. Study of synonyms of dravyas (aushadha and Ahara) mentioned in Vedic literature, Brihatrayee, Bhavaprakasha and Rajanighantu.

4. Basonyms, synonyms and distinguish morphological characteristic features of medicinal plants listed in Ayurvedic Pharmacopoeia of India (API).

5. Knowledge of Anukta dravya (Extrapharmacopial drugs) with regards to namarupa.
6. Sandigdha dravya(Controversial drugs) vinischaya.
7. Knowledge of biodiversity, endangered medicinal species.
8. Knowledge of TKDL, Introduction to relevant portions of Drugs and cosmetic act, Magic remedies Act, Intellectual Property Right (IPR) and Regulations pertaining to Import and Export of Ayurvedic drugs. 09. Knowledge of tissue culture techniques 10. Knowledge of Genetically Modified Plants

PAPER –II Guna Karma Vigyan 100 marks

1. Fundamental principles of drug action in Ayurveda and conventional medicine.

2. Detailed study of rasa-guna- virya- vipaka-prabhava and karma with their applied aspects and commentators (Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu) views on them.

3. Comprehensive study of karma as defined in Brihatrayee & Laghutrayee

4. Detailed study of Guna and Karma of dravyas listed in API and Bhavaprakasha Nighantu along with current research review.

5. Detailed study of aharadravya/ ahara varga ascribed in Brihatrayee and various nighantus along with Kritanna varga.

6. Pharmacologycal principles and knowledge on drugs acting on various systems.
7. Basic knowledge on experimental pharmacology for the evaluation of - analgesic, anti-pyretic, anti-inflammatory, anti-diabetic, anti-hypertensive, hypo lipidemic, anti-ulcer, cardio protective, hepatoprotective, diuretics, adaptogens, CNS activites.

8. Knowledge on Heavy metal analysis, pesticidal residue and aflatoxins

9. Knowledge on evaluation of anti-microbial and antimycotic activities.

PAPER – III Prayogavigyana Marks – 100

1. Bhaishjya Prayog Siddhant [Principles of drug administration] - Bhaishajya Marga (routes of drug administration), Vividha Kalpana (Dosage forms), Principles of Yoga Vijnan(compounding), Matra (Dosage), Anupana (Vehicle), Aushadha grahankal (Time of drug administration), Sevankal avadhi (duration of drug administration), Pathyapathya (Dos' /Donts' /Contraindications), complete Prescription writing (Samagra Vyavastha patraka).

2. Samyoga- Viruddh Sidhanta and its importance
3. Amayika prayoga (therapeutic uses) of important plants ascribed in as well as Brihattrayee, Chakradutta, Yoga ratnakara and Bhavaprakasha.
4**. Knowledge of Pharmaco-vigilance** in Ayurveda and conventional system of medicine.
5. Knowledge of clinical pharmacology and clinical drug research as per GCP guide lines.

PAPER- IV - 100 marks

1. Etymology of nighantu, their relevance, utility and salient features.

2. Chronological history of the following Nighantus with their authors name, period and content- Paryaya ratnamala, Dhanvantari nighantu, Hridayadipika nighantu, Ashtanga nighantu, Rajanighantu, Siddhamantra nighantu, Bhavaprakasha nighantu, Madanpala nighantu, Rajavallabha nighantu, Madhava Dravyaguna, Kaiyadeva nighantu, Shodhala nighantu, Saligram nighantu, Nighantu ratnakara, Nighantu adharsha and Priya nighantu

3. Detailed study Aushadha kalpana mentioned in Sharangadhara samhita and Ayurvedic Formulary of India (AFI).

4. General awareness on poshaka ahara (Nutraceuticals), Varnya(cosmoceuticals), food addictives, Excipients etc.

5. Knowledge of plant extracts, colors, flavors and preservatives.

6. Review of important modern works on classical medicinal plants published by Govt of India, department of AYUSH and ICMR.

Syllabus of the Practical training of part two M.D. (Ayu) - Dravyaguna Practical:-

Study tours:

Field identification of medicinal plants through at least three local Dravyaguna study tours within the state and one study tour out of state. Preparation of minimum 50 herbarium sheets, along with raw drug either from field, of plants be collected during study tours.

1. Evaluation of Crude drugs:
Macro and microscopic methods of examining five drugs of each of different useful parts of plants, including their powders.

2. Phytochemical evaluation of raw material:
Quantitative standards like foreign matter, extractive (water and alcohol), ash value, acid insoluble ash and TLC separation of various parts of minimum two plants of Ayurvedic Pharmacopoeia of India.

3. Yoga vijnana :
Preparation of two yoga of each kalpana of Ayurvedic Formulary of India:

4. Pharmacology:
 Rasa nirdharana by Taste Threshold method of minimum one drug for each of rasas.
 Observation of animal experimentation models (both in vitro and in vivo)- 05 models for possible rasadi gunas.

5. Clinical
 Regular clinical training in the hospital for submission of Single Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.)

 Survey for Amayika prayoga of aushadhi(Pharmaco epidemiology) for

Regular clinical training in the hospital for submission of Single Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.)

 Survey for Amayika prayoga of aushadhi(Pharmaco epidemiology) for studying their role in clinical practice in contemporary period -observational study-minimum.

6. **Dissertation**

A Dissertation, as per the approval of Departmental Research Committee/Competent Committee for the purpose, be prepared under the guidance of approved supervisor in Dravyaguna and submitted 6 months before the final examination. The approval of Dissertation shall be essential before appearing the final examinations.

7. Method of practical training – Posting for minimum one month in each of the following units -

 Quality control laboratory of nearest pharmacy/institution for crude drug identification, adulterants and substitutes & understanding standardization techniques.

 Experimental pharmacoloy laboratory for developing skills in animal experimentation

 Regular clinical training in the Teaching hospital for studying Ekala Aushadhi Prayoga & Adverse drug reactions (ADR).

8. Post Graduate Scholar is expected to present minimum two scientific papers in National / international seminars during the course of study

9. Post Graduate Scholar is expected to publish / get accepted at least one paper in indexed/ peer reviewed journal under the supervision of guide.

Pattern of Practical Examination- Total =200 marks

1. Herbarium - 10 Marks
2. Pharmacognosy practical record - 10 Marks
3. Pharmacology practical record - 10Marks
4. Clinical records record - 10 Marks
5. Practical examination (Identification of green and raw drugs, microscopic examination, Ekala aushadha pariksha - 60 Marks
6. Thesis Presentation - 20Marks
7. Viva voce - 80 Marks

3.ROGA NIDANA- PG Syllabus 2nd year (Part- 2)

PAPER- I FUNDAMENTAL PRINCIPLES OF ROGANIDANA

1.Concept of Tridosha and its Pathological implications. 63 permutations and combination of Tridosha. Lina and Stambhita Dosha, their cause and importance in manifestation of Samprapti.

2.Concept of Rakta as a Chaturtha Dosha. Importance of Rakta in the manifestation of diseases.

3.Concept of Ashrayashrayi bhava and its applied utility.

4.Different types of Dosha Gati.
5.Causative factors and practical utility of movement of Doshas from Kostha to Shakha and Shakha to Koshtha. Concept of Ashayapakarsha.
6.Trayo roga marga, their diseases and clinical importance of Roga Marga.
7.Concept and classification of Avarana, its role in pathogenesis, mode of diagnosis of Avarana and its importance in chikitsa sutra.
8.Applied aspect of Dhatu Poshana Krama and Dhatu Samvahana. Concept of Margaga and Sthanastha Dhatus.
9.Conept and applied aspects of Doshapaka and Dhatupaka
10.Fundamental and applied aspect of Dhatu, Upadhatu and Mala. Diseases developed due to their vitiation (pradoshaja vikara).
11.Concept and applied aspects of Srotas, their importance in health and diseased conditions.
12.Concept and applied aspects of Sroto Dushti and Khavaigunya. Understanding the various srotas which are not included in classical list of srotas but enumerated while describing the samprapti of diseases.
13.Description of Dosha-Dushya-Sammurchhana, Concept of Prakriti Sama Samaveta and Vikriti Vishama Samaveta Sammurchhana. Importance of Dosha-Dushya-Sammurchhana in Diagnosis and treatment.
14.Concept of Vikara vighata bhavabhava prativisesha.
15.Concept of Agni and its role in manifestation of health and disease.
16.Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role in pathogenesis.
17.Sama, Nirama stages of Dosha, Dhatu and Mala.
18.Understanding Samprapti of Santarpanottha and Apatarpanottha Vyadhi
19.Detailed classification of diseases as described in Ayurveda. Knowledge of ICD and DSM classification.
20.Detailed understanding of Nidan Panchaka with their classification and clinical importance.
21.Relation between 'Hetu & Lakshana' and 'Samprapti & Lakshna'.
22.Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.
23.Importance of Upadrava, Arishta and Sadhyasadhyata and Udarka. Natural History of the Diseases, concept of vyadhisankara in Ayurveda.

PAPER – II ROGA VIGYANA

Knowledge of classical Samprapti of following diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadhyata and Chikitsa Sutra. Knowledge of commonly occurring diseases of the respective systems mentioned in contemporary medicine and their Ayurvedic interpretation.

1. **Diseases of Pranavaha srotas- Kasa -** Shwasa - Hikka – Urahkshata – Shosha – Rajayakshma and Ayurvedic understanding of common clinical entities like Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Pulmonary Tuberculosis, Bronchial Asthma.

2. **Diseases of Annavaha**- Pureeshavaha Srotas- Agnimandya - Ajirna - Aruchi- Chhardi, Amlapitta- Shoola, Grahani –Gulma- Udara Roga –Vibandha, Atisara – Pravahika along

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with various clinical presentations. Ayurvedic understanding of common clinical entities like Peptic Ulcer, Irritable Bowel Syndrome, Diarrhoea, Dysentry, Constipation, ulcerative colitis.

3. **Diseases of Udakavaha Srotas-** Trishna, Daha and knowledge of water and electrolyte imbalance disorders

4. **Diseases of Rasavaha Srotas -** jwara and Ayurvedic understanding of common clinical entities like various types of Fever- Malaria, Typhoid, viral fevers. Pandu, Amavata, Hridroga, Shotha and Ayurvedic understanding of common clinical entities like Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Angina, Ischaemic Heart Disease, Hypertension, Myocardial Infarction, Congestive cardiac failure.

5. Diseases of Raktavaha Srotas- Kamala - Raktapitta - Vatarakta – Kroshtukaseersha - Shitapitta – Maha Kushta – Visarpa – Shwitra and Kshudra Kushta and Ayurvedic understanding of common clinical entities like jaundice, hepatitis, bleeding disorders, Gout, Thrombo Angitis Obliterens (TAO), Deep Vein Thrombosis (DVT), Leukaemia, Thalessemia, Sickle cell Anaemia. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus, Herpes.

6. **Diseases of Mamsavaha srotas**- Introduction to Granthi, Arbuda,Galaganda and Arsha. Ayurvedic understanding of all types neoplasia and Thyroid diseases.

7. Diseases of Medovaha srotas- Sthoulya - Karshya – Prameha and Ayurvedic understanding of common clinical entities like Obesity and Diabetes Mellitus.

8. Diseases of Asthi - Majjavaha srotas- Sandhigatavata, Introduction to Asthi-majjaparipaka, Asthigata Vidradhi and Ayurvedic understanding of common clinical entities like Osteo- Arthritis, Osteomyelitis, Osteoporosis.

9. Vatavyadhi-Akshepaka - Apatanaka - Ardita - Pakshaghata – Gridhrasi – Viswachi, Avabahuka, Manyasthambha – Katigraha-Pangutwa- Khanja-Khalwee and Ayurvedic understanding of common clinical entities like Hemiplagia, Parkinson's disease, Lumbago-Sciatica syndrome, Bell's Palsy, Ankylosing Spondylitis, MND and other commonly occurring neurological diseases.

10. Diseases of Sukravaha srotas- Klaibya and Vandhyatva and understanding of male and female Infertility, Impotence.

11. Diseases of Mutravaha srotas -Mutrakrichha – Mutraghata, Ashmari and Ayurvedic understanding of common clinical entities like Urinary Tract Infection, Urolithiasis, Nephropathies and Renal failure.

12. Diseases of Swedavaha srotas-knowledge of khalitya, Palitya and Cosmetology.

13. Diseases of Manovaha Srotas - Vishada, Udvega, Bhaya, Bhrama, Anidra, Mada, Murchha, Sanyasa, Apasmara, Unmada, Atatwabhinivesha and Ayurvedic understanding of common clinical entities like Depression, Anxiety neurosis, Phobia, Personality disorders.

PAPER – III PARIKSHA VIGYANA

1. Introduction to Clinical methods and technique for the study of clinical examination
2. Importance of medical history taking and its importance in clinical medicine.
3. Aims, Objectives and Methods, applied aspects and importance of various Rogi and Roga Pariksha as per classics.
4. Srotas Pariksha, Shadanga Pariksha vis-à-vis general & systemic examination of patient.
5. Interpretation of Charakokta trividha pramana pariksha and Sushrutokta shadvidha pariksha with clinical methods mentioned in modern medicine.
6. Interpretation and use of ashtasthana nirikshana along with use of current tools as per Ayurveda.
7. Charakokta dashavidha and Sushrutokta Dwadashavidha pariksha along with the use of modern supportive tools for understanding of rogibala and roga bala concept to derive chikitsa sutra
8. Ayurvedic interpretation of all relevant findings of modern clinical examinations, various Laboratory and other Diagnostic tools.
9. Understanding of diagnostic procedures in medical emergencies.
10. Concept of Good clinical practice in Ayurveda and modern medicine.
11. Knowledge of standard clinical laboratory set up useful for Ayurvedic practice.
12. Knowledge of Ancillary common laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values and their Ayurvedic interpretations & clinical significance as mentioned in practical syllabus.
13. Importance of Bio markers and their utility in clinical researches
14.. Update knowledge of emerging diagnostic tools and technologies.
15.. Knowledge of various Ayurvedic diagnostic softwares/programmes available.
16. Avayava Pariksha – Radio- Imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER - IV VIKRITI VIGYANA AND JIVANU VIGYANA

1. Introduction to pathology and technique for the study of pathology
2. Cell injury and cellular adaptations
3. Immunopathology including amyloidosis and its interpretation with the concept of Ojas vis-à-vis Bala
4. Concept of Shotha versus Inflammation, oedema and healing
5. Derangement of Homeostasis and Hemodynamic disorders
6. |General character and classification of Neoplasia

7. Upasargajanya Vyadhi (Communicable diseases)- Romantika – Masurika – Upadamsha – Phirang and introduction to Syphilis, AIDS, Leprosy, Tuberculosis
8. Detail study of Krimi Vigyanam versus infectious and parasitic diseases along with their mode of infection and life cycle
9. Concept of Snayuka, Shleepada and introduction to Filariasis and classification of common parasites.
10. Concept and applied aspects of Janapadodhvamsa and Environmental diseases
11. Nutritional disorders
12. Concept of genetic diseases and its interpretation in terms of Bija dosha
13. Knowledge of common Bacteria, Virus, Parasites, Fungi and their classification with their disease processes, Nutrition requirements, media and methods for culture and sensitivity

PRACTICAL DEMONSTRATION AND HANDS ON EXPERIENCE

1. Regular posting in Roga Nidana O.P.D.
2. Regular posting in Roga nidana I.P.D.
3. Regular posting in Laboratories
4. Regular posting in other departmental units and Educational Tour to update current medical knowledge
5. Laboratory record – maintenance of observation diary and laboratory record book.
6. Experience in conducting following laboratory investigations for diagnosis of diseases and their methods

a) Hematological, Biochemical and Serological measures, Peripheral blood film examination
b) Rapid diagnostic techniques.
c) Screening test for bleeding disorders- Platelet Count, bleeding time (BT), Clotting time (CT), Prothrombin time (PT).
d) Blood grouping - ABO system, Rh typing (Rhesus system)

7. Urine Examination

a. Ayurveda anusara mutra pariksha.
b. Physical Examination, Chemical Examination, and Microscopic Examination
c. Dipstix examination

8. Stool Examination

i. Ayurveda anusara purisha pariksha-Physical examination - Sama-Nirama Pariksha

ii. Microscopic and macroscopic examination of stool

9. Sputum Examination

i. Ayurveda pariksha anusara sthivana.
ii. Physical, Chemical and Microscopic Examination of the sputum.

10. Semen examination 1) Ayurvediya anusara Retas pariksha. 2) Semen examination & clinical interpretation.
11. Biochemical tests related to various organ panels- Liver, Kidney, Heart, Thyroid, Pituitary and Bones.
12. Knowledge of different staining techniques in microbiology.
13. Knowledge of Sero-immunological Investigations: RA, Widal test, ASO titer, ANA ,etc14. Physical, chemical, microscopic, biochemical and bacteriological tests for various kinds of body aspirates 15. Knowledge of histopathological techniques.

BEDSIDE PRACTICAL /CLINICAL METHODS

1. Expertise in clinical methods (General and Systemic Examination).
2. Practical knowledge of examination of Roga based on Pancha Nidan.
3. Practical knowledge of instruments used for clinical examination.
4. Practical records of clinical examination of at least 30 long cases in I.P.D.
5. Practical records of clinical examination of at least 50 short cases.
6. Practical knowledge of ECG, USG and Imaging techniques and their clinical interpretation
7. Understanding of various Ayurvedic diagnostic softwares/programmes available like Ayu soft, Rudra,Ayut Nidana etc.

PATTERN OF EXAMINATION

Name of Paper	Hours of training	Marks
Paper I	100	100
Paper II	100	100
Paper III	100	100
Paper IV	100	100
Practicals:	Hospital/Laboratory duties at least 4 Hours per day	Total 200:
Observation Diary	10	
Laboratory record	10	
Short Case (including Case Record)	20	
Long Case (including Case Record)	30	
Laboratory Work	40	
Thesis Presentation	40	
Viva Voce	50	

4.KAYACHIKITSA - PG Syllabus 2nd year (Part- 2)

PAPER – I

Fundamentals of Kayachikitsa - 100 marks

1. Rogi-Roga Pariksha: Nidan Panchaka, Trividha pariksha, Ashtavidhapariksha, Dashvidhapariksha in the light of recent advances. Clinical methods- Detailed history taking and patient examination, systemic examination as per Ayurveda and recent advances.
2. Interpretation of common investigations: ECG, Echo cardiography, TMT, Spirometry, X-ray, USG, CT-Scan, MRI, EEG, EMG, in different pathological conditions.
3. Detailed Knowledge of Principles of Chikitsa in Ayurveda. Types of Chikitsa, Principles and practices of Rasayana and Vajikarna.
4. National Health Programmes and prospective role of Ayurveda services and therapeutics in them.
5. Medical ethics, Common laws and regulations applicable to clinical practice.
6. Elaborate knowledge of undertaking common medical procedures like Ryle's tube feeding, tapping, transfusions, catheterization, and tractions.
7. Ayurveda Dietetics: importance of Pathya, Apathya and Anupana.
8. Drug-drug interactions and adverse drug reactions, iatrogenic disorders.

PAPER – II Samanya Roga Chikitsa 100 marks

Nidana/ Chikitsa including Nidana Parivarjana, Pathya, Apathaya, Chikitsa siddhanta, Shamana, Shodhana, Panchakarma, Rasayana and Atyayika Chikitsa (Anupana, Drug/Non-drug) as per Ayurvedic and conventional therapeutics of following Srotogata vyadhi:

1. **Pranavahasrotas**: Shwasa, Hikka, Kasa, Rajayakshma, Hridroga, Parshwashoola, Urakshata, Svarabheda

Cardio-respiratory system: Bronchitis, Bronchiactasis, Bronchial asthma, COPD, Cor-pulmonale, Pneumonias, Occupational lung diseases, Pulmonary tuberculosis, Congenital Heart disorders, IHD, RHD- Valvular diseases, Cardiac failures, Cardiomyopathy, Pericarditis, Endocarditis, Hypertension,.

2. **Annavahasrotas:** Agnimandya, Ajirna, Aruchi, Amadosha, Amlapitta, Chhardhi, Shoola, Grahani.

Gastrointestinal disorders: GERD, APD, Malabsorption Syndrome,

3. **Udakavahasrotas**: Trishna, Shotha, Udararoga, water and electrolyte imbalance

4. **Rasavaha srotas**: Jwara, Amavata, Pandu, Madatyaya, Anaemias, Rheumatoid arthritis, Substance abuse disorders.

5. **Raktavaha Srotas**: Raktapitta, Kamala, Vatarakta, Kushtha, Kshudraroga, Sheetpitta, Udarda, Kotha, Visarpa, Shvitra. Haemopoeitic disorders, Bleeding and Coagulation disorders, Leukaemias, Thrombocytopenia, Disorders of Bone Marrow, Hepatobiliary disorders, Hepatitis, Cirrhosis, Cholecystitis, Liver abscess, Jaundice, Dermatological disorders, Parasitic, Infective, Allergic, Autoimmune skin disorders, Eczemas,

6. **Mamsa-Medovahasrotas**: Medoroga, Sthaulya, Prameha, Galaganda, Gandamala, Urustambha, Diabetes mellitus, over weight .

7. **Asthi-Majjha** vahasrotas: Asthikshaya, Sandhigatavata, Osteoarthritis, Osteopenia

8. **Shukravahasarotas**: Such as Kalibya, Dwajabhanga. Impotence

9. **Mutravahasrotas**: Mutrakricchra, Mutraghata, Ashmari, Urinary disorders: UTI, Lithiasis, ARF, CRF, Uraemia, BPH.

10. **Purishvaha srotas**: Atisara, Pravahika, Anaha, Adhamana, Krimi, Udavarta, Enteritis, Dysenteries, Ulcerative colitis, IBS, Worm infestation.

PAPER – III Vishishta Roga Chikitsa 100 marks.

Comprehensive knowledge of etiology, demography, pathogenesis, symptomatology, complications, investigations, diagnosis and drug/non-drug management of following diseases as per Ayurveda/ Conventional therapeutics:

1. **Vata-Vyadhi**- Pakshavadha, Adharanga Vata, Sarvanga Vata, Ananta Vata, Gata Vata, Gridhrasi, Ardita, Akshepaka, Apatantraka, Ekangvata, Vishvachi, Avabahuka, Avarana.

Musculoskeletal disorders: Myopathies, G B Syndrome, Muscular dystrophies, Lumbago Neurological disorders: Neurodegenerative disorders like Alzeihmer's, Parkinsonism, CVA, Neuropathies, Facial palsy, Motor Neuron Diseases, Epilepsy, Sciatica.

2. **Sankramakroga:** Sheetala, Masoorika, Updansha, Phiranga, Gonorrhea, Chancroids, Syphilis,

3**. Manasa vyadhi**; Unmada, Apasmara, Atatvavinivesha, Mada, Moorcha, Sanyasa.

Common psychiatric disorders: Classification of psychiatric ailments. Disorders of thought like Schizophrenia. Disorders of Mood like Mania, Depression. Neurosis, personality disorders, psychosexual disorders.

4. **Metabolic disorders**: Gout, Dyslipidaemia, Atherosclerosis, Obesity.

5. **Endocrinal disorders**; Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.

6**. Parasitic/Infective/Communicable disorders**: Shlipada, Filariasis, Vishama Jvara, Malaria, Manthara Jwara, Enteric Fever, Dengue, Chickenpox, Measles, Influenza, Kalaazar, Mumps,

Rabies, Poliomyelitis, Plague, Meningitis, Encephalitis, Chickungunya, HIV/AIDs, Common worm infestations.
7. Common neoplastic disorders and their management strategies. Role of Ayurveda medicines in cancer care including palliative care.
8. Autoimmune diseases: Myopathies, Rheumatic fever, SLE.
9. Common poisonings and their management like Insecticide/Pesticide poisoning, Snake poisoning, Vegetable and chemical poisoning.
10. Janapadodhvamsa Vikara. Environmental diseases and their management.

PAPER – IV Advances in Kayachikitsa 100 Marks.

Critical care medicine, Management of medical emergencies, ICU services, Field medical services.
1. Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.
2. National Health Campaigns of AYUSH and components under NRHM.
3. Clinical Research in Kayachikitsa and its application in clinical medicine as per new evidence base in different systemic disorders.
4. New emerging health challenges and ayurvedic medicines: Chickangunya, HIV/AIDS, Swineflu, Chickenflu, Dengue, Restless leg syndrome, Sick building syndrome, Fibromyalgia.
5. Role of Ayurveda in immune-protection, immuno-modulation and in management of other allergies and immunological disorders.
6. Indications and importance of Organ transplantation, Ethical and legal issues involved.
7. Knowledge of Geriatric care and terminal care medicine.
8. Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.
9. Radio-isotopes, disease and tumor markers in diagnosis and assessment of therapy.
10. Scope and methods of independent and collaborative research in Kayachikitsa.
11. Disaster management strategies.
12. Application of advances in Rasayana and Vajikarana therapies
13. Application of emerging trends in Panchakarma in medical management.
14. Physical medication and rehabilitation.

PRACTICALS

Practicals shall be held to evaluate the patient care, diagnostic and treatment expertise of the student. It should also be taken as a chance to evaluate the clinical skills. Clinical Ability Evaluation-60 marks based on

1. Case records of 40 IPD Patients in Detail 10 marks
2. Long case History-1: 20 Marks
3. Short Case history-1 : 10 Marks
4. Medical procedures demonstration/ Panchakarma procedure 20 Marks.

Academic Competence evaluation- 40 marks based on:

1. Viva 30 Marks.
2. Teaching and communication skills: 10 Marks.

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PANCHKARMA- PG Syllabus 2nd year
(Part- 2)

PAPER–I
Purva Karma-Snehana and Svedana

1. Panchkarma in Ashtanga Ayurved and Significance of Shodhana
2. Ama and Shodhana, benefits of Shodhana, Samikshya Bhavas in Shodhana,
3. Importance of Pachana prior to Snehana, methods, drugs, duration and dose for Pachana, samyak Lakshana of Pachana

Snehana

1. Etymology and definition of Sneha and Snehana
2. General considerations about Snehana
3. Classifications of Sneha, Sneha-Yoni, detailed knowledge of four types main SnehaGhrita, Taila, Vasa and Majja with their characteristics, importance and utility, various aspects of Uttama Sneha
4. Properties of Snehana Dravya and their interpretation
5. Effects of Snehana
6. Sneha Kalpana, various types of Sneha Paka with their utility
7. Indications and contraindications of Snehana 8. Classification of Snehana: Bahya and Abhyantara Snehana
9. Bahya Snehana and Bahir-Parimarjana, utility and importance of Bahya Snehana
10. Classification of Bahya Snehana Methods, indications, contraindications, specific utility of the followings Abhyanga, Mardana, unmardana, Padaghta, Samvahana, Udvartana/Utsadana, Udgharshana, Avagaha, Pariseka, Lepa, Pralepa, updeha, Gandusha, Kavala; Karana and Nasa Purna, Akshi Tarpana; Murdhni Taila: Shiro-abhyanga, Shirodhara, Siro Pichu and Siro Basti, Shiro Lepa (Talapotichil), Talam and Takradhara, etc.

11.Knowledge of digestion and metabolism of fat
12.Karmukata of Abhyantara and Bahya Snehan
13.Knowledge of different western massage techniques
14.Abhyantra Snehana: Brimhnartha, Shamanartha and Shodhanartha, definition, method and utility of Brimhanartha and shamanrtha Snehana; difference between Shamanartha and Shodhanartha Snehana
15. Methods of Abhyantar Snehana
16. Shodhanartha Snehana: Acchapana and Vicharana, Utility and various methods of Sadyasnehana, Avapidaka Sneha
17. Matra of Sneha : Hrasiyasi, Hrasva, Madhyama and Uttma Matra with their indications, specific utilty of Ghrita, taila, Vasa and majja; Anupana of Sneha
18. Need and method of Rukshana before performing Snehana in specific conditions and Samyak Rukshana Lakshana
19. Shodhannga Snehana Vidhi and methods of fixation of dose
20. Diet and Pathya during Snehana
21. Observation of sneha Jiryamana, Jirna and Ajirna Lkashana
22. Samyak, Asnigdha and Ati Yoga Lakshana of Snehana
23. Snehs vyapta and their management
24. Pariharya vishaya and Parihara Kala

Svedana

1. Etymology and definition of Svedana
2. General considerations about Svedana
3. Properties of Svedan and Svedopaga Dravya
4. Indications and contraindications of Svedana
5. Various Classifications of Sveda and Svedna
6. Detailed knowledge of four types of Sveda of Sushruta with their utility; PG Final Year Syllabus-88 7. Hina, Mridu, Madhya and Mhana Sveda; Ekanga and Sarvanga sveda with their utility
8. Utility and method of each of 13 types of Sagni and 10 types of Niragni Sveda
9. Shodhannga and Samshamaniya Sveda
10. Methods to protect the vital organs (varjya anga) during Svedan Procedure
11. Detailed Knowledge about Utility of below mentioned Svedan procedures: -
Patrapinda Sveda, Shashtika Shalipinda Sveda, Churna Pinda Sveda, Jambira Pinda Sveda, Dhanya Pinda Sveda, Kukkutanda Sveda, Anna lepa, Valuka Sveda, Ishtika Sveda, Nadi Sveda, Bashpa Sveda, Kshira bashpa Sveda, Avagaha Sveda, Parisheka Sveda, Pizichil, Dhanyamla Dhara, Kashaya Dhara, Kshira Dhara and Upanaha Sveda.
12. Avasthanusari Svedana in various disorders
13. Samyak, Ayoga and Atiyoga Lakshana, Sveda Vyapat and their management
14. Diet and regimens during and after Svedana
15. Karmukata of Svedana
16. Current sudation modalities like Sauna bath, Steam Bath, Infrared, etc.
17. Svedana with Kati Basti, Janu Basti and Griva Basti
18. Study of Snehana and Svedana related portions in classics with commentaries

PAPER – II Vamana and Virechana Karma

Vamana Karma

1. Etimology, definition and general considerations of vamana
2. Properties of Vamaka and Vamanopaga drugs
3. Knowledge and utility of important Vamaka drugs and their preparations (Vamana Yoga)
4. Avasthanusara Vamana and its utility.
5. Indications of Vamana
6. Contraindications of Vamana with reasons
7. Pachana prior to Snehana
8. Detailed knowledge and method of preparation of patient with Snehana
9. Abhyanga and Svedana as Purvakarma of Vamana
10. Diet and management of gap day
11. Need of increasing of Kapha for proper Vamana, Kapha increasing diet
12. Management of Patients on the morning of Vamana
13. Administration of food articles prior to Vamana
14. Drug, time, Anupana, Sahapana, dose and method of administration of Vamana and Vamanopaga preparations
15. Method of Vamana Karma, waiting period for automatic Vamana Vega and manipulation in its absence
16. Observations prior to beginning of Vamana such as sweat on forehead, horripilation, fullness of stomach and nausea
17. Observation and assistance of the patient during Vamana
18. Vega and Upavega of Vamaana and its counting, observations and preservation of vomitus matter and its weighing
19. Samyak, Ayoga and Atiyoga of Vamana
20. Laingiki, Vaigiki, Manaki and Antiki Shuddhi,
21. Hina, Madhya and Pravara Shddhi and Samsajana Krama accordingly
22. Detail knowledge of methods of Samsarjana Krama and its importance
23. Kavala and Dhumapana after vamana
24. Management of Ayoga, Atiyog and Vyapat of Vamana with Ayurveda and modern drugs
25. Parihara Vishaya and Kala for Vamana PG Final Year Syllabus-89
26. Vamana Karmukata with Pharmaco-dynamics of Vamana

Virechana Karma

1. Etymology, definition and general considerations of Virechana
2. Importance of Vamana and Virechana as shodhana, Virechana better than Vamana
3. Necessity of Vamana prior to Virechana
4. Preparation of patients for Virechana after Vamana
5. Preparation of patients directly for Virechana
6. Properties of main Virechaka and Virechanopaga drugs, Classifications of Virechana drugs with definition, example and utility of each type
7. Indications of Vamana Karma
8. Contraindications of Virechana with reasons
9. Utility of Virechana for the specific conditions and stages of the disease

10. Internal Snehana for Virechana with diet
11. Management of 3 gap day with diet and importance of low Kapha for proper Virechana
12.Abhyanga and Svednana as Purvakarma of Virechana
13.Management of Patients on the morning of Virechana
14.Virechana should be performed in empty stomach
15.Drug, dose, time, Anupana, sahapana and method of administration of Virechana and Virechanopaga preparations
16.Method of performing of Virechana Karma
17.Observations during Virechana, Vega and Upavega of Virechana and its counting, observations and preservation of fecess and its weighing
18.Samyak, Ayoga and Atiyoga of Virechana
19.Laingiki, Vaigiki, Manaki and Antiki Shuddhi of Virechana
20.Hina, Madhya and Pravara Shddhi and Samsajana Krama accordingly
21.Detail knowledge of methods of Samsarjana Krama and its importance, and Tarpana krama and its importance
22.Management of Ayoga, Atiyog and Vyapat of Virechana with Ayurveda and modern drugs 23.Parihara Vishaya and Kala for Virechana
24.Virechana a Karmukata with Pharmaco-dynamics of Virechana
25.Applied anatomy and physiology of Gastrointestinal system related with Vamana and Virechana 26.Study of Vamana and Virechana related portions in classics with commentaries
27.Recent advances of researches on the effect of Vamana and Virechana
28.Scope of research for Vamana and Virechana.
29.Role of Vamana and virechana in promotion of health prevention and treatment of diseases

PAPER – III Basti Karma and Nasya Karma

Basti Karma

1. Etymology, definition and general considerations of Basti
2. Importance of Basti in Kayachikitsa and other branches of Ayurveda
3. Classifications of Basti
4. Drugs useful in Basti
5. Indications of Basti, its role at the various stages of diseases
6. Contraindications of Basti with reasons
7. Description of Basti yantras, Basti netra and Basti putaka and their Doshas. Modified Basti Yantra, their merits and demerits PG Final Year Syllabus-90
8. Dose schedules of Niruha and Anuvasana basti

Niruha basti

Etymology, synonyms, definition and classifications and subclassifications of Niruha Basti and detailed knowledge of each type of Niruha Basti along with indications and contraindications and benefits Contents of various types of Niruha Basti, their peoportions, methods of mixing basti Dravya, Relation of Virechana, Shodhana, Anuvasana Basti with Niruha Basti Purvakarma for Niruha Basti; Pathya before, during and after Niruha Basti; all

the aspects of administration of various Niruha Basti Observations during and after Niruha Basti Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Niruha Basti and their management according to Ayurved and Modern Systems of Medicines Management during and after Niruha Basti Pariharya vishaya and pariharakala,

Anuvasana basti

Etymology, synonyms, definition and classifications of Anuvasana Basti and detailed knowledge of each type of Anuvasana Basti along with indications and contraindications and benefits Various types of Ghrita and Taila useful in Anuvasana Basti; Anuvasana Basti with Vasa and Majja along with their merits and demerits Relation of Virechana, Shodhana, Niruha Basti, Snehana with Anuvasana Basti Purvakarma for Anuvasana Basti; Pathya before, during and after Anuvasana Basti;all the aspects of administration of Anuvasana Basti including Kala Observations during and after Anuvasana Basti Anuvasana Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Anuvasana Basti and their management. Management during and after Anuvasana Basti Pariharya vishaya, Pathya and pariharakala for Anuvasana Various combined basti schedules such as Karma, Kala, yoga Basti etc. Detailed knowledge of Matra Basti Detailed Knowledge of different basti formulations like Piccha Basti, Kshira Basti, Yapana Bastis, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti,Vrishya Bsti,Manjishtadi Niruha Basti,Dashamula Basti, Ardhamatrika Basti,Sarva roghara Niruha Basti,Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.

Uttara basti

1. Definition and Classification of Uttara Basti, its Netra and Putaka. Dose of Uttara Basti Sneha and Kashaya Basti. Different Uttara Basti Kalpanas in various diseases.
2. Detailed knowledge of Purvakarma and Administration of uttara Basti in male and female, precautions, aseptic measures, complications and thier management Karmukata of Basti. Applied anatomy and physiology of colon, Pharmaco-dynamics of Basti. 3. Concept of 'Gut Brain' and its relevance to Basti Therapy. 4. Study of relevant portions of Basti in classics with commentaries.

Nasya Karma

1. Etymology, synonyms, importance and definition of Nasya
2. Nasya drugs according to various Samhita PG Final Year Syllabus-91
3. Classifications and sub-classifications of Nasya with detailed knowledge of each type
4. Indications and contraindications of each type of Nasya with reasons
5. Drugs useful for Nasya with Dose and methods of preparations and their doses
6. Nasya Kala and Pathya before, during and after Nasya; Duration of different Nasyas
7. Purvakarma of each types of Nasya
8. Detailed knowledge of administration of each type of Nasya with management during and after Nasya.
9. Detailed knowledge of common Nasya formulations such as Shadabindu Taila, Anu taila, Kshirabala Taila, Karpasastyadi Taila, Bramhi Ghrita.

10. Samyak yoga, Ayoga and Atiyoga of each types of Nasya, its Vyapat and their management
11. Pashchata Karma; Role of Dhumapana, Kavala after Nasya,
12. Diet and Pathya before, during and after Nasya Karma
13. Pariharya vishaya, Parihara Kala,
14. Nasya Karmukata, Applied anatomy and physiology related to Nasa hi Sirso Dvaram, blood and nerve supply to nose, Shringataka marma, olfactory nerve and centers, aroma therapy, trans nasal administration of drug, recent advances in nasal drug delivery
15. Study of relevant portion in classics with commentaries

PAPER – IV Raktamokshana, Physiotherapy and Disease wise Panchakarma

A. Raktamokshana-33 Marks

1. Definition, importance, classifications and detailed knowledge of each type of Raktamokshana with their methods of performance
2. General principles, indications, contraindications of Raktamokshana
3. Detailed knowledge of Jalaukavacharana: Indications and contraindications of Jalaukavacharana, various tyoes of Jalauka with their beneficial and harmful effects.
4. Purvakarma and method of Jalaukavacharana, observations and Pathya before, during and after Jalaukavacharana
5. Management during and after Jalaukavacharana
6. Symptoms of Samyak, Ayoga and Atiyoga and Vyapat of of Raktamokshana and their management with Ayurveda and Modern medicines.
7. Pariharya vishaya and Parihara kala
8. Karmukata of different types of Raktamokshana

B. Clinical Physical Medicine-33 Marks

1. Definitions and terminology
2. Biomechanics of human movements; Physiology of exercise
3. Treatment modalities used in Physical Medicine- general properties and detailed clinical use of each a. Heat – general physiological properties and mode of action as a treatment agent, Forms of heat therapy – superficial and deep heating. General knowledge of Infrared, Paraffin Wax bath, short wave diathermy, electro magnetic therapy, ultra sound therapy, convection heating devices, b. Cold as a therapeutic agent c. Prescription of physical modalities and their applications in medicine.
4. Clinical use of massage, manipulation, stretching
5. Principles of occupational therapy, training in activities of daily living for rehabilitation, self-help devices (walking aids, wheelchairs, tricycles & modified vehicles), instrumental activities of daily living,
6. Physiotherapy exercises for Paralytical disorders, cervical spondylosis, frozen shoulder and slip disc.

D. Disease-wise Panchakarma-34 Marks

Role of Panchakarma in Different Stages of the following Diseases: Jvara, Raktapitta, Madhumeha, Kushtha, Shvitra, Unmada, Apasmara, Shotha, Plihodara, Yakridaluodara, jalodara, Arsha, Grahani, Kasa,Tamaka Shwasa, Vatarakta, Vatavyadhi, Amlapitta, Parinama Shula, Ardhavabhedaka, Ananta Vata,, Amavata, Sheetapitta, Shleepada, Mutrakruchchra, Mutrashmari, Mutraghata, Hrudroga, Pinasa, Drushtimandya, Pandu, Kamala, Sthaulya, Krimi, Madatyaya, Moorchcha, Padadari, Mukhadushika, Khalitya, Palitya,

Use of Various panchakarma Procedures in the following disorders–

Migraine, Parkinson's Diseasse, trigeminal neuralgia, Bell's palsy, cerebral palsy, Muscular dystrophy, hemiplegia, paraplegia, Lumbar Disc disorders, Spondylolisthesis, Ankylosing spondylosis, Carpel Tunnel Syndrome, Calcaneal Spur, Plantar fascitis, GB syndrome, Alzhiemer's disease, Irritable Bowel Syndrome, ulcerative colitis, psoriasis, hypothyroidism, hyperthyroidism, hypertension, allergic rhinitis, , Eczema, diabetes mellitus, Chronic obstructive pulmonary Disease, Insomnia, Rheumatoid Arthritis, Gout, Osteoarthritis,multiple sclerosis, SLE, male & female infertility, cirrhosis of liver, Jaundice, General Anxiety Disorders,