



**DESH BHAGAT UNIVERSITY, MANDI GOBINDGARH**  
**FACULTY OF AYURVEDA & RESEARCH**

**MD Kayachikitsa 1<sup>st</sup> Year**

**Course Code** : **DBU/MD/01**  
**Title of the course** : **Research Methodology & Medical Statistics**

**Course Outcome (CO)**

A Student should be able to:

- CO1.** Apply basic concepts of research methodology
- CO2.** Visualize published research literature
- CO3.** Implement research in everyday practice of Ayurveda.
- CO4.** Understand and follows ethics in Research.

<b>CO/PO Mapping</b>												
(S/M/W indicates strength of correlation) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	M	S	S	S	S	S	M	S	S	S
CO2	S	S	W	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	S	S	S	S	S	M	M	S

## Research methodology and Medical statistics

### Theory

Unit	Course outlines	Lectures
	<b>Research Methodology</b>	<b>100</b>
<b>Unit-1</b>	<p><b>1. Introduction to Research</b></p> <p>A. Definition of the term research            B. Definition of the term anusandhan            C. Need of research in the field of Ayurveda</p> <p><b>2. General guidelines and steps in the research process</b></p> <p>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.</p> <p>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.</p> <p><b>3. Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model. Scientific writing and publication skills.</b></p> <p>a. Familiarization with publication guidelines- Journal specific and CONSORT guidelines.</p>	<p>3</p> <p>15</p> <p>12</p>

	<p>b. Different types of referencing and bibliography.  c. Thesis/Dissertation: contents and structure  d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)</p>	5
	<p><b>4. Scientific writing and publication skills.</b></p> <p>a. Familiarization with 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)</p>	6
	<p><b>5. Classical Methods of Research.</b></p> <p>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</p>	5
	<p><b>6. Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.</b></p>	5
	<p><b>7. Different fields of Research in Ayurveda</b>  Fundamental research on concepts of Ayurveda</p> <p>a. Panchamahabhuta and tridosha.  b. Concepts of rasa, guna, virya, vipak, prabhav and karma  c. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshta</p>	8
	<p><b>8. Literary Research-</b></p> <p>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</p>	10

	<p>particular body of knowledge.</p> <p><b>9. Drug Research (Laboratory-based)-</b> Basic knowledge of the following:  <b>Drug sources:</b> plant, animal and mineral. Methods of drug identification.  <b>Quality control and standardization aspects:</b> 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)</p> <p><b>10. Safety aspects:</b> Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.</p> <p><b>11. Introduction to latest Trends in Drug Discovery and Drug Development</b>  -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</p> <p><b>12. Clinical research:</b>  Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda  Basic knowledge of the following:-  Observational and Interventional studies  Descriptive &amp; Analytical studies  Longitudinal &amp; Cross sectional studies  Prospective &amp; Retrospectives studies  Cohort studies  Randomized Controlled Trials (RCT) &amp; their types  Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.  Errors and bias in research.</p>	<p>3</p> <p>4</p> <p>15</p> <p>3</p>
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	<p>New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP) Phases of Clinical studies: 0,1,2,3, and 4.</p> <p><b>Survey studies -</b> Methodology, types, utility and analysis of Qualitative Research methods. Concepts of in-depth interview and Focus Group Discussion.</p>	3
	<p><b>13. Pharmacovigilance for ASU drugs</b></p> <p>Pharmacovigilance for ASU drugs. Need, scope and aims &amp; objectives. National Pharmacovigilance Programme for ASU drugs</p>	3
	<p><b>14. Bioinformatics</b></p> <p>Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases.</p>	
	<p><b>15. Intellectual Property Rights</b></p> <p>Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).</p>	
	<b>Medical statistics</b>	80
<b>Unit-2</b>	<p>1. <b>Definition of Statistics</b> : Concepts, relevance and general applications of Biostatistics in Ayurveda</p>	3
	<p>2. <b>Collection, classification, presentation, analysis and interpretation of data</b> (Definition, utility and methods)</p>	3
	<p>3. <b>Scales of Measurements</b> - nominal, ordinal, interval and ratio scales. <b>Types of variables</b> – Continuous, discrete, dependent and</p>	3

	<p>independent variables.  <b>Type of series</b> – Simple, Continuous and Discrete</p>	5
	<p><b>4. Measures of Central tendency</b> – Mean, Median and Mode.</p>	3
	<p><b>5. Variability:</b> Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation</p>	5
	<p><b>6. Probability:</b> Definitions, types and laws of probability</p>	5
	<p><b>7. Normal distribution:</b> Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.</p>	5
	<p><b>8. Fundamentals of testing of hypotheses:</b>  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</p>	8
	<p><b>9. Univariate analysis of categorical data:</b>  Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals</p>	8
	<p><b>10. Parametric tests:</b> 'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance</p>	6
	<p><b>11. Non parametric methods:</b> Chi-square test, Fisher's exact test, McNemar's test, Wilcoxon test, Mann-Whitney U test, Kruskal – Wallis with relevant post hoc tests (Dunn)</p>	6
	<p><b>12. Correlation and regression analysis:</b></p>	

	<p>Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation. Regression- simple and multiple.</p>	6
	<p><b>13. Sampling and Sample size computation for Ayurvedic research:</b>  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.</p>	4
	<p><b>14. Vital statistics and Demography:</b> computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics</p>	5
	<p><b>15. Familiarization with the use of Statistical software like SPSS/Graph Pad</b></p>	

## Practical

### I. RESEARCH METHODOLOGY

#### 10. Pharmaceutical Chemistry

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

#### 11. 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)

#### 12. Pharmacognosy

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

### **13. Pharmacology and toxicology**

Familiarization and demonstration of techniques related to pharmacology and toxicology

### **14. 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.

### **15. 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

### **16. Imaging Sciences**

Familiarization and demonstration of techniques related to the imaging techniques.

Video film demonstration of CT-Scan, MRI-scan and PET-scan

### **17. Imaging Sciences**

Familiarization and demonstration of techniques related to the imaging techniques.

Video film demonstration of CT-Scan, MRI-scan and PET-scan

### **18. Clinical protocol development**

## **II. MEDICAL STATISTICS**

**Statistical exercise of examples from Topic number 4, 5, 8-12, 14, 15.**

**Records to be prepared.**

**Distribution of marks (practical):**

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



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### **Biochemistry and Laboratory techniques:**

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14. Sundar Rao, Jesudian Richard - An Introduction to Biostatistics.
15. Suhas Kumar Shetty- Medical statistics made easy
16. <https://epdf.pub/fundamental-of-research-methodology-and-statistics.html>
17. <https://www.amazon.in/Research-Methodology-Medical-Statistics-Students-ebook/dp/B07HD4Q325>
18. <https://www.mobt3ath.com/uplode/book/book-32.pdf>
19. <https://www.slideshare.net/armarcayurveda/research-methodology-and-medical-statistics-book-preview-71083881>



**DESH BHAGAT UNIVERSITY, MANDI GOBINDGARH**  
**FACULTY OF AYURVEDA & RESEARCH**

**Course Code : MDA-(K)-02**

**Title of the course : Kayachikitsa**

**Course Outcomes:**

After completing the course the student will be able to understand about:

- CO 1.** Fundamental concepts of Kayachikitsa like Vriddhi and Kshaya of Dosha, Dushya, Mala with Amshaamsha Kalpana & Rogi Roga Pariksha including detailed history taking and systemic examination of patient.
- CO 2.** Principles of Kayachikitsa in disease management including Shodhana, Shamana and Naimittika Rasayan, Chikitsa Siddhanta of Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha & Manovaha Srotovikara.
- CO 3.** Emergency medicine, conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle's tube insertion, catheterization, tractions, water seal drainage, Cardio Pulmonary Ressucitation & Basic principles of Modern diagnostic tools and their interpretation.
- CO 4.** Knowledge of common Ayurvedic formulations and Kalpanas used in treatment Like Various Churna, Asavas-Arista, Vati, Guggula-Kalpana, Rasaushadh, Taila, Ghrita, Lehya.

<b>CO/PO Mapping</b>												
(S/M/W indicates strength of correlation ) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	S	S	M	M	S	M	S	S	M	M
CO2	S	S	S	S	M	M	S	M	S	S	M	M
CO3	S	S	S	S	M	M	S	M	S	S	M	M
CO4	S	S	S	S	M	M	S	M	S	S	M	M
CO5	S	S	S	S	M	M	S	M	S	S	M	M
CO6	S	S	S	S	M	M	S	M	S	S	M	M

**Theory:****Paper -1****Part -A**

<b>Unit</b>	<b>Course outlines</b>	<b>Lecture(s)</b>
<b>Unit-1</b>	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.	9
<b>Unit-2</b>	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 Prakriyadi Dashvidha Pariksha.	10
<b>Unit-3</b>	Principles of Kayachikitsa in disease management including Shodhana, Shamana and Naimittika Rasayana.	8
<b>Unit-4</b>	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.	8

**Part –B**

<b>Unit</b>	<b>Course Outlines</b>	<b>Lecture(s)</b>
<b>Unit-1</b>	Chikitsa Siddhanta of Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha & Manovaha Srotovikara	8
<b>Unit-2</b>	Emergency medicine: Acute Severe Asthma, pulmonary oedema, myocardial infarction, cerebro-vascular accidents, water and electrolyte imbalance, haemorrhage, syncope, seizure, coma, hyperpyrexia, hypertensive encephalopathy	10
<b>Unit-3</b>	Knowledge of conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle's tube insertion, catheterization, tractions, water seal drainage, CardioPulmonary Ressucitation	10
<b>Unit-4</b>	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	10
<b>Unit-5</b>	Knowledge of common Ayurvedic formulations and preparations used in treatment:	27
<b>a)</b>	<b>Churna-</b> Triphala, Sitopaladi, Lavanbhaskara, Hingvashtaka, Avipattikara, Gangadhara, Shaddharana, Sudarshana, Panchasakara, Ajmodadi.	



<b>b)</b>	<b>Kashaya-</b> Dashamula, Rasnasaptaka, Asanadi, Pathyadi, Phalatrikadi, Punarnavashtaka, Gojivhadi, Mahamanjishthadi, Drakshadi Kashaya.	
<b>c)</b>	<b>Asavas-Arista-</b> Amritarishta, Kanakasava, Chitrakasava, Saraswatarishta, Ashwagandharishta, Chandanasava.	
<b>d)</b>	<b>Vati-</b> Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyoshadi, Shankha Vati, ShivaGutika	
<b>e)</b>	<b>Guggula-Kalpana-</b> Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradi guggula, Kanchanaraguggula	
<b>f)</b>	<b>Rasaushadhi-</b> Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa, Rasamanikya Rasa, Smritisagara Rasa, Lakshmivilasa Rasa, Sutshekhara Rasa, Pravala Panchamrita Parpati, Hemagarbhapottali Rasa.	
<b>g)</b>	<b>Taila-</b> Mahanarayana Taila, Pindataila, Prasarinyadi Taila, Ksheerabala Taila, Brihat Saindhavadi Taila, Panchaguna Taila, Amritadi Taila, Marichyadi Taila, MahamashaTaila	
<b>h)</b>	<b>Ghrita-</b> Mahatriphaladi Ghrita, Brahmi Ghrita, Panchtikta Guggulu Ghrita, Sukumara Ghrita, Dadimadya Ghrita, Kantakari Ghrita, Kalyanaka Ghrita.	
<b>i)</b>	<b>Lehya-</b> Chyavanaprasha Avaleha, Kushmanda Avaleha, Ashwagandh Avaleha, Agastya Hareetaki Rasayana, Drakshavaleha, Vasavaleha, Amrita-Bhallataka Rasayana	

**Total-100**

**Distribution of Theory Marks - 100:**

One Paper – 100 Marks

**Distribution of Practical Marks - 100:**

**Content:-**

Daily hospital duties in OPD, IPD and casualty

Bed-side case taking – 25 patients

**Distribution of marks (practical):**

	<b>Marks</b>
1. Case records of 25 Patients in detail	20
2. Bedside clinical case taking-	
a) Long case	20
b) Short case	10
3. Medical procedures/laboratory work	15
4. Instruments and spotting	15
5. Viva voice	20

### Reference books-

Charak Samhita	-Cakrapanidutta commentry
Sushrut Samhita	-with all available commentaries.
Ashtang Samgraha	–Indu commentary
Ashtang Hridaya	–Arundutta and Hemadri commentry
Cikitsadarsha	- Pandit Rajesvardutta Shastri
Kayachikitsa	- Ramaraksha Pathak
Rog Pariksha Vidhi	- Priyavrat Sharma
Panchakarma Vigyan	- Haridas Sridhar Kasture
Ayurved Nidan Chikitsa Siddhanta	- Prof. R.H.Singh.
Kayachikitsa Vol. I-IV.	- Prof. Ajay Kumar
Davidson’s Principles and Practice of Medicine.	
API Text Book of Medicine.	
Harrison’s Text Bok of Medicine.	
Cecil Text Book of Medicine.	

Kayachikitsa sutram E-book by Dr. Ajay Kumar & Dr.Tina Singhal

Charak samhita E-book by Dr. Ajay Kumar

.Introduction to Kayachikitsa E-book by C.Dwarkanath

.Clinical methods in Medicine by Dr. S. N. Chugh & Dr. Eshan Gupta

Manual of Practical Medicine by Dr. R. Alagappan

Text Book of Medicine by Dr. S. N. Chugh

Kayachikitsa Vol.1-2 by Dr. Pankaj Taneja & Vandana Taneja

Relevant texts of concerned subjects.

**DESH BHAGAT UNIVERSITY, MANDI GOBINDGARH**  
**FACULTY OF AYURVEDA & RESEARCH**

**M.D Kayachikitsa**  
**Final Year**

**Course Code** : **MDA(K)- 03**  
**Title of the course** : **Course Name: Fundamentals of Kayachikitsa- Paper- I**

**Course Outcomes:**

After completing the course the student will be able to understand about:

- CO 1.** Rogi-Roga Pariksha: Nidan Panchak, Trividha pariksha, Ashtavidhpariksha, Dashvidhpariksha in the light of recent advances. Clinical methods-Detailed history taking and patient examination, Systemic examination as per ayurveda and recent advances
- CO 2.** Interpretation of common investigations: ECG, Echo cardiography, TMT, Spirometry, Xray, USG, CT-Scan, MRI, EEG, EMG, in different pathological conditions
- CO 3.** Principles of Chikitsa in Ayurveda, Types of Chikitsa, Principles and practices of Rasayana and Vajikarna.
- CO 4.** Ayurveda Dietetics: importance of Pathya, Apathya and Anupana

CO/PO Mapping (S/M/W indicates strength of correlation ) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	S	S	M	M	S	S	S	S	S	M
CO2	S	S	M	S	S	S	S	S	S	S	S	S
CO3	S	S	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	S	M	M	S	M	S	S	S	S

**Theory:**

Unit	Course outlines	Lecture(s)
Unit 1.	Rogi-Roga Pariksha: Nidan Panchak, Trividha pariksha, Ashtavidhpariksha, Dashvidhpariksha in the light of recent advances. Clinical methods-Detailed history taking and patient examination, Systemic examination as per ayurveda and recent advances.	20
Unit-2	Interpretation of common investigations: ECG, Echo cardiography, TMT, Spirometry, X-ray, USG, CT-Scan, MRI, EEG, EMG, in different pathological conditions	15
Unit -3	Detailed Knowledge of Principles of Chikitsa in Ayurveda. Types of Chikitsa. Principles and practices of Rasayana and Vajikarna.	10
Unit-4	National Health Programmes and prospective role of Ayurveda services and therapeutics in them.	10
Unit-5	Medical ethics, Common laws and regulations applicable to clinical practice.	10

Unit-6	Elaborate knowledge of undertaking common medical procedures like Ryle's tube feeding, tapping, transfusions, catheterization, tractions.	15
Unit-7	Ayurveda Dietetics: importance of Pathya, Apathya and Anupana.	10
Unit-8	Drug-drug interactions and adverse drug reactions, Iatrogenic disorders.	10

**Course Code** : **MDA(K)- 04**  
**Title of the course** : **Samanya Roga Chikitsa - Paper- II**

**Course Outcomes:**

After completing the course the student will be able to understand about:

**CO 1.** Nidana of various Srotogata vyadhi

**CO 2.** Nidana Parivarjana, Pathya, Apathaya, for various diseases as per classical and Modern medicine.

**CO 3.** Chikitsa, Chikitsa siddhanta, as per Ayurvedic and conventional therapeutics of Srotogata vyadhi.

**CO 4.** Shamana, Shodhana, Panchakarma, Rasayana and Atyayika Chikitsa (Anupana, Drug/Nondrug) as per Ayurvedic and conventional therapeutics of Srotogata vyadhi.

CO/PO Mapping												
(S/M/W indicates strength of correlation ) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	S	S	M	S	S	M	S	S	S	M
CO2	S	S	S	S	S	M	S	S	S	S	M	M
CO3	S	S	S	S	M	S	S	S	S	S	S	S
CO4	S	S	S	S	S	M	S	S	S	S	S	S

Theory:

Unit	Course Outlines	Lecture(s)
	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:	
Unit-1	Pranavaahasrotas: 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,	15
Unit-2	Annavahasrotas: Agnimandya, Ajirna, Aruchi, Amadosha, Amlapitta, Chhardhi, Shoola, Grahani. Gastrointestinal disorders: GERD, APD, Malabsorption Syndrome	10

Unit-3	Udakavahasrotas: Trishna, Shotha, Udararoga, water and electrolyte imbalance	7
Unit-4	Rasavaha srotas: Jwara, Amavata, Pandu, Madatyaya, Anaemias, Rheumatoid arthritis, Substance abuse disorders.	8
Unit-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,	10
Unit-6	Mamsa-Medovahasrotas: Medoroga, Sthaulya, Prameha, Galaganda, Gandamala, Urustambha, Diabetes mellitus, over weight .	10
Unit-7	Asthi-Majjha vahasrotas: Asthikshaya, Sandhigatavata, Osteoarthritis, Osteopenia	10
Unit-8	Shukravahasrotas: Such as Kalibya, Dwajabhanga. Impotence	10
Unit-9	Mutravahasrotas: Mutrakricchra, Mutraghata, Ashmari, Urinary disorders: UTI, Lithiasis, ARF, CRF, Uraemia, BPH.	10
Unit10	Purishvaha srotas: Atisara, Pravahika, Anaha, Adhamana, Krimi, Udavarta, Enteritis, Dysenteries, Ulcerative colitis, IBS, Worm infestation.	10

**Course Code : MDA(K)-05**  
**Title of the course : Vishishta Roga Chikitsa- PAPER – III**

**Course Outcomes:**

After completing the course the student will be able to understand about:

- CO 1.** Comprehensive knowledge of etiology, demography, pathogenesis, symptomatology, complications, investigations, and diagnosis of diseases as per Ayurveda & Modern medicine.
- CO 2.** Investigations and diagnosis of diseases.
- CO 3.** Detailed knowledge of Vata-Vyadhi, Musculoskeletal disorders, Neurological disorders
- CO 4.** drug/non-drug management of various diseases as per Ayurveda/ Conventional therapeutics:

CO/PO Mapping												
(S/M/W indicates strength of correlation ) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	S	S	S	S	S	S	S	S	S	S
CO2	S	S	M	S	S	M	S	S	S	M	S	S
CO3	S	S	S	S	S	S	S	S	S	S	S	S
CO4	S	S	S	M	S	S	S	S	S	S	S	S

Theory:

Unit	Course Outlines	Lecture(s)
	Comprehensive knowledge of etiology, demography, pathogenesis, symptomatology, complications, investigations, diagnosis and drug/non-drug management of following diseases as per Ayurveda/ Conventional therapeutics:	
Unit-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.	15
Unit-2	Sankramakroga: Sheetala, Masoorika, Updansha, Phiranga, Gonorrhoea, Chancroids, Syphilis,	10

Unit-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.	15
Unit-4	Metabolic disorders: Gout, Dyslipidaemia, Atherosclerosis, Obesity.	8
Unit-5	Endocrinal disorders; Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.	10
Unit-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.	10
Unit-7	Common neoplastic disorders and their management strategies. Role of Ayurveda medicines in cancer care including palliative care.	10
Unit-8	Autoimmune diseases: Myopathies, Rheumatic fever, SLE.	7
Unit-9	Common poisonings and their management like Insecticide/Pesticide poisoning, Snake poisoning, Vegetable and chemical poisoning.	8
Unit10	Janapadodhvamsa Vikara. Environmental diseases and their management.	7



**Course Code : MDA(K)-06**  
**Title of the course : Advances in Kayachikitsa- PAPER – IV**

**Course Outcomes:**

**After completing the course the student will be able to understand about:**

- CO 1.** Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.
- CO 2.** Clinical Research in Kayachikitsa and its application in clinical medicine as per new evidence base in different systemic disorders.
- CO 3.** Role of Ayurveda in immune-protection, immuno- modulation and in management of other allergies and immunological disorders.
- CO 4.** Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.

CO/PO Mapping (S/M/W indicates strength of correlation ) S – Strong, M – Medium, W – Weak												
Cos	Programme Outcomes (Pos)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S	S	S	S	S	S	S	S	S	S	S	M
CO2	S	S	S	M	S	M	S	S	S	S	S	S
CO3	M	S	S	S	S	S	S	S	S	M	S	S
CO4	S	S	S	S	S	S	S	S	S	S	S	S

Theory:

Unit	Course Outlines	Lecture(s)
Unit-1	Critical care medicine, Management of medical emergencies, ICU services, Field medical services	7
Unit-2	Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.	7
Unit-3	National Health Campaigns of AYUSH and components under NRHM.	7
Unit-4	Clinical Research in Kayachikitsa and its application in clinical medicine as per new evidence base in different systemic disorders.	7
Unit-5	New emerging health challenges and ayurvedic medicines: Chickangunya, HIV/AIDs, Swineflu, Chickenflu, Dengue, Restless leg syndrome, Sick building syndrome, Fibromyalgia.	8

Unit-6	Role of Ayurveda in immune-protection, immuno-modulation and in management of other allergies and immunological disorders.	8
Unit-7	Indications and importance of Organ transplantation, Ethical and legal issues involved.	7
Unit-8	Knowledge of Geriatric care and terminal care medicine.	6
Unit-9	Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.	7
Unit-10	Radio-isotopes, disease and tumor markers in diagnosis and assessment of therapy.	6
Unit-11	Scope and methods of independent and collaborative research in Kayachikitsa.	5
Unit-12	Disaster management strategies.	5
Unit-13	Application of advances in Rasayana and Vajikarana Therapies	6
Unit-14	Application of emerging trends in Panchakarma in medical management.	6
Unit-15	Physical medication and rehabilitation.	8

### **Theory Total- 400 Marks**

### **Distribution of Theory Marks - 400**

### **Four Papers – 100 Marks Each**

### **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.

### **Reference Books**

1. Relevant portions of Brihatrayi and Laghutrayi with commentaries
2. Cikitsadarsha- Pandit Rajeshvar Dutta Shastri
3. Kayachikitsa - Ramaraksha Pathak
4. Rog Pariksha Vidhi - Priyavrat Sharma
5. Panchakarma Vigyan - Haridas Sridhar Kasture
6. Ayurvediya Nidana- Chikitsa Siddhanta - Prof. R.H.Singh.
7. Kayachikitsa Vol. 1 and 2 - Prof. R.H.Singh.
8. The Holistic Principles of Ayurvedic Medicine - Prof. R.H.Singh.

9. Essentials of Kayachikitsa -II, Vol. 1 - Dr. Aruna
10. Kayachikitsa Vol. I-IV. - Prof. Ajay Kumar
11. Panchakarma Therapy - Prof. R.H. Singh
12. Panchakarma Illustrated - Prof. G. Shrinivasa Acharya
13. Practice of Ayurvedic Medicine (Kayachikitsa) - Prof. A.K. Tripathi
14. Nidanachikitsa Hastamalaka - Prof. R.R. Desai
15. Clinical Methods in Ayurveda - Prof. K.R. Srikantamurthy
16. Aushadhi Gunadharma Shastra - Gangadhar shastri Gune
17. Introduction to Kayachikitsa - Prof. C. Dwarkanath
18. Samprapti lakshnanayoh Sambandhah - Prof. Sadashiv Sharma
19. Nidana Panchak - Prof. S.C. Dhyani
20. Kayachikitsa - Prof. S.C. Dhyani
21. Davidson's Principles and Practice of Medicine.
22. API Text Book of Medicine.
23. Harrison's Text Book of Medicine.
24. Cecil Text Book of Medicine.
25. Kayachikitsa sutram E-book by Dr. Ajay Kumar & Dr. Tina Singhal
26. Charak samhita E-book by Dr. Ajay Kumar
27. Introduction to Kayachikitsa E-book by C. Dwarkanath
28. Clinical methods in Medicine by Dr. S. N. Chugh & Dr. Eshan Gupta
29. Manual of Practical Medicine by Dr. R. Alagappan
30. Text Book of Medicine by Dr. S. N. Chugh
31. Kayachikitsa Vol. 1-2 by Dr. Pankaj Taneja & Vandana Taneja
32. Relevant texts of concerned subjects.