

**2.1 DRAVYAGUNA VIGYAN**  
**(PHARMACOLOGY & MATERIA MEDICA)**

**Lectures: 200 Hrs.**

**Practicals: 200 Hrs.**

**Total Marks -400**

**Theory Two Papers– 100 Marks Each**

**Practical/Viva voce – 200 Marks**

**Paper I**

**100 Marks**

**Part A**

**50 Marks**

**1- Dravyaguna Shastra Paribhasa-** Lakshana of Sapta Padartha of Dravyaguna Vijnana viz Dravya- Rasa-Guna- Virya- Vipaka- Prabhava and Karma.

**2- Dravya:**

Etymological derivation, definition, panchbhoutikatwa.

Classification of Dravya according to Samhitas and Nighantus Taxonomical classification.

**3- Guna:**

Etymological derivation, definition and Classification of Guna.

Detailed knowledge of Gurvadi Guna & Paradi gunas.

**4- Rasa:**

Etymological derivation, definition, Meaning of "Rasa" in various contexts. Shad Rasas (Madhura, Amla, Lavana, Katu, Tikta, and Kashaya), Panchabhautik constitution of Rasas, Nirvrittivisheshakrama (manifestation in general and particular), Ritu and shad rasa Rasanurasayoh bheda (Difference between rasa and anurasa), Lakshana (characteristics),Guna and Karma of shad Rasas, Kopana and Shamana of Dosha and dushya by Shad rasas. Effects of excess usage of Rasa. Rasopalabधि, Rasaskandha.

**5- Vipaka:**

Etymological derivation and definition, difference between Avasthapaka and Vipaka, Types of Vipaka, (Dvidha-Trividha,Panchavidha) Guna and karma of Vipaka.

Grades of Vipaka (taratamya), Vipakopalabधि hetu (Factors to determineVipaka).

**6- Veerya:**

Etymological derivation, definition and Swarupa of Virya, Number of Virya.

(Dwividha & Ashtavidha), Panchabhauthikatva

Virya karmani (Effects of Virya), General principles in determination of virya along with exceptions.

**7- Prabhava:**

Definition, Effects of Prabhava.

**8-** Interrelation of Rasa-Guna-Virya-Vipaka-Prabhava with respect to their strength (balabal nirupana). Samanapratyayarabdha and Vichitrapratyayarabdha dravyas.

**9- Karma:**

Lakshana, swarupa and bheda of karma (Definition, nature and types of action).

Explanation of the following Karmas with examples:

- |                 |                |                 |
|-----------------|----------------|-----------------|
| 1. Deepana      | 2. Pachana     | 3. Samshodhana  |
| 4. Samshamana   | 5. Anulomana   | 6. Sransana     |
| 7. Bhedana      | 8. Rechana     | 9. Chhedana     |
| 10. Lekhana     | 11. Grahi      | 12. Sthambhana  |
| 13. Madakari    | 14. Pramathi   | 15. Abhishyandi |
| 16. Vyavayi     | 17. Vikashi    | 18. Rasayana    |
| 19. Vajeekarana | 20. Jeevaneeya | 21. Balya       |
| 22. Brimhana    | 23. Langhana   | 24. Medhya      |

**10.** Brief information on Karmas of dashemani gana of Charak Samhita.

**11- Mishraka Gana:**

11a)- Audbhida Gana (Vegetable origin) Brihatpanchamoola, Laghupanchamoola, Vallipanchamoola, Kantakapanchamoola, Trinapanchamoola, Madhyamapanchamoola, Jeevaneeya panchamoola, Panchapallava, Panchavalakala, Triphala, Trikatu, Trimada, Chaturusana, Panchakola, Shadusana, Chaturbeeja, Jeevaniya gana, Ashtavarga, Trijataka, Chaturajataka, Katuchaturjataka Panchatikta, Amlapanchaka, Chaturbhadra, Trikarshika, Swalpatriphala, Madhuratriphala, Mahavisha, Upavisha, Agrya aushadh varga- Knowledge of Agrayaushadha Varga with example.

11 b)- Jangama Gana (Animal origin)- Ksheerashtaka, Mutrashtaka, Pitta panchaka.

11 c)- Parthiva Gana (Mineral origin) - Lavana Panchaka, Kshara dvaya, Kshara Ashtaka.

**12- Basis of nomenclature:**

Basis of nomenclature of dravya, Basis and Derivation of synonyms.

**13.** Bheashaja Pariksha vidhi (as described in Charaka samhita vimana sthana 8), Dravya Sangrahana (collection of dravya)- Ecology- Classification of desha (geographical area) and bhumi (soil), swarupa of sangrahaniya dravya of (Nature and quality of drug to be collected). Sangrahana vidhi (Method of collection) -Vegetable and Animal origin drugs according to part used. Period of collection according to virya, samrakshana vidhi (preservation of collected dravyas), bheshajagara (Storehouse), study on different prayojyanga (useful plant parts).

**Part B****50 Marks****(I)****20 Marks**

14 a) Concept of dravya shodhan (purification of dravya).

14 b) Brief knowledge of Apamishran (adulterants)

14 c) Concept of Abhava pratinidhi dravya (substitutes)

**15-** Prashasta bhesaja (ideal drug), plant extracts. Concept of viruddha Dravya (incompatibility of the dravya).

**16-** Introduction to Nighantu Vigyan - Dhanwantari Nighantu, Bhavaprakashanighantu, Rajanighantu.

**17-** Brief knowledge of cultivation, conservation of medicinal plants and information about endangered species.

**(II)****30 Marks**

**18.** - Introduction, Definition & scope of Pharmacology and Principles of general Pharmacology. Brief Knowledge about pharmacology of the following - Anaesthetics, CNS depressants, Sedatives, Hypnotics, Tranquilisers, Antipyretics, Analgesics, Antiepileptics, Antihypertensive, Antianginal, Antiplatelet, Hypolipidaemic, Haemopoetic, Coagulants, Bronchodilators, Aerosols/ Inhalants, Expectorants, Digestants, Carminatives, Antacids, Antiulcer, Laxatives, Antidiarrhoeals, Antiemetic, Hepatoprotective, Diuretic, Antidiuretic, Lithotriptic, Antiinflammatory, Hormonal therapy, Antiobesity, Antidiabetic, Antithyroid, Oxytocic. Galactagogues, Contraceptives, Styptics, Antihistamines, Antimicrobial, Antibiotics, Antimalarial, Amoebicidal, Antifilarial, Anthelmintic, Antifungal, Vitamins, Minerals, Water imbalance and IV fluids, Vaccines, antivenom, antirabies serum, Local anti septics, drugs in ophthalmic practice, Anti cancer drugs and immunomodulators.

**Paper II****100 Marks****Part A****70 marks****1-Detailed Knowledge of Following Dravya –**

- 1- Detailed knowledge of following drugs with respect to Basonym of drug, Main Synonyms, Regional Name, Botanical Name, Family, Classification of Dravya (Gana) as described in Charak and Sushrut, External morphology, Useful parts, Important phytoconstituents, Rasa panchaka, Action on Dosha, Dhatu, Mala, Prayogarha vyadhi (therapeutic indications), Amayikaprayoga and Matra (Therapeutic administration and Dose), Vishishta yoga (names of important formulations), Vishakta Lakshan (adverse effects), Chikitsopachara (remedial measures) and Shodhana (as required)

[Alphabetical order and Botanical names to all the drugs are to be added]

Agaru	Guggulu	Pashanabheda
Agnimantha	Haridradvaya	Patala
Agnimantha	Haritaki	Pippali-Pippalimula
Ahiphena	Hingu	Prishniparni
Amalaki	Jambu	Punarnava
Apamarga	Jatamansi	Pushkarmoola
Aragvadha	Jatiphal	Rasna
Aragvadha	Jeerakadvaya	Rasona
Ardraka-Sunti	Jyotishmati	Rohitaka
Arjuna	Kalamegha	Saireyaka
Arjuna	Kampillaka	Sarivadvaya
Arkadvaya	Kanchanara	Sarpagandha
Ashvagandha	Kantakari	Shalaparni
Asoka	Kapikacchu	Shallaki
Ativisha	Karkatakshringi	Shalmali
Bakuchi	Karpura	Shankhapushpi
Baladvayam.	Katuki	Shatavari
Bhallataka	Khadira	Shigru
Bharangi	Kiratatikta	Shirisha
Bhrungaraj	Kumari	Shyonaka
Bibhitaka	Kumkum Kesara	Talisa Patra
Bijak/ Vijaysar	Kupilu	Tila
Bilva	Kushta	Trivrut
Brahmi	Kutaja	Tulasi
Bruhati	Lavanga	Tvak
Chandanadvaya,	Lodhra	Ushira
Chitraka	Madanaphala	Vacha
Dadima	Mandukaparni.	Varahi
Devadaru	Manjishtha	Varahi
Dhataki	Maricha	Varuna
Durva	Musta	Vasa
Eladvayam	Nagakeshara	Vatsanabha
Eranda	Nimba	Vidanga
Gambhari	Nirgundi	Vidari
Gokshura	Palasha	Yastimadhu
Guduchi	Parpata	Yavani

### Part B-

**II-** Brief Knowledge of following dravyas with Respect to Sanskrit Name, Botanical Name, Family, Habit (Samanya Swarupa), Parts Used and Indications.

Agastya	Jati	Palandu
Ajamoda	Jayapala	Parasika Yavani
Akarkarabh	Jeevanti	Parijata
Amlavetasa	Kadali,	Parisha
Amra	Kadamba	Parnabija

Amragandhiharidra	Kaidarya	Parnayavani
Ankola	Kakamachi	Parpataka
Aparajita	Kamala	Parushaka
Ashvagol	Kankola	Patalagarudi
Ashvattha	Karanja	Patha
Asthishrunkhala	Karavellaka	Patola
Atasi	Karavira	Patranga
Avartaki	Karira	Pilu
Avartani	Karpasa	Plaksha
Babbula	Kasamarda	Prasarani
Badara	Kasha	Priyala
Bakula	Kasni	Priyangu
Bhumyamalki	Kataka	Puga
Bijapoor	Katphala	Putiha
Bola	Kebuka	Putranjivaka
Chakramarda	Kharjura	Rajika/Sarshapa
Champaka	Kitmari	Rohitaka
Chandrashura	Kokilaksha	Saptachakra
Changeri	Koshataki	Saptaparna
Chavya	Kulatha	Saral
Chirbilva	Kumuda	Sarja
Chopachini	Kusha	Shala
Danti	Kusmanda	Shara
Darbha	Lajjalu	Sharapunkha
Dattura	Langali	Shatahwa
Dhanvayasa	Latakaranja	Shati
Dhanyaka	Latakasturi	Snuhi
Draksha	Madayantika	Sringataka
Dronapushpi	Mahanimba	Svarnakshiri
Gandhaprasarini	Mandukaparni	Tagara .
Garjara	Markandika	Tailaparni
Gojihva,	Masha	Talmuli
Gorakshaganja	Mashaparni	Taruni
Gunja	Matulunga	Tavakshira
hinsapa	Mayaphala	Teja Patra
Hinstra	Meshashrungi	Tuvaraka
Hribera	Methika	Udumbara
Hrutpatri	Mudgaparni	urana
Ikshu	Mulaka	Vamsha
Indravaruni	Murva	Vata
Ingudi	Nagabala	Vatada
Irimesa	Nala	Vrudhadaru
Ishvaku	Narikela	Vrukshamla
Isvari	Nili	
Japa	Padmaka	

**III .-**Introduction, Guna, Karma and Uses of following Jantava Dravya (Drugs of Animal Origin).

1. Kasturi

2. Goroohana

3. Mrigasringa

**IV- Introductory Knowledge of Following Annapana Varga:**

- |                |                     |                      |
|----------------|---------------------|----------------------|
| 1. Jala Varga  | 2. Dugdha Varga     | 3. Madhu Varga       |
| 4. Taila Varga | 5. Sukadhanya Varga | 6. Shamidhanya Varga |
| 7. Phala Varga | 8. Shaka Varga      | 9. Mamsa Varga       |
| 10. Aharayogi  |                     |                      |

**PRACTICALS**

1. A. Study of Macroscopic, Microscopic characters and Demonstration of organoleptic characteristics and grahya-agrahyatva of following plants and their useful parts.
  - i. Kanda (stem) - Guduchi or Ashtishrinkhala
  - ii. Patra (leaves) - Vasa or Kumari
  - iii. Pushpa (flower and Parts of flower)- Dhataki or Japa
  - iv. Phala (fruit) – Maricha or Madanaphala or Vidanga
  - v. Beeja (seeds) – Eranda or Kapikacchhu
  - vi. Twak (bark) – Kutaja or Arjuna or Ashwattha
  - vii. Moola(Root)- Punarnava or Chitraka
  - viii. Nirayasa (exudate) – Guggulu or Mocharasa
  - ix. Jangama dravya - Madhu or Ghrita.
2. Records of Herbarium sheets of 50 medicinal plants Compulsory study tour other state/s for field knowledge and procurement of plant species.

**PRACTICAL MARKS DIVISION**

1	Herbarium	20 Marks
2	Practical record	20 Marks
3	Drug identification- spotting –Raw/crude drugs	30 marks
4	Plant identification spotting –fresh	30 marks
5	Practical	40 marks
6.	Viva-Voce	60 Marks
<b>Total</b>		<b>200 marks</b>

**Reference Books**

- |     |   |   |  |
|-----|---|---|--|
| 1.  | Abhinav Buti Darpan (Vol.1-2)                           | - | Vd. Roop Lal Vaishya                                   |
| 2.  | Aushadna Vigyana Shastra                                | - | Acharya Pt. Vishvanatha Dwidevi                        |
| 3.  | Ayurvediya Aushadnkarma vigyana                         | - | Acharya V.J. Thakur                                    |
| 4.  | Bedi Vanaspati Kosha                                    | - | Prof. Ramesh Bedi                                      |
| 5.  | Bhaishajyaguna Vigyana                                  | - | Dr. Alakhnarayan Singh                                 |
| 6.  | Bhav Prakash Nigantu (English)                          | - | Shreekanthamurti                                       |
| 7.  | Bhav Prakash Nighantu                                   | - | With Vd. Krishna Chandra<br>Chunekar commentary        |
| 8.  | Bhrinad dravyagunadarsha                                | - | Mahendra Kumar Shastri                                 |
| 9.  | Classical Uses of Medicinal Plants                      | - | Acharya Priyavrata Sharma                              |
| 10. | Controversial Medicinal Plants                          | - | Vd. G. Bapa Lal  |
| 11. | Dalhana Ka Dravyaguna Shastra Ke<br>Kshetra Me Yogadana | - | Vd. Shiv Kumar Vyas                                    |
| 12. | Dravyaguna Kosha  | - | Acharya Priyavrata Sharma                              |
| 13. | Dravyaguna Sutram                                       | - | Acharya Priyavrata Sharma                              |
| 14. | Dravyaguna Vigyana                                      | - | Dr. Gyanendra Pandey                                   |
| 15. | Dravyaguna Vigyana(Vol. 1-2)                            | - | Acharya Yadavji Tikram Ji                              |
| 16. | Dravyaguna Vijyana                                      | - | Dr. V.M. Gogate  |
| 17. | Dravyaguna Vigyana (Vol. 1-5)                           | - | Acharya Priyavrata Sharma                              |
| 18. | Dravyaguna Shastrum                                     | - | Vaidya G.A. Phadake                                    |
| 19. | Dravyaguna Vijyana                                      | - | Dr. A.P. Deshpande                                     |
| 20. | Dravyagunavijnana basic Principles                      | - | Prof.D.S.Lucas   |
| 21. | Forgotten Healers (Indian Medicinal<br>Plants)          | - | Dr. Prakash Pranjape                                   |
| 22. | Glossry of Vegetable Drugs in<br>Bhritrtrayis           | - | Thakur Balwant Singh & Vd.<br>Krishna Chandra Chunekar |
| 23. | Introduction to Dravyaguna                              | - | Acharya Priyavrata Sharma                              |
| 24. | Kriyatamka Aushadi Parichaya                            | - | Acharya Pt. Vishvanath Dwidevi                         |
| 25. | Materia Medica  | - | Acharya Ghosh  |
| 26. | Nighantu Adarsh (Vol. 1-2)                              | - | Vd. Bapa Lal   |
| 27. | Pharmacological basis of Medical<br>Practice            | - | Goodman & Gillman                                      |
| 28. | Pharmacology and<br>Pharmacotherapeutics                | - | Satoskar Bhandarkar & Ainapure                         |
| 29. | Prayogatamaka Dravyaguna Vigyana                        | - | Dr. Maya Ram Uniyal                                    |
| 30. | Priya nighantu  | - | Acharya Priyavrata Sharma                              |
| 31. | Raspanchaka/Dravyaguna Siddhanta                        | - | Prof. Shivcharan Dhyani                                |
| 32. | System of Plant Nomenclature in<br>Ayurveda             | - | Dr. Gyanendra Panday                                   |
| 33. | Text Book of Pharmacognosy                              | - | Trees & Valis  |
| 34. | Textbook of Dravyaguna                                  | - | Dr.K.Nishteswar  |
| 35. | Unani Dravyaguna Vigyana                                | - | Hakim Daljeet Singh                                    |

- |   |   |                           |
|---|---|---------------------------|
| 36. Useful parts of Charaka, Sushurut,<br>and Vagbhata. | - |                           |
| 37. Uttarakand Ki Vanaspatiya                           | - | Dr. Gyanendra Pandey      |
| 38. Vanoaushadi Darshika                                | - | Thakur Balwant Singh      |
| 39. Vanoaushadi Nidarshika                              | - | Dr. Ram Sushil Singh      |
| 40. Vedic Vanaspatiyam                                  | - | Dr. Dinesh Chandra Sharma |

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## **2.2 ROGA NIDANA**

**Theory Two Papers – 100 Marks Each**  
**Practical/Viva voce – 100 Marks**

**PAPER -1**

**100 Marks**

**Part A**

**50 Marks**

### **I. Dosha Dushyadi Vigyan**

1. Definition and importance of Roganidana.
2. Samanya Nidana and Samanya Lakshana of Dosha Vriddhi, Kshaya and Prakopa.
3. Dosha Dhatu Ashraya Ashrayi Bhava.
4. Dhatu Kshaya Vriddhi Lakshana.
6. Mala Kshaya Vriddhi Lakshana.
7. Hetu, Bheda and Lakshana of Agni Dushti.
8. Definitions and Samanya Lakshana of Ama.
9. Sama and nirama Dosha, Dushya Lakshana.
10. Dosha Paka and Dhatu Paka Lakshana.
11. Concept, classification, diagnosis and general complications of Avarana.
12. Doshagati and Rogmarga.
13. Detailed study of Srotomoola and Srotodushti Samanya and Vishishta Hetu Lakshana of all Srotas. Differences between Sroto Dushti and Kha Vaigunya.

### **II. Vyadhi Vigyan**

1. Definition, synonyms and classification of Vyadhi & Vyadhi Ghatak.
2. Criteria for nomenclature of Diseases in Ayurveda (Vyadhinamakarana).
3. Bija, Bija Bhaga and Bija Bhaga Avayava Dushti.
4. **Basic knowledge of Hereditary, Congenital, Acquired, Multifactorial, Traumatic and Environmental disorders.**
5. Introduction to ICD Classification of Diseases of WHO and DSM classification.
6. Samanyaja and Nanatmaja Vikara. NidanarthakaraVyadhi, Hetu Sankara, Lingasankara, Vyadhisankara, Vyadhi Awastha.
7. Dhatu, Updhatu, Mala and Indriya Pradoshaj Vikara.
8. Concept of AshtaMahagada .
9. Introduction to Ashta Nindita.
10. **Definition and classification of Vyadhikshamatva.**
11. Ojas – types of Ojo Dushti- Visrimsa- Vyapad & Kshaya & It's Diseases.

### **III. Basic Pathology**

1. Introduction to pathology and its sub-divisions.
2. Introduction to Cell Injury and Cellular adaptations.
3. Definition and brief description of inflammation – Healing/repair.
4. Definition and brief description of edema – shock – hemorrhage, Thrombosis , embolism, Ischemia and Infarction.
5. **Types of Immunity – different types of immune responses in the body – Basic knowledge of auto immune diseases, Acquired immune deficiency disease and hypersensitivity.**
6. Nomenclature and classification of tumors - difference between benign and malignant tumors.
7. Introduction to Nutritional disorders – disorders of macro and micro nutrients.
8. Introduction to infections.

9. Introduction and classification of microorganisms such as virus- bacteria-fungus.

**Part B**

**50 Marks**

**IV. Nidana Panchaka Vigyana**

1. Difference between Roga and Rogi Pariksha.
2. Importance of Nidan Panchaka.
3. Hetu - Definition, Synonyms and Classification.
4. Purva Rupa – Definition, Synonyms, Samanya and Vishishta Purvarupa.
5. Rupa - Definition, Synonyms, Samanya and Pratyatma Lakshana. Difference between Vyadhi and Lakshana.
6. Upashaya / Anupashaya– Definition, Types and its importance in diagnosis.
7. Samprapti – Definition, Synonyms and Type and Samprapti Ghataka.
8. Shat Kriyakaala. Relationship between Nidana Panchaka and Shat Kriyakaala.
9. Upadrava and Udarka.
10. ArishtaVigyan – Definition, Types and its importance.
11. Sadhyasadhyatwa – Types, their parameters and importance.
12. General diagnostic principles of AnuktaVyadhi (Ch. Vi. 4).

**V. Pariksha Vigyana**

1. Importance and knowledge of Aptopadeshadi & Darshanadi Trividha, Chaturvidha, and Shadvidha Pariksha.
2. Importance and Knowledge of Ashtasthana Pariksha.
3. Importance and Knowledge of Karanadi Dashavidha Parikshya Bhava.
4. Importance and Knowledge of Dashavidha Pariksha.
5. Basic knowledge of ECG, USG, X Ray, CT Scan, MRI.

**Paper II**

**100 Marks**

**Part A**

**50 Marks**

Systematic study of Nidana Panchaka of following diseases (Including Upadrava, Arishta and Sadhyasadhyata).

**I. Diseases of Rasavaha Srotas**

- 1(a) Jwara(Jwarabheda-Ama, Pachyamana and Nirama Jwara,Agantukajwara, Punaravartaka Jwara,Vishama Jwara, Dhatugata Jwara, Charakokta Sannipata Jwara.
- 1(b) General mechanism of Fever, Introduction to the Aetiopathogenesis of Malaria,Typhoid, Dengue fever, Influenza and Chikungunya.
- 2(a) Pandu, Amavata, Hridroga, Shotha.
- 2(b) Introduction to Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Hypertension, Angina, Ischaemic Heart Disease, Myocardial Infarction and CCF.

**II. Diseases of Raktavaha Srotas**

1. Kamala - Raktapitta - Vatarakta – Kroshtuksheersha - Shitapitta – Maha Kushtha – Visarpa – Shwitra and Introduction to Kshudra Kushtha.
2. Introduction to Hepatomegaly, Spleenomegaly, Leukaemia, Thalessemia, Sickle cell Anaemia.
3. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus.

**III. Diseases of Mamsavaha Srotas**

- (a) Galganda
- (b) Introduction to Thyroid disorders

**IV. Diseases of Medovaha Srotas**

1. Sthoulya - Karshya – Prameha.
2. Introduction to Obesity and Diabetes Mellitus.

**V. Diseases of Asthi – Majjavaha Srotas**

1. Vatavyadhi - Akshepaka - Apatanaka - Ardita - Pakshaghata – Gridhrasi –Vishwachi, Avabahuka, - Manyasthambha ,Katigraha,Pangutwa
2. Sandhigatavata, Asthi-Majjagata vata.
3. Introduction to Osteo- Arthritis, Osteoporosis.
4. Introduction to Parkinson’s disease, Stroke, Lumbago- Sciatica syndrome, Bell’s Palsy, Cervical- Lumber & Ankylosing Spondylitis.

**VI. Diseases of Shukravaha Srotas**

1. Introduction to Klaibya and Vandhyatva.
2. Introduction to male and female infertility.

**Part B**

**50 Marks**

**VII. Diseases of Pranavaha Srotas**

- 1(a). Kasa - Shwasa - Hikka – Urahkshata – Shosha – Rajayakshma.
- 1(b). Introduction to the aetiopathogenesis of Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Bronchial Asthma.

**VIII. Diseases of Annavaha- PureeshavahaSrotas**

1. Agnimandya - Ajirna - Aruchi- Chhardi - Amlapitta- Shoola – Parinama Shoola – AnnadravaShoola- Atisara – Pravahika - Grahani –Gulma- Udara Roga.
2. Introduction to Anaha, Adhmana, Atopa, Visuchika Alasaka, Vilambika.
3. Introduction to Peptic Ulcer, Irritable Bowel Syndrome (IBS) Diarrhoea, Dysentery, Constipation, Inflammatory Bowel Diseases.

**IX. Diseases of Udakavaha Srotas**

- 1(a) Introduction to Trishna, Daha.
- 1(b) Introduction to water and electrolyte imbalance disorders.

**X. Diseases of Mutravaha Srotas**

- 1(a) Mutrakrichha – Mutraghata.
- 1(b) Introduction to Urinary Tract Infection, Nephropathies.

**XI. Diseases of Swedavaha Srotas**

- 1(a) Introduction to Khalitya, Palitya.

**XII. Diseases of Manovaha Srotas**

- 1(a) Apasmara, Unmada, Atatwabhinivesha-Vishada, Anidra, Mada, Murchha, Sanyasa.
- 1(b) Introduction to Epilepsy, Depression, Anxiety neurosis.

**XIII. Upasargjanya Vyadhi (Communicable diseases)**

- 1(a) Romantika – Masurika – Upadamsha – Phiranga.
- 1(b) Introduction to Measels, Chickenpox, Leprosy, Tuberculosis and AIDS.

**XIV. Krimi Vigyana**

- 1) Definition, classification of Krimi and features of Krimiroga
- 2) Snayuka, Shleepada.
- 3) Introduction of Filariasis and classification of common parasites.

**PRACTICAL**

**(100 Marks)**

**i) Fundamental Principles of Laboratory Tests**

Introduction to laboratory, Sterilization, glass wares, solutions reagents and safety procedures, Disposal of biomedical wastes.

### **ii) Haematology**

- 1 Haemoglobin estimation.
- 2 Blood cells counting - WBC, RBC, platelets.
- 3 Hematocrit /Packed cell volume (PCV).
- 4 Erythrocyte indices - MCV, MCH, MCHC.
- 5 Peripheral blood smear, staining technique and differential leucocyte count.
- 6 Peripheral blood film examination in Anemia, Leukemia, Malaria, Filariasis (Demonstration).
- 7 ESR.
- 8 Screening test for bleeding disorders- bleeding time (BT), Clotting time (CT), Demonstration of Prothrombin time (PT).
- 9 Blood grouping - ABO system, Rh typing (Rhesus system).

### **iii) Urine Examination**

1. Ayurveda anusara mutrapariksha.
2. Physical Examination - Volume, Reaction (Ph) & Specific Gravity.
3. Chemical Examination for - Proteins, Glucose, Phosphate, Ketone, Bile salts, Bile pigment.
4. Dipstick examination
5. Demonstration of Microscopic Examination.

### **iv) Stool Examination**

- 1 Ayurveda anusara purishapariksha.
- 2 Physical examination, Sama-Nirama Pariksha.
- 3 Microscopic examination of ova & cyst (Demonstration)
- 4 Occult Blood Test.

### **v) Demonstration of Sputum Examination**

- 1 Ayurveda anusara sthivanapariksha.
- 2 Physical, Chemical and Microscopic Examination of the sputum.
- 3 Sample collection and Demonstration of AFB.

### **vi) Demonstration of Semen examination**

- 1 Ayurveda anusara Retaspariksha.
- 2 Semen examination.

### **vii) Biochemical Examination – (Demonstration)**

Blood Glucose, Serum Bilirubin, Blood Urea, Lipid Profile, Serum Creatinine, Serum Uric acid etc.

**viii)** Demonstration of different staining techniques in microbiology.

**ix)** Demonstration of Sero-immunological Investigations: RA and Widal.

**x) Laboratory record** – maintenance of laboratory record book.

### **Bed side Practical (Clinical Methods)**

1. Introduction and demonstration of clinical methods (General and Systemic Examination).
2. Practical demonstration of examination of Roga based on Pancha Nidana.
3. Demonstration of instruments used for clinical examination.
4. Practical records of clinical examination of at least 20 long cases in I.P.D including Aturbala-pramana pareeksha.
5. Practical records of clinical examination of at least 20 short Cases based on Ashta vidha pariksha in O.P.D.

6. Demonstration of ECG, USG and Radio imaging techniques.

### **Distribution of Marks for final Practical Examination**

1. Daily Record -10 Marks
2. Identification of Instruments -10 Marks
3. Laboratory Experiments -20 Marks
4. Short Case -10 Marks
5. Long Case -20 Marks
6. Viva - Voce -30 Marks

**Total 100 Marks**

### **Reference Books**

1. Madhava Nidana (Madhukosha Pt. Yadunandan Upadhyay Commentary) Part 1 – 2
2. Doshakaranatwa Mimamsa - Acharya P.V. Sharma
3. Nadi Darshan - Vd. Tara Shankar Mishra
4. Nadi Vigyana Vidyotini Hindi Tika
5. Nadi Vigyan- Shri Satya Dev Vashisht
6. Nadi Vigyan- Gangadhar Tika
7. Rogi Pariksha vidhi Acharya- Priyavrata Sharma
8. Ayurvediya Roga Vargikaran- Vd. Ramanath Dwivedi & Vd. Gurdip Singh.
9. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh.
10. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata.
11. Text Book of Pathology- William Boyds.
12. Text Book of Pathology- Harsh Mohan.
13. Text Book of Pathology- Dey and Dey.
14. Text Book of Parasitology -Ramnik Sood.
15. Clinical Pathology and Bacteriology- S.P. Gupta.
16. Clinical methods in Ayurveda- K. R . S. Murthy.
17. Parameswarappa's Ayurvediya Vikriti Vigyan and Roga Vikriti Vigyan-Dr. P.S. Byadgi.
18. Oxford Handbook of Clinical Examination Oxford Handbooks and Practical Skills.
19. Advanced Clinical Evaluation System for Practical Assessment of Clinical Examination Skills.
20. Symptoms & Signs in Clinical Medicine - Chamberlains.
21. Clinical Methods- Hutchison's.
22. Bedside Clinics in Medicine Part- I & II-Kundu.
23. Common Medical Symptoms- Mehta.
24. Advances in Pathology & Lab Med- Weimstean, Gralem, Anderson, Cortan, Wick, Zumwelt.
25. Clinical Laboratory medicine Edited by Kenneth D Mc. Chately.
26. General Pathology- Walter & Israel Churchill Living stone.
27. A Comprehensive Dictionary of Pathology- Chris Newann.
28. Practical Pathology- Dr. K. Uma Chaturvedi.
29. Clinical examination- Douglas/Macleod's.
30. Pathology Practical book for Undergraduates- Harsh Mohan.
31. Medical Laboratory Technology - R. Sood.
32. Clinical Diagnosis and Management by Todd, Sanford and Davidson Laboratory methods
33. Clinical Hematology In Medical Practice- Degruchy's.
34. Robbins Basic Pathology- Kumar, Abbas, Fausto et al.

## **2.3. Rasashastra Evam Bhaishajyakalpana**

**(IATROCHEMISTRY AND AYURVEDIC PHARMACEUTICS)**

**Theory -Two Papers**

**Total Marks- 200**

**Teaching hours-200**

**Practical :-**

**Total Marks-200**

**Teaching hours-200**

### **RASASHASTRA**

**Paper 1**

**100 Marks**

**Part A**

**50 Marks**

1. Definition and etymology of Rasa, History of Rasashastra, Importance of Rasaushadhi, Concept of Rasa-Rasayana, Concept of Raseshwar Darshana. Concept of Rasashala and Rasamandap.
2. Brief Description and Application of Technical terminologies (Paribhasha): Avapa, Nirvapa, Dhalana, Bhavana, Jarana, Murchana, Shodhana, Marana, Amrutikarana, Lohitakarana, Mruta Loha, Satwa Patana, Druti, Apunarbhava, Niruttha, Rekhapurna, Varitara.
3. Dravya Varga: Amlavarga, Panchamrittika, Panchagavya, Panchamrita, Ksharashtaka, Dravakagana, Mitra panchaka, Rakta varga, Lavanapanchaka.
4. Brief description of Yantras and their application Ulukhala Yantra, Khalwa Yantra, Kachhapa Yantra, Damaru Yantra - Vidhyadhara Yantra- Urdhwapatan, Addhapatan & Tiryakpatana Yantra, Jaranartha Tulayantra, Dolayantra, Patalayantra, Palika Yantra, Baluka Yantra, Bhudhara Yantra, Sthali Yantra, Swedana Yantra.
5. Brief description & application of Musha (Crucible): Samanya Musha, Gostani musha, Vajra Musha, Maha musha, Yoga musha, Vrintaka Musha, Malla / Pakwa musha. Different types of crucibles e.g. Silica crucible, platinum crucible. Mudra and Sandhi Bandhana.
6. Brief description & applications of Chullika, Satwapatana Koshti, Patala Koshti, Gara Koshti, Angarakoshti and knowledge of various heating appliances viz. Gas stove, Hot plate, Heating mantle, Induction Stove, Hot Air Oven.
7. Concept, definition and types of Puta: Suryaputa, Chandraputa, Gomayaputa, Lawakaputa, Kukkutaputa, Kapotaputa, Varahaputa, Gajaputa, Mahaputa, Kumbhaputa, Valukaputa, Bhudharaputa, Applications of Electric muffle furnace and fuel (diesel) dependent furnace. Brief introduction to thermocouple and pyrometer.
8. Knowledge of Parada: Synonyms, Occurrence, natural and artificial sources of Parada, Hingulottha parada, Types of Parada, Parada Dosha: Naisargika, Yougika, Aupadhika